

SHANKAR MUNUSAMY, BPharm, MS (Pharm), PhD
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January 29, 2026

Dear Dean Ochoa and Members of the Search Committee,

I am writing to express my strong interest in the **Assistant Dean of Assessment** position at the Ben and Maytee Fisch College of Pharmacy at The University of Texas at Tyler. As a Pharmacy educator and assessment leader with over fourteen years of experience in programmatic assessment, accreditation, and curricular evaluation, I am deeply committed to advancing a sustainable culture of assessment that supports continuous improvement, data-informed decision-making, and accreditation readiness.

Across my academic career, I have served in multiple assessment leadership roles, including **Director of Assessment, Chair of the College Assessment Committee, and Chair of a PharmD Self-Study Assessment Subcommittee**. In these roles, I have worked closely with deans, associate deans, program directors, and faculty to design, implement, and maintain comprehensive assessment systems. My work has consistently focused on building assessment infrastructure in collaboration with faculty, aligning with institutional strategy, and ensuring continuous improvement and accreditation readiness.

Before joining Drake University's College of Pharmacy and Health Sciences, I spent six years at Qatar University College of Pharmacy, where I served on the **College Assessment Committee** and as **Assessment Coordinator** for the Master of Pharmaceutical Sciences program. In that role, I designed assessment plans and rubrics, led outcomes mapping, coordinated program-level data collection and analysis, and partnered with the institutional assessment office to support accreditation and continuous quality improvement. These early experiences shaped my approach to assessment as both a technical and relational enterprise—one that depends on clarity, consistency, and collaboration.

Since 2017, at Drake University, I have provided college-wide leadership for assessment and accreditation across multiple professional programs. As **Chair of the College Assessment Committee**, I have overseen the annual review of program assessment reports, advising data, and survey results from students, alumni, faculty, and preceptors. Working collaboratively with faculty and administrators, I have helped translate assessment findings into actionable improvements, including curricular and assessment mapping within the learning management system, implementing a college-wide wellness assessment, and developing mechanisms to evaluate equity-related faculty service contributions. These efforts strengthened both assessment practice and institutional culture, reinforcing assessment as a tool for improvement rather than compliance.

I have also led accreditation-focused assessment work at both the programmatic and institutional levels. As **Chair of the PharmD Self-Study Assessment Subcommittee**, I coordinated assessment narratives and evidence for ACPE accreditation, helping to demonstrate a mature, integrated assessment culture to site visitors.

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My experience as an **ACPE site team evaluator** (nationally and internationally) has significantly broadened my perspective on pharmacy education. As a member of the **ACPE Curricular Task Force** (2020), I contributed to revising Standards 1–4, with several of our recommendations adopted in the 2022 updates. I am committed to aligning curricula with evolving licensure requirements (e.g., 2025 NAPLEX blueprint, Uniform MPJE), COEPAs, changes to PPCP, and interprofessional competencies to ensure relevance and excellence.

As an assessment leader, I am deeply committed to faculty development and capacity building. I have led college-wide faculty development workshops on assessment methodologies, including aligning CAPE learning outcomes with COEPAs, integrating test-item mapping with LMS platforms, and implementing inclusive advising and wellness programs to enhance student retention and resilience. My goal is to empower faculty with practical tools and shared understanding, fostering broad ownership of assessment processes across the College.

The Assistant Dean of Assessment role at UT Tyler strongly resonates with my professional experience and leadership philosophy. I am particularly drawn to the role's emphasis on maintaining aligned assessment plans, supporting strategic decision-making, ensuring compliance with ACPE standards, and advancing a college-wide culture of continuous improvement. I view the Assistant Dean as a steward of assessment systems—someone who provides clarity, consistency, and follow-through while partnering closely with the Dean, college leadership, committees, and faculty.

I would welcome the opportunity to contribute my experience, judgment, and collaborative approach to the Fisch College of Pharmacy as Assistant Dean of Assessment. I have enclosed my curriculum vitae and references for your review. I would be pleased to discuss how my background aligns with the needs and priorities of the College.

Thank you for your time and consideration.

Sincerely,



Shankar Munusamy, BPharm, MS (Pharm), PhD

LEADERSHIP AND SERVICE SUMMARY

Assessment and Accreditation Leadership

- **Director of Assessment** – Drake University College of Pharmacy (2023 – 2025)
- **Chair** – Assessment Committee, Drake University College of Pharmacy (2020 – 2024)
- **Chair** – PharmD Self-Study Steering Subcommittee: Assessment Standards (2021-2022)
- **Member** – Accreditation Council for Pharmacy Accreditation (ACPE) Curriculum Taskforce (2020)
- **Assessment Coordinator** – Qatar University College of Pharmacy (2012 – 2014)

Institutional and Curricular Leadership

- **Faculty Senator** - Drake University (2023 – 2025)
- **Director** – Modular Curriculum Taskforce - Qatar University College of Pharmacy – 2014
- **Member** – Curriculum Committee - Qatar University College of Pharmacy (2011- 2017)

National Professional Leadership (selected)

- **American Association of Colleges of Pharmacy (AACP)**
 - **Chair** – AACP Biological Sciences Core Concepts Taskforce (2023-25)
 - **Member** – AACP Assessment SIG Scholarship Committee (2024-25)
 - **Chair** – AACP Biological Sciences Section (2022-23)
 - **Chair** – AACP Distinguished Teaching Scholar Award Committee (2022-Present)
 - **Member** – AACP Council of Sections Standing Rules and Procedure Committee (2022-23)
- **American Society for Pharmacology and Experimental Therapeutics (ASPET)**
 - **Chair** – Division of Translational and Clinical Pharmacology (2025 – Present)
 - **Executive Committee Member** – Division of Pharmacology Education (2025-Present)
- **Accreditation Council for Pharmacy Education (ACPE)**
 - **Site Team Evaluator** – National and International Services Program (2024 – Present)
 - **Member** – **ACPE Curriculum Task Force** – Standards 1 to 4 (2020)

Leadership Development

- AACP Academic Leadership Fellows Program (ALFP) – 2022-23
- Educational Advisory Board Rising Higher Education Leaders Fellowship – 2021

Shankar Munusamy, *B Pharm, MS Pharm, PhD*

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POSITIONS

- 01/2026 – Present **Professor and Director of Curricular Innovation and Strategy**, Skaggs School of Pharmacy and Pharmaceutical Sciences, University of Colorado Anschutz, Aurora, USA
- 11/2023 – 12/2025 **Director of Assessment**, College of Pharmacy and Health Sciences, Drake University, Des Moines, Iowa, USA
- 07/2023 – 12/2025 **Professor** of Pharmacology, College of Pharmacy and Health Sciences, Drake University, Des Moines, Iowa, USA
- 08/2017 – 06/2023 **Associate Professor** of Pharmacology, College of Pharmacy and Health Sciences, Drake University, Des Moines, Iowa, USA
- 09/2011 – 06/2017 **Assistant Professor** of Pharmacology, Pharmaceutical Sciences Section, College of Pharmacy, Qatar University, Doha, Qatar
- 07/2009 – 06/2011 **Instructor**, Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, Mississippi, USA
- 01/2009 – 06/2009 **Post-Doctoral Research Fellow**, Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, Mississippi, USA
- 01/2004 – 12/2008 **Graduate Assistant**, Department of Pharmacology and Toxicology, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA
- 02/2002 – 07/2003 **Lecturer**, Department of Pharmacology and Physiology, Pallavan Pharmacy College, Kanchipuram, Tamil Nadu, India

EDUCATION

Graduate

Jan.2004 - Dec.2008 **Ph.D. in Pharmacology, University of Arkansas for Medical Sciences, Little Rock, Arkansas, United States of America**
Advisor: Dr. Lee Ann MacMillan-Crow

Dissertation: Involvement of oxidants and mitochondrial dysfunction in the pathogenesis of hyperglycemia-induced renal injury
GPA: **4.0**

Jun.2000 - Dec.2001 **MS (Pharm) - Pharmacology and Toxicology, National Institute of Pharmaceutical Education and Research, Mohali, Punjab, India**

Advisor: Dr. Shyam S. Sharma

Thesis: Evaluation of the neuroprotective potential of PARP inhibitor and peroxynitrite scavenger in middle cerebral artery occlusion-induced focal ischemia in male Sprague-Dawley rats

GPA: **8.9** (out of 10.0)

Undergraduate

1996 - 2000

B. Pharmacy, The Tamil Nadu Dr. M.G.R. Medical University, Chennai, Tamil Nadu, India

Advisor: Dr. V. Ravichandiran

Capstone Research: Evaluation of the hepatoprotective activity of *Ginkgo biloba* against ketoconazole-induced hepatotoxicity in mice

Aggregate Percentage: **79.45%** (*First class with Distinction*)

AWARDS AND HONORS

- 2025 "Distinguished Service Award" from the American Association of Colleges of Pharmacy (AACP) Biological Sciences Section
- 2025 "Pharmacology Educators Award" from the American Society of Pharmacology and Experimental Therapeutics (ASPET) Division of Pharmacology Education
- 2024 Author of a "Top Cited article 2022-23" in the Journal of Cellular Physiology
- 2023 Author of a "Top Downloaded Article 2021" in the Journal of Cellular Physiology
- 2023 Author of a "Top Cited article 2021-22" in the Biotechnology Journal
- 2022 "Excellence in Teaching Award" from the American Association of Colleges of Pharmacy (AACP) Biological Sciences Section
- 2022 "Mentor of the Year Award" from the Drake University College of Pharmacy and Health Sciences
- 2022 Invited to join the editorial board of the **Journal of Pharmacy and Pharmacology** (a peer-reviewed journal published by Oxford Journals)
- 2021 "Hartig Distinguished Professor Award" from the College of Pharmacy and Health Sciences, Drake University
- 2021 Author of **the most-read scholarly blog** (>2,000 views during Jan.-Apr. 2021) published in Currents in Pharmacy Teaching and Learning Pulses

- 2020 **“Teacher of the Year Award”** from the College of Pharmacy and Health Sciences, Drake University
- 2019 Author of a **“Top 10 most downloaded articles”** (>600 downloads during Jan. – May 2019) published in Currents in Pharmacy Teaching and Learning
- 2018 Invited to join the editorial board of **BMC Endocrine Disorders** (an open-access, peer-reviewed journal published by Springer Nature)
- 2018 Invited to join the editorial board of **Scientific Reports** (an open-access, peer-reviewed journal published by Springer Nature)
- 2018 Author of a **“Top 20 most downloaded articles”** in the 12 months post-publication in the Journal of Cellular Physiology
- 2017 Nominated for the **“Teacher of the Year Award”** at the College of Pharmacy and Health Sciences, Drake University.
- 2017 **“Outstanding Thesis Award”** (for the MSc thesis project conducted under my supervision) from the Office of Graduate Studies, Qatar University, Doha.
- 2017 “Invited Speaker” to deliver a **Continuing Professional Education session** on “Drug Interactions” to the healthcare practitioners in Qatar.
- 2017 **“Invited Speaker”** to deliver a talk on “Obesity as a risk factor for kidney disease” at the EuroSciCon conference, London, UK.
- 2017 **“Invited Speaker”** to deliver a talk on “Drugs and Depression” at the WHO Event: Let’s Talk Depression, Qatar University.
- 2016 **“Invited Speaker”** to deliver a talk on “Obesity-induced kidney injury” at the 5th HMC Research Forum, Hamad Medical Corporation, Doha, Qatar.
- 2016 Second **“Outstanding Research Project”** award for the undergraduate research project (UREP-14-008-3-006) from the Qatar National Research Fund, Doha, Qatar.
- 2015 **“Outstanding Reviewer”** for the Canadian Journal of Physiology and Pharmacology, Canadian Science Publishing, Canada.
- 2015 **“Distinction in scholarship”** for publishing an APS Select article in the American Journal of Physiology - Renal Physiology.
- 2013 **“Faculty of the Year”** award from the Qatar University College of Pharmacy, Doha, Qatar.
- 2013 **“Invited Speaker”** to deliver a Plenary Lecture at the International Conference on Phytochemicals in Health and Disease, Annamalai University, India.

- 2009 **“Post-Doctoral Fellowship Grant”** awarded by the Greater South-East Affiliate section of the American Heart Association, USA.
- 2008 **“New Investigator Travel Award”** to attend the 2008 Jackson Cardiovascular-Renal Meeting at the University of Mississippi Medical Center, Jackson, Mississippi, USA.
- 2008 **“Best Poster Award,”** 2008 Annual Meeting - South Central Chapter of the Society of Toxicology at the National Center for Toxicological Research, Jefferson, Arkansas, USA.
- 2008 **“Best Presentation Award”** in Senior Division at the 10th Annual Seager-Braswell Graduate Student Research Symposium, Dept. of Pharmacology & Toxicology, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.
- 2008 **“Travel Award”** from the Gordon Conference Committee to attend the “Oxygen Radicals” meeting in Ventura, California, USA.
- 2007 **“Graduate Student Best Abstract Award,”** Division of Systems & Integrative Pharmacology, Experimental Biology Meeting, Washington DC, USA.
- 2007 **“Graduate Student Travel Award”** from the University of Arkansas for Medical Sciences to attend the Experimental Biology Meeting in Washington DC, USA.
- 2007 **“Graduate School Award”** for Best Poster Presentation during Student Research Week at the University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.
- 2007 Runner-up for **“Best Presentation Award”** in Senior Division at the 9th Annual Seager-Braswell Graduate Student Research Symposium, Dept. of Pharmacology & Toxicology, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.
- 2006 Abstract selected for **“Graduate Student Best Abstract Award Competition,”** Division of Systems & Integrative Pharmacology, Experimental Biology Meeting, San Francisco, California, USA.
- 2006 **“Graduate Student Travel Award”** from the University of Arkansas for Medical Sciences to attend the Experimental Biology Meeting in San Francisco, California, USA.
- 2000 - 2001 **“Graduate Student Scholarship”** from the Ministry of Human Resource Development, Government of India (for securing 99.14% and All India Rank 24 in the Graduate Aptitude Test in Engineering-2000).
- 1996 - 2000 **“Outstanding Student Award,”** Pallavan Pharmacy College, Kanchipuram, Tamil Nadu, India.

TEACHING PORTFOLIO

Aug. 2017 – Present **Drake University College of Pharmacy and Health Sciences, Des Moines, IA**

- **Principles of Drug Action II** (PHAR134), 5 Credit Hours
 - Contribution: 50%
- **Introduction to Pharmaceutical Sciences** (PHAR131), 3 Credit Hours (2017 – 2023)
 - Contribution: 50%
- **Pharmacology for Future Health Professionals** (HSCI163/ATHL273), 3 Credit Hours
 - Contribution: 100%
- **Pharmacology/Clinical Pharmacology I** (MSCP202), 3 Credit Hours – Online Course
 - Contribution: 25%
- **Pharmacology/Clinical Pharmacology II** (MSCP204), 3 Credit Hours – Online Course
 - Contribution: 25%

Sep. 2011 – Jul. 2017 **Qatar University College(s) of Pharmacy and Medicine, Doha, Qatar.**

Pharmacy Courses (2 Credit Hours)

- Pharmacology-I (Autonomic, CNS, GI, and Urogenital Pharmacology, PHAR320)
 - Contribution: 50%
- Pharmacology-II (Cardiovascular, Renal and Dermatologic Pharmacology, PHAR321)
 - Contribution: 50%
- Pharmacology-III (Endocrine Pharmacology and Cancer Chemotherapy, PHAR420)
 - Contribution: 50%
- Pharmacology-IV (Women's Health and Antimicrobial Chemotherapy, PHAR421)
 - Contribution: 55%
- Toxicology (Organ-based Toxicity and Clinical Toxicology, PHAR415)
 - Contribution: 50%
- Pharmacy Research & Evaluation Skills-I & IV (PHAR305 & PHAR406) – 1 Credit hour
 - Contribution: 35%

Graduate Courses

- Laboratory Techniques in Pharmacology (PHAR680) – 3 Credit hours
 - Contribution: 35%
- Advanced Topics in Pharmaceutical Sciences-I (PHAR670) – 3 Credit hours
 - Contribution: 20%
- Advanced Topics in Pharmaceutical Sciences-II (PHAR671) – 3 Credit hours
 - Contribution: 20%
- Graduate Seminar-II and III (PHAR641 and PHAR642) – 1 Credit hour
 - Contribution: 20%
- English-based Communication Skills for Graduate Students (PHAR650) – 2 Credit hours
 - Contribution: 25%

Medical Courses - Integrated Organ Systems (3 Credit Hours; 10% contribution)

- Genes to Community (MEDI 202)
- Body Defense (MEDI 203)
- Cardiovascular System (MEDI 204)

Feb.2002 - Jul.2003 **Pallavan Pharmacy College, Kanchipuram, Tamil Nadu, India.**

- Anatomy, Physiology, and Health Education (PGL-I)
- Pharmacology (PT-1 & PT-2)
- Pharmaceutical Biotechnology (P-VI)

RESEARCH PORTFOLIO

Sep. 2011 - Present **Drake University College of Pharmacy and Health Sciences, Des Moines, IA; Qatar University College of Pharmacy, Doha, Qatar**

Educational Research

1. **Pedagogies to promote AI Readiness:** Leveraging collaborative learning exercises, such as case-based assignments and group discussions, to develop artificial intelligence (AI) healthcare competencies among pharmacy students.
2. **Evaluating the effectiveness of diverse instructional methods,** including mnemonics, analogies, student-response systems, and gamification strategies, in enhancing knowledge retention and facilitating the application of pharmacological concepts to clinical scenarios.
3. **Assessing the impact of mindfulness, wellness interventions, and wellness messaging** on pharmacy students' quality of life and resilience.

Bench Research: Investigating the molecular mechanisms in the development of diabetic kidney disease using *in vitro* and *in vivo* models.

Jan.2009 - Jun.2011 **University of Mississippi Medical Center – Department of Physiology and Biophysics, Jackson, MS.**

Post-Doc. Mentor: Dr. John E. Hall

Description: Investigated the mechanisms of obesity-induced renal injury - Studied the protective role of leptin against the development of mitochondrial dysfunction, ER stress, and renal lipid accumulation during obesity-induced renal injury using leptin-deficient Ob/Ob mice and hyperleptinemic LoxTB MC4R^{-/-} mice models.

Jan.2005 - Dec.2008 **University of Arkansas for Medical Sciences – Department of Pharmacology and Toxicology, Little Rock, AR.**

Ph.D. Dissertation Advisor: Dr. Lee Ann MacMillan-Crow

Description: Investigated the involvement of mitochondrial oxidants, alterations in mitochondrial complexes, and the role of manganese superoxide dismutase during diabetic nephropathy using a streptozotocin-induced diabetic rat model (*in vivo*) and a high glucose-induced renal proximal tubular injury model (*in vitro*).

Jul.2000 - Dec.2001 **National Institute of Pharmaceutical Education and Research – Department of Pharmacology and Toxicology, Mohali, Punjab, India.**

Master's Thesis Advisor: Dr. Shyam S. Sharma

Description: Evaluated the neuroprotective potential of poly (ADP-ribose) inhibitor and peroxynitrite scavenger in middle cerebral artery occlusion-induced focal ischemia model in rats.

Aug.1999 - Apr.2000 **Pallavan Pharmacy College – Department of Pharmacology and Physiology, Kanchipuram, Tamil Nadu, India.**

Capstone Research Advisor: Dr. V. Ravichandiran

Description: Examined the hepatoprotective activity of the *Gingko Biloba* using a ketoconazole-induced hepatotoxicity model in mice.

ACADEMIC SERVICE

- **Drake University College of Pharmacy and Health Sciences, Des Moines, IA**

a) College-level Service

- **Aug. 2024 – Dec. 2025:** *Ex officio* member, Assessment Committee
- **Aug. 2020 – Jun. 2024:** Chair, Assessment Committee
- **Apr. 2023 – Dec. 2025:** Drake Entrepreneurial Leadership Tools for Advancement Rx (DELTARx) Institute
- **Mar. 2021 – Nov. 2022:** Chair, Self-study Steering Committee - Assessment Section
- **Dec. 2019 – May 2022:** Taylor's University Partnership Committee
- **Jul. 2018 – Jun. 2020:** Assessment Committee
- **Dec. 2018 – Feb. 2019:** *Ad hoc* Anatomy Course Review Committee
- **Aug. 2017 – Jun. 2018:** PharmD Admissions Interview Committee

b) University-level Service

- **Aug. 2023 – May 2025:** Faculty Senator, Drake University Faculty Senate
- **Aug. 2020 – Jul. 2023:** Academic Freedom and Tenure Committee (Alternate Member)
- **Jan. 2020 – Dec. 2025:** Institutional Animal Care and Use Committee (IACUC)

NATIONAL

- **American Association of Colleges of Pharmacy (AACP)**

a) AACP Biological Science Section

- **Aug. 2023 – Present:** Chair, Biological Sciences Section Core Concepts Task Force
- **Aug. 2023 – Present:** Biological Sciences Section Executive Committee
- **Aug. 2023 – Jul. 2024:** Immediate Past Chair, Biological Sciences Section

- **Aug. 2022 – Jul. 2023:** Chair, Biological Sciences Section
- **Aug. 2022 – Jul. 2023:** Chair, Strategic Planning Committee
- **Aug. 2021 – Jul. 2022:** Chair-Elect, Biological Sciences Section
- **Aug. 2021 – Jul. 2022:** Chair, Programming Committee
- **Aug. 2020 – Jul. 2021:** Chair, Innovations in Teaching Committee
- **Aug. 2020 – Jul. 2021:** Programming Committee
- **Aug. 2018 – Jul. 2020:** Innovations in Teaching Committee

b) Assessment SIG

- **Aug. 2024 – Jun. 2025:** Assessment SIG Scholarship Committee
- **Aug. 2023 – Jun. 2024:** Assessment SIG Mentoring Committee

c) AACP-level

- **Jul. 2025 – Present:** Distinguished Teaching Scholar Award Committee
 - **Jul. 2025 – Present:** Joint COD/COF/IRAC Well-being Assessment Task Force
 - **Aug. 2022 – Jul. 2023:** Chair, Distinguished Teaching Scholar Award Committee
 - **Aug. 2022 – Jul. 2023:** COS Standing Rules and Resolutions Committee
 - **Aug. 2020 – Jul. 2022:** Distinguished Teaching Scholar Award Committee
 - **Oct. 2019 – Jul. 2020:** Grant Reviewer, Scholarship of Teaching and Learning Grants
 - **Oct. 2017 – Present:** Grant Reviewer, New Investigator Award (NIA)
- **Accreditation Council for Pharmacy Education (ACPE)**
 - **Aug. 2024 – Present:** ACPE Site Visit Team Member
 - **Aug. 2020 – Dec. 2020:** Curriculum Taskforce Member for ACPE Standards 1 to 4

- **American Society for Pharmacology and Experimental Therapeutics (ASPET)**

a) Division of Translational and Clinical Pharmacology (TCP)

- **Jun. 2025 – Present:** Chair, TCP Division
- **Jun. 2024 – May 2025:** Chair-Elect, TCP Division
- **Aug. 2021 – Present:** Executive Committee, TCP Division
- **Aug. 2020 – July 2021:** Programming Committee, TCP Division

b) Division of Pharmacology Education (DPE)

- Jun. 2025 – Present: Executive Committee, DPE
- Qatar University College of Pharmacy, Doha, Qatar Sep. 2011 – Jul. 2017

Dates	Committee	Role
16AY	Diabetes Research Group	Leader
16AY	Accreditation Committee	Committee Member
14AY – 16AY	Teaching with Technology Committee	Chair
11AY – 15AY	PharmD Students Selection Committee	Representative (PSC)
14AY – 16AY	Faculty Research Seminar Committee	Representative (PSC)
14AY	Modular Curriculum Committee (Infectious Diseases & Reproductive Disorders)	Director
13AY	Professional Year-3 Curricular Task Force	Leader (P-3 year)
13AY – 14AY	Partnership & International Engagement Committee	Representative (PSC)
12AY – 13AY	Faculty Research Committee	Representative (PSC)
12AY – 13AY	Program Learning Outcomes & Assessment Committee	Assessment Coordinator: MSc (Pharm) Program
12AY – 13AY	Library Liaison Committee	Liaison for PSC section
11AY – 16AY	Graduate Student Supervisory Committee	Committee Member
11AY – 16AY	Curriculum Committee	Committee Member
11AY – 13AY	Graduate Studies Steering Committee	Committee Member
13AY, 14AY & 16AY	Pharmacology Faculty Search Committee	Committee Member
14AY	Pharmacokinetics Faculty Search Committee	Committee Member
14AY	Teaching Assistant Search Committee	Committee Member
14AY – 15AY	Final Cumulative Assessment (OSCE) Committee	Committee Member

AY – Academic year (September to August); PSC – Pharmaceutical Sciences.

PEER-REVIEWED PUBLICATIONS

Scholarship of Teaching and Learning (SoTL)

1. **Munusamy S**, Aeilts M, Koenigsfeld C, Torry R. Student Perceptions and the Impact of Mnemonics on Knowledge Retention and Application in Pharmacology Education. *American Journal of Pharmaceutical Education*. (Accepted for publication on 28 Jul 2025) Doi: <https://doi.org/10.1016/j.ajpe.2025.101480>
2. **Munusamy S**, Hester M, Nelson M, Torry R. Impact of Mindfulness Sessions and Weekly Wellness Messages on Pharmacy Students' Perceived Stress and Resilience. *American Journal of Pharmaceutical Education*. 2025;89(4):101385. doi: [10.1016/j.ajpe.2025.101385](https://doi.org/10.1016/j.ajpe.2025.101385)
3. Augustine J, **Munusamy S**, Attarabeen O. Best Practices for the Teaching and Assessing of Population Health and Wellness. *American Journal of Pharmaceutical Education*. 2025;89(2):101359. doi: [10.1016/j.ajpe.2025.101359](https://doi.org/10.1016/j.ajpe.2025.101359).

4. Van Dyke A, Cline KM, Morley S, **Munusamy S**, Mnatzaganian CL, Thurston MM. Prioritizing Faculty Well-Being: Why it Matters, What Schools Can Do, and a Call for Action. *American Journal of Pharmaceutical Education*. 2024;88(11):101286. doi: [10.1016/j.ajpe.2024.101286](https://doi.org/10.1016/j.ajpe.2024.101286).
5. Vordenberg S, Fusco NM, Ward K, Darley A, Brady J, Culhane NS, Habib M, Hernandez E, Moye P, **Munusamy S**, Painter JT, Pope N, Stevenson L, Vanderboll K, Chase P, Matsumoto R. An Integrative Review of Micro-credentials and Digital Badges in Health Professions Education. *American Journal of Pharmaceutical Education*. 2024;88(3):100660. doi: [10.1016/j.ajpe.2024.100660](https://doi.org/10.1016/j.ajpe.2024.100660).
6. **Munusamy S**, Nelson M. Blending activities of cognitive ease and cognitive strain: A balanced recipe to better engage students in classrooms. Pulses. *Currents in Pharmacy Teaching and Learning Scholarly Blog*. August 26, 2020. <https://cptlpulses.com/2020/08/26/cognitive-ease-strain/>
 - *The **most read scholarly blog** (>2,000 views during Jan.-Apr. 2021)*
7. **Munusamy S**, Osman A, Riaz S, Ali S, Mraiche F. The use of Socrative and Yammer online tools to promote interactive learning in pharmacy education. *Currents in Pharmacy Teaching and Learning*. 2019, 11(1):76-80.
 - *A **top 10 most downloaded articles** (>600 downloads during Jan. – Apr. 2020)*

Scholarship of Discovery (Bench Research)

8. Bayne S, Lefevre J, Olstinske K, Ravindran S, **Munusamy S**. Renoprotective effects of mineralocorticoid receptor antagonists against diabetic kidney disease. *Advanced Biology*. 2023; e2300496; doi: [10.1002/adbi.202300496](https://doi.org/10.1002/adbi.202300496).
9. Ramasamy T, Ruttala HB, **Munusamy S**, Chakraborty N, Kim JO. Nano drug delivery systems for antisense oligonucleotides (ASO) therapeutics. *Journal of Controlled Release*. 2022; 352:861-78.
10. Ravindran S, **Munusamy S**. Renoprotective mechanisms of sodium-glucose co-transporter 2 (SGLT2) inhibitors against the progression of diabetic kidney disease. *Journal of Cellular Physiology*. 2022. 237, 1182– 1205. (Published online: 29 Oct. 2021)
 - *A **top 20 most downloaded article** within 12 months post-publication.*
11. Ramasamy T, **Munusamy S**, Ruttala HB, Kim JO. Smart Nanocarriers for the Delivery of Nucleic Acid-based Therapeutics: A Comprehensive Review. *Biotechnol J*. 2020; e1900408. doi:10.1002/biot.201900408
 - *A **top-cited article** between 2021 and 2022.*
12. Rathinam A, Pari L, Venkatesan M, **Munusamy S**. Myrtenal attenuates oxidative stress and inflammation in a rat model of streptozotocin-induced diabetes. *Archives of Physiology and Biochemistry*. 2022, 128:1, 175-183. (Published online: 28 Sep 2019)
13. Ravindran S, Pasha M, Agouni A, **Munusamy S**. Microparticles as Potential Mediators of High Glucose-Induced Renal Cell Injury. *Biomolecules*. 2019; 9(8), 348.
14. Pasha M, Sivaraman SK, Frantz R, Agouni A, **Munusamy S**. Metformin Induces Different Responses in Clear Cell Renal Cell Carcinoma Caki Cell Lines. *Biomolecules*. 2019; 9(3) 113.

15. Benameur T, Osman A, Parray A, Ait Ali A, **Munusamy S**, Agouni A. Molecular Mechanisms Underpinning Microparticle-Mediated Cellular Injury in Cardiovascular Complications Associated with Diabetes. *Oxidative Medicine and Cellular Longevity*, vol. 2019, Article ID 6475187, 23 pages, 2019. <https://doi.org/10.1155/2019/6475187>
16. Maamoun H, Benameur T, Pintus G, **Munusamy S**, Agouni A. Crosstalk Between Oxidative Stress and Endoplasmic Reticulum (ER) Stress in Endothelial Dysfunction and Aberrant Angiogenesis Associated with Diabetes: A Focus on the Protective Roles of Heme Oxygenase (HO)-1. *Frontiers in physiology*. 2019;10(70).
17. Sankaralingam S, Ahmed I, Rahman M, Eid AH, **Munusamy S**. Role of Methylglyoxal in Diabetic Cardiovascular and Kidney Diseases: Insights from Basic Science for Application into Clinical Practice. *Current Pharmaceutical Design*, 2018, 24 (26):3072-3083.
18. Allouch S, **Munusamy S**. AMP-activated protein kinase as a drug target in chronic kidney disease. *Current Drug Targets*, 2018, 19(6):709-720.
19. Pasha M, Eid AH, Eid AA, Gorin Y, **Munusamy S**. Sestrin2 as a novel biomarker and therapeutic target for various diseases. *Oxidative Medicine and Cellular Longevity*, 2017, Volume 2017, Article ID 3296294, 10 pages. <https://doi.org/10.1155/2017/3296294>
20. Hammad A, Ravindran S, Khalil A, **Munusamy S**. Structure-activity relationship of piperine and its synthetic amide analogs for therapeutic potential to prevent experimentally-induced ER stress in vitro. *Cell Stress and Chaperones*. 2017, 22(33): 417-428.
21. Allouch S, **Munusamy S**. Metformin attenuates albumin-induced alterations in renal tubular cells in vitro. *J Cell Physiol*. 2017; 9999:1–12. <https://doi.org/10.1002/jcp.25838>
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 - *A top 20 most downloaded article within 12 months post-publication*
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30. Saba H, **Munusamy S**, MacMillan-Crow LA. Cold preservation mediated renal injury: involvement of mitochondrial oxidative stress. *Renal Failure*, 2008: 30(2); 125–33.
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32. Sharma SS, **Munusamy S**, Thiyagarajan M, Kaul CL. Neuroprotective effect of peroxynitrite decomposition catalyst and poly (adenosine diphosphate–ribose) polymerase inhibitor alone and in combination on focal cerebral ischemia in rats. *J. Neurosurg*. 2004: 101(4); 669–75.

MANUSCRIPTS UNDER REVIEW/PREPARATION

1. **Munusamy S**, Rao S, Rajagopalan V. Leveraging Case-Based Learning Exercises in Pharmacology Courses to Promote AI Readiness Among Pharmacy Students. (Under review in the *American Journal of Pharmaceutical Education*).
2. Rao S, Rajagopalan V, **Munusamy S**. A Virtual Escape Room Enhances Students' Test Performance and Perception of Knowledge Retention and Application. (under preparation for submission to the *Pharmacology Research Perspectives*).
3. **Munusamy S**, Olstinske K, Lefevre J, Karch C, Frantz R, Carnevale K. Effects of low-dose metformin treatment in a mouse model of diabetic kidney disease. (under preparation for submission to the *BMC Endocrine Disorders*)

SCIENTIFIC ABSTRACTS

Scholarship of Teaching and Learning (SoTL)

1. **Munusamy S**, Rao S, Rajagopalan V. AI Readiness: Leveraging Case-Based Learning Exercises to Enhance AI Competency in Pharmacy Students. Presented at the American Association of Colleges of Pharmacy (AACP) Annual Meeting 2025, Chicago, IL, USA
2. **Munusamy S**, Rao S. Impact of an Escape Room on Pharmacy Students' Test Performance, Knowledge Retention, and Application Skills. Presented at the American Association of Colleges of Pharmacy (AACP) Annual Meeting 2025, Chicago, IL, USA
3. **Munusamy S**, Rao S, Rajagopalan V. Using Case-Based Pharmacology Assignments to Promote Artificial Intelligence Competencies Among Pharmacy Students: A Multi-Institutional Study. *Journal of Pharmacology and Experimental Therapeutics*. 2025, 392(3):102486; DOI:

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4. **Munusamy S**, Nelson M, Torry R. Integrating Wellness Activities into Courses Promotes Pharmacy Students' Resilience. *American Journal of Pharmaceutical Education*. 2024;88(9). (Presented at the American Association of Colleges of Pharmacy (AACP) Annual Meeting 2024, Boston, MA, USA)
5. Iyer P, **Munusamy S**. Impact of Mnemonics and Analogies in a Biochemistry Course on Students' Knowledge retention and application. *American Journal of Pharmaceutical Education*. 2024;88(9). (Presented at the American Association of Colleges of Pharmacy (AACP) Annual Meeting 2024, Boston, MA, USA)
6. **Munusamy S**, Nelson M, Torry R. Micro-dosing Mindfulness and Wellness Messages into Pharmacology Classrooms Improves Pharmacy Students' Resilience. *Journal of Pharmacology and Experimental Therapeutics*. June 2024, 389 (S3) 019; DOI: <https://doi.org/10.1124/jpet.019.872160> (Presented at the ASPET Annual Meeting 2024, Arlington, VA, USA).
7. **Munusamy S**, Nelson M, Torry R. A Ten-week Wellness Intervention Promotes Students' Well-being. *American Journal of Pharmaceutical Education*. 2023;87(8). (Presented at the American Association of Colleges of Pharmacy (AACP) Annual Meeting 2023, Aurora, CO, USA)
8. Darley A, Painter JT, Ward K, Vordenberg S, Fusco NM, Brady J, Culhane NS, Habib M, Hernandez E, Moye P, **Munusamy S**, Pope N, Stevenson L, Chase P, Matsumoto R. ALFP Debate: Online Certificates and Digital Badges Will Positively Disrupt Pharmacy Education. *American Journal of Pharmaceutical Education*. 2023;87(8). (Presented at the American Association of Colleges of Pharmacy (AACP) Annual Meeting 2023, Aurora, CO, USA)
9. **Munusamy S**, Koenigsfeld C, Torry R. Longitudinal Impact of Mnemonics Use on Pharmacy Students' Exam Performance and Perceptions of Knowledge Retention and Clinical Application. *Journal of Pharmacology and Experimental Therapeutics* June 2023, 385 (S3) 597; DOI: <https://doi.org/10.1124/jpet.122.219830>. (Presented at the ASPET Annual Meeting 2023, St. Louis, MO, USA).
10. **Munusamy S**, Nelson M, Torry R. Impact of Mindfulness Exercises and Weekly Wellness Messages on Pharmacy Students' Perceived Stress and Resilience. *American Journal of Pharmaceutical Education*. 2022;86(5):470. (Presented at the American Association of Colleges of Pharmacy (AACP) Annual Meeting 2022, Grapevine, TX, USA)
11. **Munusamy S**, Koenigsfeld C, Torry R. Longitudinal Impact Assessment of Mnemonics Use on Pharmacy Students' Knowledge Retention, Application, and Exam Performance. *American Journal of Pharmaceutical Education*. 2022;86(5):470. (Presented at the American Association of Colleges of Pharmacy (AACP) Annual Meeting 2022, Grapevine, TX, USA)
12. **Munusamy S**, Koenigsfeld C, Torry R. Mnemonics Improve Pharmacy Students' Knowledge Retention, Clinical Application, and Exam Performance in a PharmD Pharmacology Course. *The FASEB Journal*. 2022;35(S1). (Presented at the Experimental Biology Conference 2022, Philadelphia, PA, USA).

13. **Munusamy S**, Koenigsfeld C, Torry R. Impact of Mnemonics Use on Students' Knowledge Retention and Clinical Application in a Pharmacology course. American Association of Colleges of Pharmacy (AACP) Annual Conference 2021 (Virtual).
14. **Munusamy S**, Mraiche F. The perceptions and impact on the use of interactive online tools in the curriculum at the College of Pharmacy, Qatar University. Exploring Health Sciences: Teaching, Learning and Inter-Professionalism. University of Calgary-Qatar 2015 Conference, Doha, Qatar.
15. Zolezzi M, **Munusamy S**, Elhissi A, Mraiche F, and Khalifa S. Enhancing student learning outcomes for pharmacy students utilizing the six-step approach to curriculum development. Innovations in Global Medical and Health Education Forum 2015, Doha, Qatar.

Scholarship of Discovery (Bench Research)

16. Olstinske K, LeFevre J, Karch C, Frantz R, Carnevale K, **Munusamy S**. Low-Dose Metformin Treatment Offers Modest Nephroprotection in a Mouse Model of Diabetic Kidney Disease. *Journal of Pharmacology and Experimental Therapeutics* June 2023, 385 (S3) 160; DOI: <https://doi.org/10.1124/jpet.122.160820>. (Presented at the ASPET Annual Meeting 2023, St. Louis, MO, USA).
17. Bayne S, **Munusamy S**. Renoprotective Effects of Empagliflozin Against Experimentally Induced Renal Fibrosis In Vitro. *Journal of Pharmacology and Experimental Therapeutics*. June 2023, 385 (S3) 454; <https://doi.org/10.1124/jpet.122.216680>. (Presented at the ASPET Annual Meeting 2023, St. Louis, MO, USA).
18. Olstinske K, LeFevre J, Karch C, Frantz R, Carnevale K, **Munusamy S**. Low-Dose Metformin Treatment Offers Modest Nephroprotection in a Mouse Model of Diabetic Kidney Disease. DMU Research Symposium, 2022, Des Moines, Iowa, USA.
19. Olstinske K, LeFevre J, Karch C, Frantz R, Carnevale K, **Munusamy S**. Low-Dose Metformin Treatment Offers Modest Nephroprotection in a Mouse Model of Diabetic Kidney Disease. 27th Annual Iowa Physiological Society Meeting. Iowa City, Iowa, USA.
20. Bayne S, **Munusamy S**. Protective Effects of Empagliflozin Against Transforming Growth Factor-Beta-Induced Fibrosis in Renal Proximal Tubular Cells. *The FASEB Journal*. 2022;36(S1). R2286. <https://doi.org/10.1096/fasebj.2022.36.S1.R2286> (Presented at the Experimental Biology Conference 2022, Philadelphia, PA, USA).
21. Bayne S, **Munusamy S**. Protective Effects of Empagliflozin (Jardiance) against Experimentally Induced Renal Fibrosis. 26th Annual Meeting of the Iowa Physiological Society, 2021 (Virtual).
22. **Munusamy S**, Olstinske K, Karch C, Frantz R, Carnevale K. Renoprotective Effects of Low-dose Metformin Treatment in a Mouse Model of Diabetic Kidney Disease. *The FASEB Journal*. 2021;35(S1), 03076. <https://doi.org/10.1096/fasebj.2021.35.S1.03076> (Virtual Experimental Biology Conference 2021).
23. Sadko K, Tayal A, **Munusamy S**, Torry R. Effects of Low-Dose Metformin on Kidney Expression of sFlt-1 and Cardiomyocyte Remodeling During Diabetic Kidney Disease. 132nd Iowa Academy of Sciences Annual Meeting, 2021 (Virtual).

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25. **Munusamy S**, Karch C, Frantz R, Carnevale K. Low-Dose Metformin Treatment Ameliorates Renal Dysfunction and Fibrosis in a Mouse Model of Diabetic Nephropathy. *The FASEB Journal*. 2020; 34 (S1), 05367. <https://doi.org/10.1096/fasebj.2020.34.s1.05367> (Virtual Experimental Biology Conference 2020).
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27. Sankaralingam S, **Munusamy S**, Ramanjaneya M, Cyprian F. Hesperetin Prevents Methylglyoxal-Induced Insulin Resistance in Cardiomyocytes Via Induction of Glyoxalase 1. *Canadian Journal of Cardiology*. 2019;35(10):S32. (Presented at the Canadian Cardiovascular Congress 2019, Montreal, Quebec, Canada).
28. Karch C, Carnevale K, **Munusamy S**. Nephroprotective Effects of Metformin in a Mouse Model of Diabetic Nephropathy. Annual Meeting of the Central States Chapter of the Society of Toxicology (CSSOT), Drake University, 2019, Des Moines, Iowa, USA.
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31. Frantz R, Pasha M, Agouni A, **Munusamy S**. Differential Antineoplastic Effects of Metformin Against Kidney Cancer. 23rd Annual Meeting of the Iowa Physiological Society, 2018, Des Moines, Iowa, USA.
32. **Munusamy S**, Pasha M, Agouni A. Anti-neoplastic effects of metformin against renal clear cell carcinoma. *The FASEB Journal* 2018; 32 (1 Supplement), 836.17. (Presented at the Experimental Biology Conference 2018, San Diego, California, USA).
33. **Munusamy S**, Ravindran S, Pasha M, Agouni A. Microparticles as potential mediators of high glucose-induced renal cell injury. 22nd Annual Meeting of the Iowa Physiological Society, 2017, Iowa City, Iowa, USA.
34. Allouch S and **Munusamy S**. AMPK and Non-AMPK mediated nephroprotective effects of metformin in an in vitro model of proteinuric kidney disease. Pharmacology 2016, British Pharmacological Society, London, UK.
35. **Munusamy S**, Alkhiyami D, Berzou S, Moeinzadeh A, Mohamed H, and Saleh A. Renoprotective effects of 4-phenylbutyrate against palmitate-induced renal cell injury. *The FASEB Journal* 2016; 30 (1 Supplement), 711.1. (Presented at the Experimental Biology Conference 2016, San Diego, California, USA).

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37. Gopalakrishnan A, Ravindran S, Eid AH, Alali F, and **Munusamy S**. Anti-neoplastic effects of annonacin against renal cell carcinoma. Qatar Foundation Annual Research Conference 2016. Doha, Qatar.
38. Allouch S and **Munusamy S**. AMPK activation attenuates albumin-induced alterations in renal tubular cells in vitro. Qatar Foundation Annual Research Conference 2016. Doha, Qatar.
39. Hammad A, Khalil A, **Munusamy S**. Synthesis and pharmacological evaluation of novel piperine analogs for therapeutic potential to prevent ER stress *in vitro*. International Student Congress of Biomedical Sciences 2015. University of Groningen, Netherlands.
40. Khalil A, Abdulla O, Khaznadar H, **Munusamy S**. Design and synthesis of new bupropion analogs as a potential aid to smoking cessation. Dubai International Pharmaceuticals and Technologies Conference and Exhibition (DUPHAT) 2015, Dubai, UAE.
41. Abdelsattar D, Noorizadeh M, Mahmoud O, Khalil A, **Munusamy S**. Synthesis and pharmacological screening of novel 4-phenylbutyric acid derivatives against tunicamycin-induced endoplasmic reticulum stress and renal cell death. Dubai International Pharmaceuticals and Technologies Conference & Exhibition (DUPHAT) 2015, Dubai, UAE.
42. Hammad A, **Munusamy S**, Khalil A. Synthesis and pharmacological screening of novel piperine analogs for potential in vitro protection from endoplasmic reticulum stress. *Qatar Foundation Annual Research Forum Proceedings: Vol. 2014, HBSP0714*. (Presented at Qatar Foundation Annual Research Conference 2014. Doha, Qatar).
43. El Gamal H, **Munusamy S**. Comparison of in vitro models of diabetic nephropathy using renal tubular cells. *Qatar Foundation Annual Research Forum Proceedings: Vol. 2014, HBSP0331*. (Presented at Qatar Foundation Annual Research Conference 2014. Doha, Qatar).
44. **Munusamy S**, Alkhiyami D, Berzou S, Moeinzadeh A, and Mohamed H. 4-Phenylbutyrate protects renal proximal tubular cells from palmitic acid-induced endoplasmic reticulum stress and cell death. *The FASEB Journal* 2014; 28 (1 Supplement), 1063.2. Presented at the Experimental Biology Conference 2014, San Diego, California, USA).
45. Hammad A, **Munusamy S**, and Khalil A. Synthesis and characterization of novel piperine derivatives as potential therapeutic agents to treat chronic kidney disease. *Qatar Foundation Annual Research Forum Proceedings: Vol. 2013, BIOSP 018*. (Presented at the Qatar Foundation Annual Research Conference 2013, Doha, Qatar).
46. El Gamal H, and **Munusamy S**. Standardization of an *in vitro* model of diabetic nephropathy using Madin-Darby Canine Kidney cells. *Qatar Foundation Annual Research Forum Proceedings: Vol. 2013, BIOSP 032*. (Presented at the Qatar Foundation Annual Research Conference 2013, Doha, Qatar).
47. **Munusamy S**, Alkhiyami D, Berzou S, Moeinzadeh A, and Mohamed H. Protective role of 4-Phenylbutyrate against palmitate-induced endoplasmic reticulum stress and renal cell injury.

Qatar Foundation Annual Research Forum Proceedings: Vol. 2013, BIOP 088. (Presented at the Qatar Foundation Annual Research Conference 2013, Doha, Qatar).

48. **Munusamy S**, and Eid A. Aqueous extract of *Rhus coriaria* decreases proliferation and promotes apoptosis in human colon cancer cells *in vitro*. *The FASEB Journal*. 2013; 27 (1 Supplement): 639.21. (Experimental Biology Conference 2013, Boston, Massachusetts, USA).
49. **Munusamy S**, Fadul A, and Al-Ismaïl M. Curcumin protects against hydrogen peroxide-induced oxidative stress and cellular injury in human embryonic kidney cells. *Qatar Foundation Annual Research Forum Proceedings: Vol. 2012, BMP17.* (Presented at the Qatar Foundation Annual Research Forum 2012, Doha, Qatar).
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51. **Munusamy S**, do Carmo JM, Hosler JP, and Hall JE. Mechanisms of obesity-induced renal injury. Qatar University Research Forum 2011, Doha, Qatar.
52. do Carmo JM, da Silva AA, Rushing JS, **Munusamy S**, Dubinion JH, Hamza SM, et al., editors. Differential control of appetite and cardiovascular function after selective rescue of melanocortin-4 receptor in proopiomelanocortin neurons. *Hypertension; 2011: Lippincott Williams & Wilkins 530 Walnut St, Philadelphia, PA 19106-3621, USA.* (Presented at the High Blood Pressure Research Conference 2011, Orlando, FL, USA).
53. Dubinion Jr JH, do Carmo J, **Munusamy S**, Hamza S, da Silva A, Hall J, editors. Stat3 Inactivation in POMC neurons attenuates leptin-induced elevations in arterial pressure. *Hypertension; 2011: Lippincott Williams & Wilkins 530 Walnut St, Philadelphia, PA 19106-3621, USA.* (Presented at the High Blood Pressure Research Conference 2011, Orlando, FL, USA).
54. **Munusamy S**, do Carmo JM, Hosler JP, and Hall JE. Unfolded protein response in the ER and alterations to mitochondrial respiration in the pathogenesis of obesity-induced renal injury. The 6th Gulf Coast Physiology Society Meeting 2011, Jackson, Mississippi, USA.
55. **Munusamy S**, do Carmo JM, Hosler JP, and Hall JE. Implications of mitochondrial dysfunction and ER stress in the progression of obesity-induced renal injury. Global Obesity Summit 2010, Jackson, Mississippi, USA.
56. **Munusamy S**, do Carmo JM, Hosler JP, and Hall JE. Role of mitochondrial dysfunction and ER stress in the development of obesity-induced renal injury. *Hypertension; 2010: Lippincott Williams & Wilkins 530 Walnut St, Philadelphia, PA 19106-3621, USA.* (Presented at the High Blood Pressure Research Conference 2010, Washington DC, USA).
57. **Munusamy S**, Brock RW, and MacMillan-Crow LA. Overexpression of manganese superoxide dismutase protects against hyperglycemia-induced mitochondrial alterations and renal cell injury. Jackson Cardiovascular-Renal Meeting 2008 at the University of Mississippi Medical Center, Jackson, Mississippi, USA.

58. **Munusamy S**, Brock RW, and MacMillan-Crow LA. Role of mitochondrial dysfunction in hyperglycemia-mediated renal cell injury. Annual Meeting 2008 - South Central Chapter of the Society of Toxicology at the National Center for Toxicological Research, Jefferson, Arkansas, USA.
59. **Munusamy S**, Brock RW, and MacMillan-Crow LA. Protective role of manganese superoxide dismutase against hyperglycemia-induced mitochondrial dysfunction and renal cell injury. Gordon Research Conference on "Oxygen Radicals" 2008, Ventura, California, USA.
60. **Munusamy S**, Brock RW, and MacMillan-Crow LA. Role of superoxide-mediated disruption of renal mitochondria in hyperglycemia-induced renal injury *in vitro* and *in vivo*. *The FASEB Journal*. 2007; 21: 573.11. (Presented at the Experimental Biology Conference 2007, Washington DC, USA).
61. Brock RW, Saba H Getchell M, **Munusamy S**, Kothur A, and Macmillan-Crow LA. C-peptide reverses hyperglycemia-induced mitochondrial membrane depolarization and oxidant generation in murine renal microvascular endothelial cells. *The FASEB Journal*. 2007; 21: 739.11. (Presented at the Experimental Biology Conference 2007, Washington DC, USA).
62. Brock RW, Ripke I, Kothur A, Baumann, A, **Munusamy S**, MacMillan-Crow LA, and Wunder C. Antioxidant benefits of carbon monoxide in hepatic sinusoids are mediated by manganese superoxide dismutase during a systemic inflammatory response. *8th World Congress Abstracts, Microcirculation 14 (4-5), 489, Abstract #PTH-4, 2007*. (Presented at the 8th World Congress for Microcirculation 2007, Milwaukee, Wisconsin, USA).
63. Saba H, Batinic-Haberle I, **Munusamy S**, Megyesi J, Macmillan-Crow LA, editors. Metalloporphyrin mediated protection from renal ischemia/reperfusion injury. *Free Radical Biology and Medicine*; 2006: Elsevier Science Inc 360 Park Ave South, New York, NY 10010-1710 USA. (Presented at the Society for Free Radical Biology and Medicine 13th Annual Meeting 2006, Denver, CO, USA. 2006).
64. **Munusamy S**, Brock RW, Saba H, and MacMillan-Crow LA. Role of manganese superoxide dismutase inactivation in the early stages of diabetic nephropathy. *The FASEB Journal*. 2006; 20: A1139. (Presented at the Experimental Biology Conference 2006, San Francisco, California, USA).

Non-peer reviewed Abstracts

65. Bayne S, **Munusamy S**. Protective Effects of Empagliflozin (Jardiance) Against Experimentally Induced Renal Fibrosis. 19th Annual Drake University Conference on Undergraduate Research in the Sciences (DUCURS), Drake University, 2022, Des Moines, Iowa, USA.
66. Olstinske K, Karch C, Frantz R, Carnevale K, **Munusamy S**. Effects of Low-Dose Metformin Treatment in a Mouse Model of Diabetic Kidney Disease. 19th Annual Drake University Conference on Undergraduate Research in the Sciences (DUCURS), Drake University, 2022, Des Moines, Iowa, USA.

67. Sadko K, Tayal A, Munusamy S, Torry R. Effects of Low-Dose Metformin on Kidney Expression of sFlt-1 and Cardiomyocyte Remodeling During Diabetic Kidney Disease. 19th Annual Drake University Conference on Undergraduate Research in the Sciences (DUCURS), Drake University, 2022, Des Moines, Iowa, USA.
68. Frantz R, Pasha M, Agouni A, **Munusamy S**. Differential Anticancer Effects of Metformin Against Renal Cell Carcinoma. 16th Annual Drake University Conference on Undergraduate Research in the Sciences (DUCURS), Drake University, 2019, Des Moines, Iowa, USA.

GRANT SUPPORT - EXTRAMURAL

1. **Title:** "Investigating the anticancer potential of metformin in renal cell carcinoma" - **#4222051A**
Dates: 01/01/2018 to 06/21/2018; **Funded amount:** USD 7,000
Funding Source: The NASA-Iowa Space Research Consortium (2017-2018 Early Career Investigator Research Program)
2. **Title:** "Sestrin 2 as a novel therapeutic target and biological marker in diabetic nephropathy" – **NPRP 8-1750-3-360 (Co-Lead PI) – Equivalent to NIH-RO1**
Dates: 02/10/2016 to 02/10/2019; **Funded amount:** USD 808,276
Funding Source: Qatar National Research Fund, Doha, Qatar
3. **Title:** "Evaluation of the nephroprotective effects of metformin in diabetes - bench to bedside" - **NPRP 7-1189-3-304 (Co-PI – Bench aim) – Equivalent to NIH-RO1**
Dates: 01/11/2015 to 07/10/2017; **Funded amount:** USD 436,280
Funding Source: Qatar National Research Fund, Doha, Qatar
4. **Title:** "Synthesis and pharmacological screening of novel chemical chaperones against tunicamycin-induced ER stress and renal cell death" - **UREP 14-008-3-006**
Dates: 08/08/2013 to 08/07/2014; **Funded amount:** USD 30,000
Funding Source: Qatar National Research Fund, Doha, Qatar
5. **Title:** "Discovery and design of new neuroprotective agents as a potential aid to smoking cessation" - **UREP 13-026-3-008 (Co-PI)**.
Dates: 05/22/2013 to 09/01/2014; **Funded amount:** USD 20,000
Funding Source: Qatar National Research Fund, Doha, Qatar
6. **Title:** "Effect of *Rhus coriaria* on palmitic-induced oxidative stress and endoplasmic reticulum stress in rat renal proximal tubular cells" - **UREP 12-043-3-007**
Dates: 08/08/2012 to 12/31/2013; **Funded amount:** USD 10,000
Funding Source: Qatar National Research Fund, Doha, Qatar
7. **Title:** "Mechanisms of obesity-induced renal injury" - **AHA-58161 (Post-doctoral Fellowship)**
Dates: 07/01/2009 to 06/30/2011; **Funded amount:** USD 80,000
Funding source: American Heart Association (Greater South East Affiliate), USA

GRANT SUPPORT - INTRAMURAL

A. UNIVERSITY / COLLEGE RESEARCH GRANTS

- **Scholarship of Teaching and Learning (SoTL)**
- **Title:** "Impact of Mnemonics' Use on Students' Knowledge Retention and Exam Performance"
Dates: 08/31/2020 to 06/30/2021; **Funded amount:** USD 600
Funding Source: Office of the Associate Provost for Curriculum and Assessment, Drake University, Des Moines, IA
- **Scholarship of Discovery (Pharmacological Research)**
- 1. **Title:** "Investigating the Renoprotective Effects of Empagliflozin in an In Vitro Model of Chronic Kidney Disease"
Dates: 01/20/2023 to 06/30/2023; **Funded amount:** USD 3,250
Funding Source: Harris Research Endowment - College of Pharmacy & Health Sciences, Drake University, Des Moines, IA
- 2. **Title:** "Investigating the Effects of Low-Dose Metformin Treatment on the Prognostic Markers of Diabetic Kidney Disease"
Dates: 01/05/2021 to 06/30/2021; **Funded amount:** USD 1,750
Funding Source: Harris Research Endowment - College of Pharmacy & Health Sciences, Drake University, Des Moines, IA
- 3. **Title:** "Investigating the Protective Effects of Metformin in Diabetic Kidney Disease"
Dates: 07/03/2018 to 06/30/2019; **Funded amount:** USD 2,856
Funding Source: Harris Research Endowment - College of Pharmacy & Health Sciences, Drake University, Des Moines, IA
- 4. **Title:** "Kidney expression of sFlt-1 during renal dysfunction" (**Co-PI with Dr. Torry**)
Dates: 09/29/2018 to 06/30/2020; **Funded amount:** USD 4,019
Funding Source: Harris Research Endowment - College of Pharmacy & Health Sciences, Drake University, Des Moines, IA
- 5. **Title:** "Molecular and pharmacological studies of chronic kidney disease"
Dates: 8/14/2017 to 06/30/2023; **Funded amount:** USD 30,000
Funding Source: Kresge Endowment - College of Pharmacy & Health Sciences, Drake University, Des Moines, IA
- 6. **Title:** "Drake university start-up funds"

Dates: 08/14/2017 to 06/30/2020; **Funded amount:** USD 30,000
Funding Source: Office of the Provost, Drake University, Des Moines, IA

7. **Title:** "Investigation of the anti-cancer properties of metformin and annonacin in renal cell carcinoma" - **QUUG-CPH2017-2**
Dates: 01/08/2017 to 12/31/2017; **Funded amount:** QAR 112,000 (USD 30,768)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
8. **Title:** "Evaluation of the anti-neoplastic and anti-metastatic potential of annonacin against renal cell carcinoma" - **QUUG-CPH-CPH-14/15-7**
Dates: 04/02/2015 to 03/31/2016; **Funded amount:** QAR 94,470 (USD 25,953)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
9. **Title:** "Synthesis and pharmacological screening of piperine and its derivatives for chemical chaperone properties to prevent obesity-induced endoplasmic reticulum stress and kidney damage" - **QUUG-CPH-CPH-13/14-2 (Co-PI – Pharmacological Screening)**
Dates: 04/08/2014 to 03/31/2015; **Funded amount:** QAR 116,000 (USD 31,867)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
10. **Title:** "Evaluation of the reno-protective role of metformin against high glucose-induced mitochondrial superoxide generation and endoplasmic reticulum stress in rat renal proximal tubular cells" - **QUUG-CPH-CPH-12/13-1**
Dates: 04/01/2013 to 03/31/2014; **Funded amount:** QAR 126,000 (USD 34,614)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
11. **Title:** "Qatar University Start-up Grant" - **QUSG-CPH-CPH-11/12-3**
Dates: 04/01/2012 to 03/15/2013; **Funded amount:** QAR 50,000 (USD 13,736)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar

- **Faculty Development and Enrichment Grants**

1. **Title:** "AACP Equity, Diversity, and Inclusion (EDI) Institute 2024"
Dates: 12/14/2023 to 06/30/2024; **Funded amount:** USD 200
Funding Source: Dan and Pat Jorndt Faculty Development Fund, College of Pharmacy & Health Sciences, Drake University, Des Moines, IA
2. **Title:** "Academic Leadership Fellows Program (ALFP) Session 3 – 2023 AACP Interim Meeting "
Dates: 11/28/2022 to 02/28/2023; **Funded amount:** USD 2,000
Funding Source: Dan and Pat Jorndt Faculty Development Fund, College of Pharmacy & Health Sciences, Drake University, Des Moines, IA
3. **Title:** "Academic Leadership Fellows Program (ALFP) – Cohort 19"

Dates: 07/15/2022 to 06/30/2023; **Funded amount:** USD 1,500
Funding Source: Office of the Deputy Provost, Drake University, Des Moines, IA

- Title:** "Impact of mindfulness and weekly wellness messages on students' perceived stress and resilience"
Dates: 05/15/2022 to 06/30/2022; **Funded amount:** USD 1,500
Funding Source: Office of the Deputy Provost, Drake University, Des Moines, IA

B. STUDENT RESEARCH GRANTS

- Title:** "The Protective Effects of SGLT2 Inhibitor Empagliflozin Against Renal Fibrosis"
Student Researcher: Sarah Bayne (P1)
Dates: May - Jul. 2021; **Funded amount:** USD 3,000 (*Awarded to the student*)
Funding Source: 2021 Summer Undergraduate Research Fellowship Program, Drake University, Des Moines, IA
- Title:** "Investigating the Nephroprotective Effects of Metformin in a Mouse Model of Diabetic Nephropathy"
Student Researcher: Christopher Karch (P2)
Dates: May - Jul. 2019; **Funded amount:** USD 3,000 (*Awarded to the student*)
Funding Source: 2019 Summer Undergraduate Research Fellowship Program, Drake University, Des Moines, IA
- Title:** "Autocrine effects of microparticles shed by renal tubular cells in response to high glucose stress" - ***QUST-CPH-SPR\2017-12***
Dates: 01/09/2017 to 12/31/2017; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
- Title:** "Effect of Intermittent Versus Continuous High Glucose Exposure on Endoplasmic Reticulum Stress Response in Renal Tubular Cells" - ***QUST-CPH- SPR-15/16-10***
Dates: 05/30/2016 to 12/31/2016; **Funded amount:** QAR 8,000 (USD 2,197)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
- Title:** "Investigation of the Nephroprotective Mechanisms of Metformin in an *In Vitro* Model of Proteinuric Kidney Disease" - ***QUST-CPH-SPR-15/16-11***
Dates: 05/30/2016 to 12/31/2016; **Funded amount:** QAR 8,000 (USD 2,197)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
- Title:** "Evaluation of the Protective Role of AMPK Activation in Albumin-induced Renal Cell Injury" - ***QUST-CPH-FALL-15/16-7***
Dates: 02/21/2016 to 12/31/2016; **Funded amount:** QAR 38,400 (USD 10,549)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar

7. **Title:** "Investigation of the interplay between mTOR and HIF signaling in Renal Cell Carcinoma" - **QUST-CPH-FALL-15/16-6**
Dates: 02/21/2016 to 12/31/2016; **Funded amount:** QAR 8,000 (USD 2,197)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
8. **Title:** "Evaluation of the Nephroprotective Role of Piperine and its Analogs Against Tunicamycin-Induced Endoplasmic Reticulum Stress and Renal Injury" - **QUST-CPH-SPR-14/15-14**
Dates: 05/06/2015 to 03/31/2016; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
9. **Title:** "Effects of Aldose Reductase Inhibition on High Glucose-Induced Alterations in the AKT Signaling and Cell Senescence in Renal Proximal Tubular Cells" - **QUST-CPH-SPR-14/15-15**
Dates: 05/06/2015 to 03/31/2016; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
10. **Title:** "Mechanisms of Tunicamycin-Induced Renal Cell Injury" - **QUST-CPH-SPR-14/15-16**
Dates: 05/06/2015 to 03/31/2016; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
11. **Title:** "Standardization and Characterization of an In Vitro Model of Proteinuric Kidney Disease" - **QUST-CPH-SPR-14/15-17**
Dates: 05/06/2015 to 03/31/2016; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
12. **Title:** "Standardization of an *in vitro* model of albumin-induced endoplasmic reticulum stress and cell injury using rat renal proximal tubular cells" - **QUST-CPH-FALL-14/15-4**
Dates: 11/26/2014 to 11/25/2015; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
13. **Title:** "Effects of aldose reductase inhibitor Eplarestat on high glucose-induced alterations in the PI3 Kinase and MAPK signaling pathways in renal proximal tubular cells" - **QUST-CPH-FALL-14/15-5**
Dates: 11/26/2014 to 11/25/2015; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
14. **Title:** "Investigation on cytoprotective mechanism of Piperine and its analogs in an *in vitro* model of endoplasmic reticulum stress-induced renal injury" - **QUST-CPH-FALL-14/15-6**
Dates: 11/26/2014 to 11/25/2015; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
15. **Title:** "Investigation of the role of endoplasmic reticulum stress and oxidative stress in high glucose-induced endothelial cell injury" - **QUST-CPH-SPR-13/14-7**

Dates: 05/01/2014 to 03/31/2015; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar

16. **Title:** "Screening of novel piperine derivatives for chemical chaperone potential using tunicamycin-induced endoplasmic reticulum stress and renal cell injury" - **QUST-CPH-SPR-13/14-8**

Dates: 05/01/2014 to 03/31/2015; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar

17. **Title:** "Evaluation of the nephroprotective role of *Rhus coriaria* extract against fatty acid-induced endoplasmic reticulum stress and renal cell injury" - **QUST-CPH-SPR-13/14-9**

Dates: 05/01/2014 to 03/31/2015; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar

18. **Title:** "Effect of 4-Phenylbutyrate on palmitate-induced oxidative stress and renal cell injury" - **QUST-CPH-FALL-13/14-4**

Dates: 11/17/2013 to 11/16/2014; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar

19. **Title:** "Evaluation of the mechanisms of endoplasmic reticulum stress and apoptosis in high glucose-induced renal cell injury" - **QUST-CPH-FALL-13/14-5**

Dates: 11/17/2013 to 11/16/2014; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar

20. **Title:** "Pharmacological evaluation of Piperine and its analogs for antioxidant potential in an *in vitro* model of oxidative stress-induced renal cell injury" - **QUST-CPH-FALL-13/14-6**

Dates: 11/17/2013 to 11/16/2014; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar

21. **Title:** "Investigation of the protective mechanisms of 4-phenylbutyrate against palmitate-induced endoplasmic reticulum stress and renal cell injury" - **QUST-CPH-SPR-12/13-3**

Dates: 05/15/2013 to 05/14/2014; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar

22. **Title:** "Characterization of aldose reductase expression and activity in MDCK cells following high glucose exposure" - **QUST-CPH-SPR-12/13-4**

Dates: 05/15/2013 to 05/14/2014; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar

23. **Title:** "Synthesis and characterization of novel piperine derivatives" - **QUST-CPH-SPR-12/13-5**

Dates: 05/15/2013 to 05/14/2014; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar

24. **Title:** "Evaluation of the protective role of 4-phenylbutyrate against palmitate-induced endoplasmic reticulum stress and renal cell injury" - **QUST-CPH-FALL-12/13-6**
Dates: 11/13/2012 to 11/12/2013; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
25. **Title:** "Evaluation of the cytoprotective role of curcumin against hydrogen peroxide-induced cellular injury in human embryonic kidney cells" - **QUST-CPH-SPR-12-2**
Dates: 05/08/2012 to 05/07/2013; **Funded amount:** QAR 10,000 (USD 2,747)
Funding Source: Office of Academic Research, Qatar University, Doha, Qatar
26. **Title:** "Role of mitochondrial alterations in hyperglycemia-induced renal tubular cell injury"
Dates: 04/01/2007 to 03/31/2008; **Funded amount:** USD 2,747
Funding source: *Graduate Student Research Fund*, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.

ORAL PRESENTATIONS

Scholarship of Teaching and Learning (SoTL)

- 2025 *Rx for AI Readiness: Prescribing Case-Based Learning for Future Pharmacists.* American Association of Colleges of Pharmacy (AACP) Annual Meeting 2025, Chicago, IL, USA.
- 2023 *Finding Your Passion.* CPHS Health Professions Day, 2023. Drake University College of Pharmacy and Health Sciences, Des Moines, Iowa, USA.
- 2023 *Longitudinal impact of mnemonics' use on pharmacy students' knowledge retention, application, and exam performance. (Webinar).* Qatar University College of Pharmacy, Doha, Qatar.
- 2022 *Mindfulness and Well-being. Crew Scholars Session.* Drake University College of Pharmacy and Health Sciences, Des Moines, Iowa, USA.
- 2022 *Strategies to Improve Mental Health and Well-being: Mindfulness and Beyond.* CPHS Health Professions Day, 2022. Drake University College of Pharmacy and Health Sciences, Des Moines, Iowa, USA.
- 2021 *Growth mindset.* Shishya School (ESL Students), Chennai, India.
- 2021 *Beyond Required Advisor Meetings: Ideas for Advisee Engagement.* CPHS Health Professions Day, 2021. Drake University College of Pharmacy and Health Sciences, Des Moines, Iowa, USA.
- 2017 *Integrating Instructions.* Kuwait International Pharmacy Conference 2017 - Second Advanced Pharmacy Education Forum GCC-MENA, Kuwait.

- 2016 *Use of Online Tools to Engage Students Within and Outside Classroom.* 7th Office of Faculty & Instructional Development Days, Qatar University, Doha, Qatar.
- 2015 *The Perceptions and Impact on the Use of Interactive Online Tools in the Curriculum at the College of Pharmacy, Qatar University.* Exploring Health Sciences: Teaching, Learning, and Inter-Professionalism. University of Calgary-Qatar 2015 Conference, Doha, Qatar.
- 2015 *Using Online Tools to Promote Active Learning in the College of Pharmacy Qatar University.* First Advanced Pharmacy Education Forum GCC-MENA, Qatar University, Doha, Qatar.
- 2014 *Interactive Online Tools to Engage Students Within and Outside Classroom.* NACADA 2014 Middle East Conference, Doha, Qatar.
- 2014 *Experiences of Developing a Multi-Instructor-Based Assessment to Integrate Basic and Clinical Sciences.* Office of Faculty & Instructional Development, Qatar University, Doha, Qatar.
- 2013 *Quizlet: A Fun Way to Engage Students Outside the Classroom.* Office of Faculty & Instructional Development, Qatar University, Doha, Qatar.

Scholarship of Discovery (Pharmacological Research)

- 2023 *Renoprotective Effects of Empagliflozin Against Experimentally Induced Renal Fibrosis In Vitro.* ASPET Annual Meeting 2023, St. Louis, MO, USA. (Student Researcher Oral Presentation)
- 2023 *Low-Dose Metformin Treatment Offers Modest Nephroprotection in a Mouse Model of Diabetic Kidney Disease.* ASPET Annual Meeting 2023, St. Louis, MO, USA (Student Researcher Oral Presentation)
- 2023 *Investigating the Renoprotective Effects of Empagliflozin in an In Vitro Model of Chronic Kidney Disease.* Drake University College of Pharmacy and Health Sciences Scholarship Seminar Series, Des Moines, Iowa, USA.
- 2022 *Nephroprotective Effects of Low-Dose Metformin Treatment in a Mouse Model of Type 2 Diabetes.* 27th Annual Iowa Physiological Society Meeting. Iowa City, Iowa, USA.
- 2022 *Low-Dose Metformin Treatment Offers Modest Nephroprotection in a Mouse Model of Diabetic Kidney Disease.* 27th Annual Iowa Physiological Society Meeting. Iowa City, Iowa, USA. (Student Researcher Oral Presentation)
- 2021 *Effects of Low-Dose Metformin on Kidney Expression of sFlt-1 and Cardiomyocyte Remodeling During Diabetic Kidney Disease.* 135th Annual Meeting of the Iowa Academy of Science, Virtual. (Student Researcher Oral Presentation)

- 2020 *Protective Effects of Low-dose Metformin Treatment in a Mouse Model of Diabetic Kidney Disease.* 25th Annual Meeting of the Iowa Physiological Society, Des Moines, Iowa, USA. (Student Researcher Oral Presentation)
- 2020 *Nephroprotective Effects of Metformin in a Mouse Model of Diabetic Kidney Disease.* Drake University College of Pharmacy and Health Sciences Scholarship Seminar Series, Des Moines, Iowa, USA.
- 2019 *Renoprotective Effects of Metformin in a Mouse Model of Accelerated Diabetic Nephropathy.* Des Moines University Research Symposium, Des Moines, Iowa, USA. (Student Researcher Oral Presentation)
- 2018 *Differential Antineoplastic Effects of Metformin Against Kidney Cancer.* 23rd Annual Meeting of the Iowa Physiological Society, Des Moines, Iowa, USA. (Student Researcher Oral Presentation)
- 2017 *Is Obesity a Risk Factor for Kidney Disease? The obesity epidemic: Discussing the global health crisis.* (Webinar) EuroSciCon. London, UK
- 2017 *Novel Therapeutic Approaches to Treat Diabetic Kidney Disease.* Pharmacy and Health Sciences Day, Drake University, Des Moines, IA
- 2017 *Protective Effects of Metformin in an In vitro Model of Proteinuric Kidney Disease.* Annual Research Forum, College of Pharmacy, Qatar University, Doha, Qatar (Graduate Student Oral Presentation)
- 2017 *Drugs and Depression.* WHO Event: Let's Talk Depression. College of Health Sciences, Qatar University, Doha, Qatar
- 2017 *A Snapshot of Drug Interactions.* Continuing Professional Development, Qatar University, Doha, Qatar
- 2016 *Renoprotective Effects of Metformin Against Albumin-induced Alterations and Cellular Injury.* First Annual Health Research Retreat, College of Medicine, Qatar University, Doha, Qatar.
- 2016 *Obesity-induced Changes in Kidney Mitochondria and Endoplasmic Reticulum in the Presence or Absence of Leptin.* 5th HMC Research Forum, Hamad Medical Corporation, Doha, Qatar.
- 2016 *Investigation of the Interplay Between mTOR and HIF Signaling in Renal Cell Carcinoma.* Student Research Day, College of Pharmacy, Qatar University, Doha, Qatar. (Undergraduate Student Oral Presentation)
- 2016 *Synthesis and Pharmacological Screening of Novel 4-Phenylbutyric Acid Derivatives Against Tunicamycin-Induced Endoplasmic Reticulum Stress and Renal Cell Death.* 8th UREP Competition, Qatar National Research Fund, Doha, Qatar. (Undergraduate Student Oral Presentation)

- 2016 *AMPK and Non-AMPK Mediated Nephroprotective Effects of Metformin in an In Vitro Model of Proteinuric Kidney Disease.* Pharmacology 2016, British Pharmacological Society, London, UK. (Graduate Student Oral Presentation)
- 2016 *AMPK Activation Attenuates Albumin-induced Alterations in Renal Tubular Cells In Vitro.* Qatar Foundation Annual Research Conference 2016. Doha, Qatar. (Graduate Student Oral Presentation)
- 2015 *Synthesis and Pharmacological Evaluation of Novel Piperine Analogs for Therapeutic Potential to Prevent ER Stress In Vitro.* 22nd International Student Conference of Biomedical Sciences, Groningen, Netherlands. (Graduate Student Oral Presentation)
- 2015 *Synthesis and Pharmacological Screening of Novel 4-Phenylbutyric Acid Derivatives Against Tunicamycin-Induced Endoplasmic Reticulum Stress and Renal Cell Death.* Dubai International Pharmaceuticals and Technologies Conference and Exhibition (DUPHAT) 2015, Dubai, UAE. (Undergraduate Student Oral Presentation)
- 2014 *Renoprotective Role of 4-Phenylbutyrate Against Fatty Acid-Induced Endoplasmic Reticulum Stress and Cell Death.* Second Annual Junior Scientists Symposium, Anti-Doping Lab-Qatar, Doha, Qatar.
- 2014 *Mechanisms of Obesity Nephropathy - A tale from two genetic mice models of obesity.* Biocenter Oulu, University of Oulu, Oulu, Finland.
- 2013 *Curcumin, a Bioflavonoid from Turmeric, Protects Kidney Cells from Oxidative Stress and Cellular Injury.* International Conference on Phytochemicals in Health and Disease, Tamil Nadu, India.
- 2013 *Role of Endoplasmic Reticulum Stress in Obesity Nephropathy.* Faculty Research Seminar Series, College of Pharmacy, Qatar University. Doha, Qatar.
- 2012 *Role of Mitochondrial Oxidants in Diabetic Nephropathy.* Faculty Research Seminar Series, College of Pharmacy, Qatar University. Doha, Qatar.
- 2012 *Evaluation of the Cytoprotective Role of Curcumin Against Hydrogen peroxide-induced Cellular Injury in Human Embryonic Kidney Cells.* 2nd Annual Student Research Night, College of Pharmacy, Qatar University, Doha, Qatar.
- 2012 *Is Obesity a Risk Factor for Renal Disease? Lessons from Rodent Models of Leptin Excess and Deficiency,* IGBMC, Strasbourg, France.
- 2011 *Obesity-induced Renal injury - Is there a role for fat hormone leptin?* Faculty Research Seminar Series, College of Pharmacy, Qatar University. Doha, Qatar.

- 2011 *Evidence for Renal Lipid Accumulation, Impaired Mitochondrial Fatty Acid Oxidation, and ER stress in the Development of Renal Dysfunction Induced by Obesity.* Qatar Foundation Annual Research Forum, Doha, Qatar.
- 2010 *Role of Mitochondrial Dysfunction and ER stress in the Development of Obesity-induced Renal Injury.* Council for High Blood Pressure Research, American Heart Association Meeting, Washington DC, USA.
- 2010 *Implications of Mitochondrial Dysfunction and ER Stress in Obesity-induced Renal Injury.* Department of Physiology & Biophysics, University of Mississippi Medical Center, Jackson, Mississippi, USA.
- 2008 *Protective Role of Manganese Superoxide Dismutase Against Hyperglycemia-induced Mitochondrial Dysfunction and Renal Cell Injury.* 10th Annual Seager-Braswell Symposium, Department of Pharmacology & Toxicology, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.
- 2007 *Role of Mitochondrial Oxidants in Hyperglycemia-induced Renal Cell Injury,* Fall 2007 - Senior Graduate Students Departmental Seminar Series, Department of Pharmacology & Toxicology, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.
- 2007 *Overexpression of Manganese Superoxide Dismutase Protects against high glucose-induced renal tubular cell injury in vitro.* 9th Annual Seager-Braswell Symposium, Department of Pharmacology & Toxicology, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.
- 2006 *Role of Manganese Superoxide Dismutase Inactivation in the Early stages of Diabetic Nephropathy.* 8th Annual Seager-Braswell Symposium, Department of Pharmacology & Toxicology, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.
- 2004 *Role of MnSOD in Renal Ischemia/Reperfusion Injury,* University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.
- 2004 *Neuroprotective Effect of PARP Inhibitor in MCAO-induced Focal Cerebral Ischemia in Rats,* the University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.
- 2001 *Free Radicals in Cerebral Ischemic/Reperfusion Injury,* National Institute of Pharmaceutical Education and Research, Mohali, Punjab, India.
- 2000 *Role of Inflammatory Mediators in Cerebral Ischemia,* National Institute of Pharmaceutical Education and Research, Mohali, Punjab, India.
- 1999 *Nuclear Magnetic Resonance (NMR): Principles and Applications,* Pallavan Pharmacy College, Kanchipuram, Tamil Nadu, India.
- 1998 *Food for Tomorrow: Spirulina,* Pallavan Pharmacy College, Kanchipuram, Tamil Nadu, India.

POSTER PRESENTATIONS

Scholarship of Teaching and Learning (SoTL)

- 2025 *AI Readiness: Leveraging Case-Based Learning Exercises to Enhance AI Competency in Pharmacy Students.* American Association of Colleges of Pharmacy (AACP) Annual Meeting 2025, Chicago, IL, USA.
- 2025 *Impact of an Escape Room on Pharmacy Students' Test Performance, Knowledge Retention, and Application Skills.* American Association of Colleges of Pharmacy (AACP) Annual Meeting 2025, Chicago, IL, USA.
- 2025 *Using Case-based Pharmacology Assignments to Promote Artificial Intelligence Competencies Among Pharmacy Students.* ASPET Annual Meeting 2025. Portland, OR, USA.
- 2024 *Integrating Wellness Activities into Courses Promotes Pharmacy Students' Resilience.* American Association of Colleges of Pharmacy (AACP) Annual Meeting 2024. Boston, MA, USA.
- 2024 *Impact of Mnemonics and Analogies in a Biochemistry Course on Students' Knowledge retention and application.* American Association of Colleges of Pharmacy (AACP) Annual Meeting 2024. Boston, MA, USA.
- 2024 *Micro-dosing Mindfulness and Wellness Messages into Pharmacology Classrooms Improves Pharmacy Students' Resilience.* ASPET Annual Meeting 2024, Arlington, VA, USA.
- 2023 *A Ten-week Wellness Intervention Promotes Students' Well-being.* American Association of Colleges of Pharmacy (AACP) Annual Meeting 2023. Aurora, CO, USA.
- 2023 *ALFP Debate: Online Certificates and Digital Badges Will Positively Disrupt Pharmacy Education.* American Association of Colleges of Pharmacy (AACP) Annual Meeting 2023. Aurora, CO, USA.
- 2023 *Longitudinal Impact of Mnemonics Use on Pharmacy Students' Exam Performance and Perceptions of Knowledge Retention and Clinical Application.* ASPET Annual Meeting 2023, St. Louis, MO, USA.
- 2022 *Impact of Mindfulness Exercises and Weekly Wellness Messages on Pharmacy Students' Perceived Stress and Resilience.* American Association of Colleges of Pharmacy (AACP) Annual Meeting 2022. Grapevine, TX, USA.
- 2022 *Longitudinal Impact Assessment of Mnemonics Use on Pharmacy Students' Knowledge Retention, Application, and Exam Performance.* American Association of Colleges of Pharmacy (AACP) Annual Meeting 2022. Grapevine, TX, USA.

- 2022 *Mnemonics Improve Pharmacy Students' Knowledge Retention, Clinical Application, and Exam Performance in a PharmD Pharmacology Course.* Experimental Biology Conference 2022, Philadelphia, PA, USA.
- 2021 *Impact of Mnemonics' Use on Students' Knowledge Retention and Clinical Application in a Pharmacology course.* American Association of Colleges of Pharmacy (AACP) Annual Meeting 2021 (Virtual).
- 2015 *Using Online Tools to Promote Active Learning in the College of Pharmacy Qatar University.* First Advanced Pharmacy Education Forum GCC-MENA, Qatar University, Doha, Qatar.
- 2015 *A Systematic Approach for Curriculum Development and Enhancement of Learning Outcomes for Pharmacy Students.* First Advanced Pharmacy Education Forum GCC-MENA, Qatar University, Doha, Qatar.
- 2015 *Enhancing Student Learning Outcomes for Pharmacy Students Utilizing the Six-Step Approach to Curriculum Development.* Innovations in Global Medical and Health Education (IGMHE) Forum, Doha, Qatar.

Scholarship of Discovery (Pharmacological Research)

- **National and International**

- 2023 *Renoprotective Effects of Empagliflozin Against Experimentally Induced Renal Fibrosis In Vitro.* ASPET Annual Meeting 2023, St. Louis, MO, USA
- 2023 *Low-Dose Metformin Treatment Offers Modest Nephroprotection in a Mouse Model of Diabetic Kidney Disease.* ASPET Annual Meeting 2023, St. Louis, MO, USA
- 2022 *Protective Effects of Empagliflozin Against Transforming Growth Factor-Beta-Induced Fibrosis in Renal Proximal Tubular Cells.* Experimental Biology Conference 2022, Philadelphia, PA, USA.
- 2021 *Renoprotective Effects of Low-dose Metformin Treatment in a Mouse Model of Diabetic Kidney Disease.* Experimental Biology Virtual Conference 2021, USA.
- 2020 *Low-Dose Metformin Treatment Ameliorates Renal Dysfunction and Fibrosis in a Mouse Model of Diabetic Nephropathy.* Experimental Biology Conference 2020, San Diego, CA, USA. (Accepted but not presented due to the COVID-19 pandemic)
- 2019 *Differential Selectivity of Renal Clear Cell Carcinoma Cell Lines to the Antineoplastic Effects of Metformin.* Experimental Biology Conference 2019, Orlando, Florida, USA.
- 2018 *Anti-neoplastic effects of Metformin against Renal Clear Cell Carcinoma.* Experimental Biology Conference 2018, San Diego, California, USA.

- 2016 *Renoprotective Effects of 4-Phenylbutyrate Against Palmitate-Induced Renal Cell Injury*. Experimental Biology Conference 2016, San Diego, California, USA.
- 2015 *Synthesis and Pharmacological Evaluation of Novel Piperine Analogs for Therapeutic Potential to Prevent ER Stress In Vitro*. 22nd International Student Conference of Biomedical Sciences, Groningen, Netherlands. (Graduate Student Poster Presentation)
- 2015 *Design and Synthesis of New Bupropion Analogs as a Potential Aid to Smoking Cessation*. Dubai International Pharmaceuticals and Technologies Conference and Exhibition (DUPHAT) 2015, Dubai, UAE. (Undergraduate Student Poster Presentation)
- 2015 *Synthesis and Pharmacological Screening of Novel 4-Phenylbutyric acid Derivatives Against Tunicamycin-Induced Endoplasmic Reticulum Stress and Renal Cell Death*. Dubai International Pharmaceuticals and Technologies Conference and Exhibition (DUPHAT) 2015, Dubai, UAE. (Undergraduate Student Poster Presentation)
- 2010 *Implications of Mitochondrial Dysfunction and ER stress in the Progression of Obesity-induced Renal Injury*. Global Obesity Summit 2010, Jackson, Mississippi, USA.
- 2008 *Protective Role of Manganese Superoxide Dismutase Against Hyperglycemia-induced Mitochondrial Dysfunction and Renal Cell Injury*. Gordon Research Conference on "Oxygen Radicals," California, USA.
- 2007 *Role of Superoxide-Mediated Disruption of Renal Mitochondria in Hyperglycemia-Induced Renal Injury In Vitro and In Vivo*. ASPET section - Experimental Biology, Washington DC, USA.
- 2006 *Role of Manganese Superoxide Dismutase Inactivation in the Early Stages of Diabetic Nephropathy*. ASPET section - Experimental Biology, San Francisco, California, USA.

- **Local and Regional**

- 2022 *Low-Dose Metformin Treatment Offers Modest Nephroprotection in a Mouse Model of Diabetic Kidney Disease*. Des Moines University Research Symposium. Des Moines, Iowa, USA. (Student Researcher Poster Presentation)
- 2022 *Low-Dose Metformin Treatment Offers Modest Nephroprotection in a Mouse Model of Diabetic Kidney Disease*. 27th Annual Iowa Physiological Society Meeting. Iowa City, Iowa, USA. (Student Researcher Poster Presentation)
- 2022 *Effects of Low-dose Metformin Treatment in a Mouse Model of Diabetic Kidney Disease*. 19th Annual Drake University Conference on

- Undergraduate Research in the Sciences (DUCURS), Drake University, 2022, Des Moines, Iowa, USA. (*Student Researcher Poster Presentation*)
- 2022 *Protective Effects of Empagliflozin (Jardiance) Against Experimentally Induced Renal Fibrosis.* 19th Annual Drake University Conference on Undergraduate Research in the Sciences (DUCURS), Drake University, 2022, Des Moines, Iowa, USA. (*Student Researcher Poster Presentation*)
- 2022 *Effects of Low-dose Metformin on Kidney Expression of sFlt-1 and Cardiomyocyte Remodeling During Diabetic Kidney Disease.* 19th Annual Drake University Conference on Undergraduate Research in the Sciences (DUCURS), Drake University, 2022, Des Moines, Iowa, USA. (*Student Researcher Poster Presentation*)
- 2019 *Nephroprotective Effects of Metformin in a Mouse Model of Diabetic Nephropathy.* Annual Meeting of the Central States Chapter of the Society of Toxicology (CSSOT), Drake University, 2019, Des Moines, Iowa, USA. (*Student Researcher Poster Presentation*)
- 2019 *Differential Anticancer Effects of Metformin Against Renal Cell Carcinoma.* 16th Annual Drake University Conference on Undergraduate Research in the Sciences (DUCURS), Drake University, 2019, Des Moines, Iowa, USA. (*Student Researcher Poster Presentation*)
- 2018 *Differential Antineoplastic Effects of Metformin Against Renal Cancer Cell lines.* Des Moines University Research Symposium, Des Moines, Iowa, USA.
- 2018 *Differential Antineoplastic Effects of Metformin Against Kidney Cancer.* 23rd Annual Meeting of the Iowa Physiological Society, Des Moines, Iowa, USA. (*Student Researcher Poster Presentation*)
- 2017 *Microparticles as Potential Mediators of High Glucose-Induced Renal Cell Injury.* 22nd Annual Meeting of the Iowa Physiological Society, Iowa City, Iowa, USA.
- 2017 *In Vitro Investigation of Autocrine Effects of Microparticles Shed by Renal Tubular Cells in Response to High Glucose Stress,* College of Pharmacy Annual Research Forum, Qatar University, Doha, Qatar (*Undergraduate Student Poster Presentation*)
- 2017 *Investigation of the Pro-Fibrotic Effects of Microparticles on Renal Proximal Tubular Cells In Vitro,* College of Pharmacy Annual Research Forum, Qatar University, Doha, Qatar (*Undergraduate Student Poster Presentation*)
- 2017 *Anti-neoplastic Effects of Metformin Against Renal Cell Carcinoma.* Qatar University Annual Research Forum, Doha, Qatar.
- 2017 *In Vitro Investigation of Autocrine Effects of Microparticles Shed by Renal Tubular Cells in Response to High Glucose Stress.* Qatar University Annual

- Research Forum, Doha, Qatar. (*Undergraduate Student Poster Presentation*)
- 2017 *Anti-neoplastic Effects of Metformin Against Renal Cell Carcinoma.* Second Health Cluster Symposium, Qatar University, Doha, Qatar.
- 2017 *In Vitro Investigation of Autocrine Effects of Microparticles Shed by Renal Tubular Cells in Response to High Glucose Stress.* Second Health Cluster Symposium, Qatar University, Doha, Qatar. (*Undergraduate Student Poster Presentation*)
- 2017 *Microparticles as Potential Mediators of Renal Injury in Diabetes.* Conference on Understanding Molecular Mechanisms Underlying Cardiovascular Disease, Diabetes, Obesity, and Stroke, Doha, Qatar.
- 2016 *Anti-Cancer Effects of Annonacin Against Renal Cell Carcinoma.* 6th Annual Middle East Association for Cancer Research Conference, Qatar University, Doha, Qatar.
- 2016 *Effect of Intermittent Versus Continuous High Glucose Exposure on Endoplasmic Reticulum Stress Response in Renal Tubular Cells.* Student Research Day, College of Pharmacy, Qatar University, Doha, Qatar. (*Undergraduate Student Poster Presentation*)
- 2016 *Investigation of the Interplay Between mTOR and HIF Signaling in Renal Cell Carcinoma.* Student Research Day, College of Pharmacy, Qatar University, Doha, Qatar. (*Undergraduate Student Poster Presentation*)
- 2016 *Metformin Protects Renal Tubular Cells Against Albumin-Induced Alterations and Cellular Injury.* Experimental Biology Conference 2016, San Diego, California, USA. (*Graduate Student Poster Presentation*)
- 2016 *Anti-Neoplastic Effects of Annonacin Against Renal Cell Carcinoma.* Qatar Foundation Annual Research Conference 2016. Doha, Qatar.
- 2016 *AMPK Activation Attenuates Albumin-induced Alterations in Renal Tubular Cells In Vitro.* Qatar Foundation Annual Research Conference 2016. Doha, Qatar. (*Graduate Student Poster Presentation*)
- 2015 *Standardization of an In Vitro Model of Albumin-Induced Endoplasmic Reticulum Stress and Cell Injury in Rat Renal Proximal Tubular Cells.* IPE Poster Day, Weill Cornell Medical College in Qatar. Doha, Qatar. (*Undergraduate Student Poster Presentation*)
- 2015 *Synthesis and Pharmacological Screening of Novel Piperine Analogs For Potential In Vitro Protection From Endoplasmic Reticulum Stress.* Qatar University Annual Research Forum 2015, Doha, Qatar. (*Graduate Student Poster Presentation*)

- 2015 *Standardization and Characterization of an In Vitro Model of Proteinuric Kidney Disease. 5th Annual Student Research Night, College of Pharmacy, Qatar University, Doha, Qatar. (Graduate Student Poster Presentation)*
- 2015 *Standardization of an In Vitro Model of Albumin-Induced Endoplasmic Reticulum Stress and Cell Injury in Rat Renal Proximal Tubular Cells. 5th Annual Student Research Night, College of Pharmacy, Qatar University, Doha, Qatar. (Undergraduate Student Poster Presentation)*
- 2015 *Involvement of Oxidative Stress and Apoptosis in Tunicamycin-Induced Renal Cell Injury. 5th Annual Student Research Night, College of Pharmacy, Qatar University, Doha, Qatar. (Undergraduate Student Poster Presentation)*
- 2014 *Synthesis and Pharmacological Screening of Novel Piperine Analogs for Potential In Vitro Protection From Endoplasmic Reticulum Stress. Qatar Foundation Annual Research Conference, Doha, Qatar. (Graduate Student Poster Presentation)*
- 2014 *Comparison of In Vitro Models of Diabetic Nephropathy Using Renal Tubular Cells. Qatar Foundation Annual Research Conference, Doha, Qatar. (Graduate Student Poster Presentation)*
- 2014 *Synthesis and Pharmacological Screening of Novel Piperine Analogs for Therapeutic Potential In Vitro To Relieve ER Stress. Second Annual Junior Scientists Symposium, Anti-Doping Lab-Qatar, Doha, Qatar. (Graduate Student Poster Presentation)*
- 2014 *Effect of 4-Phenylbutyrate on Palmitate-induced Oxidative Stress and Renal Injury. 4th Annual Student Research Night, College of Pharmacy, Qatar University, Doha, Qatar. (Undergraduate Student Poster Presentation)*
- 2014 *Evaluation of the Nephroprotective Role of Rhus coriaria Extract Against Fatty Acid-induced Renal Cell Injury. 4th Annual Student Research Night, College of Pharmacy, Qatar University, Doha, Qatar. (Undergraduate Student Poster Presentation)*
- 2014 *4-Phenylbutyrate Protects Renal Proximal Tubular Cells from Palmitic Acid-Induced Endoplasmic Reticulum Stress and Cell Death. Experimental Biology, San Diego, USA.*
- 2013 *Standardization of an In Vitro Model of Diabetic Nephropathy Using Madin-Darby Canine Kidney cells. Qatar Foundation Annual Research Conference, Doha, Qatar. (Graduate Student Poster Presentation)*
- 2013 *Protective Role of 4-Phenylbutyrate Against Palmitate-Induced Endoplasmic Reticulum Stress and Renal Cell Injury. Qatar Foundation Annual Research Conference, Doha, Qatar. (Undergraduate Student Poster Presentation)*

- 2013 *Synthesis and Characterization of Novel Piperine Derivatives.* Qatar Foundation Annual Research Conference, Doha, Qatar. (Graduate Student Poster Presentation)
- 2013 *Investigation of the Protective Mechanisms of 4-Phenylbutyrate Against Palmitate-induced Endoplasmic Reticulum Stress and Renal Cell Injury.* 3rd Annual Student Research Night, College of Pharmacy, Qatar University, Doha, Qatar. (Undergraduate Student Poster Presentation)
- 2013 *Characterization of Aldose Reductase Expression and Activity in MDCK Cells Following High Glucose Exposure.* 3rd Annual Student Research Night, College of Pharmacy, Qatar University, Doha, Qatar. (Graduate Student Poster Presentation)
- 2013 *Synthesis and Characterization of Novel Piperine Derivatives.* 3rd Annual Student Research Night, College of Pharmacy, Qatar University, Doha, Qatar. (Graduate Student Poster Presentation)
- 2013 *Evaluation of the Protective Role of 4-Phenylbutyrate Against Palmitate-induced Endoplasmic Reticulum Stress and Renal Cell Injury.* 3rd Annual Student Research Night, College of Pharmacy, Qatar University, Doha, Qatar. (Undergraduate Student Poster Presentation)
- 2012 *Curcumin Protects Against Hydrogen Peroxide-induced Oxidative Stress and Cellular Injury in Human Embryonic Kidney Cells.* Qatar Foundation Annual Research Forum, Doha, Qatar.
- 2012 *Evaluation of the Cytoprotective Role of Curcumin Against Hydrogen Peroxide-induced Cellular Injury in Human Embryonic Kidney Cells.* 2nd Annual Student Research Night, College of Pharmacy, Qatar University, Doha, Qatar. (Undergraduate Student Poster Presentation)
- 2011 *Mechanisms of Obesity-induced renal injury.* Qatar University Research Forum, Doha, Qatar.
- 2011 *Unfolded Protein Response in the ER and Alterations to Mitochondrial Respiration in the Pathogenesis of Obesity-Induced Renal Injury.* The 6th Gulf Coast Physiology Society Meeting, Jackson, Mississippi, USA.
- 2008 *Role of Mitochondrial Dysfunction in Hyperglycemia-Mediated Renal Cell Injury.* 2008 Annual Meeting - South Central Chapter of the Society of Toxicology at the National Center for Toxicological Research, Jefferson, Arkansas, USA.
- 2008 *Respiratory Complex-III is a Major Target For Mitochondrial Injury During Diabetic Nephropathy In Vitro and In Vivo.* Student Research Week. University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.
- 2007 *Overexpression of Manganese Superoxide Dismutase in Renal Proximal Tubule Cells Protects against Hyperglycemia-induced Renal Cell Injury.*

Student Research Week, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.

2005

Role of Reactive Oxygen Species in Cyclosporine-Induced Renal Cell Death. Student Research Week, University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA

PHARM.D. STUDENT RESEARCH SUPERVISION

- Supervised **Madelynn Aeilts** (a PharmD student) on a mnemonics research project in 2025.
 - Co-authored a research article in the “American Journal of Pharmaceutical Education.”
- Supervised **MacKenzie Hester** (a PharmD student) on a wellness intervention research project in 2024.
 - Co-authored a research article in the “American Journal of Pharmaceutical Education.”
- Precepted **James Lefevre** (a PharmD student) on an Advanced Pharmacy Practice Experience (APPE) rotation and supervised him on a diabetic kidney research project funded by the Kresge Endowment in 2022
 - Co-authored two (2) peer-reviewed abstracts – presented as podium and poster presentations at regional conferences in 2022.
 - Co-authored a review article titled “Renoprotective effects of mineralocorticoid receptor antagonists” in the journal “Advanced Biology”.
- Supervised **Sarah Bayne** (a PharmD student) on a chronic kidney disease research project under the Drake Undergraduate Science Collaborative Institute (DUSCI) in 2021.
 - Co-authored three (3) peer-reviewed abstracts – presented as podium and poster presentations at regional and national conferences between 2021 and 2023.
 - Co-authored a review article titled “Renoprotective effects of mineralocorticoid receptor antagonists” in the journal “Advanced Biology”.
- Supervised **Kayla Olstinske** (a PharmD student) on a diabetic nephropathy research project funded by the Kresge Endowment in 2020
 - Won the “Outstanding Oral Presentation Award” at a regional conference (Iowa Physiological Society Annual Conference) in 2020.
 - Co-authored five (5) peer-reviewed abstracts – presented as podium and poster presentations at national and regional conferences between 2020 and 2023.
 - Co-authored a review article titled “Renoprotective effects of mineralocorticoid receptor antagonists” in the journal “Advanced Biology”.
- Supervised **Christopher Karch** (a PharmD student) on a diabetic nephropathy research project under the Drake Undergraduate Science Collaborative Institute (DUSCI) in 2019.
 - Won the “Most Outstanding Presentation Award” at a regional conference (Des Moines University Annual Research Symposium) in 2019.

- Co-authored four (4) peer-reviewed abstracts - presented regionally and nationally as posters and podium presentations.
- Supervised **Ronald Frantz** (a PharmD student) on a renal cancer research project under an ISGC-NASA-sponsored grant in 2018.
 - Delivered an oral presentation at a regional conference (Des Moines University Annual Research Symposium) in 2018.
 - Co-authored seven (7) peer-reviewed abstracts - presented regionally and nationally as posters and podium presentations from 2018 to 2022.
 - Co-authored a peer-reviewed original research article in the journal “Biomolecules.”

GRADUATE STUDENT RESEARCH AND MENTORSHIP

A. MSc Thesis Supervisor

1. **Soumaya Allouch**, MSc (Pharm); Graduated in November 2016 (**Thesis Title:** Protective effects of metformin in an *in vitro* model of proteinuric kidney disease)
 - Published a research article in the “Journal of Cellular Physiology.”
 - Published a research article in the journal “Current Drug Targets.”
 - Won the “Outstanding Thesis Award” from the Office of Graduate Studies, Qatar University, Doha, Qatar.
 - Delivered an oral presentation at the 2016 British Pharmacological Society Conference in London, UK.
 - Presented at the American Society of Pharmacology and Experimental Therapeutics (ASPET) Best Abstract Competition at the Experimental Biology 2016 meeting, San Diego, USA.
 - Awarded the ASPET travel award to attend the Experimental Biology 2016 meeting, San Diego, USA.
 - Won third place in the Flash oral presentation competition at the 2016 Qatar Foundation Annual Research Conference, Doha, Qatar.
2. **Ayat Hammad**, MSc (Pharm); Graduated in June 2015 (**Thesis Title:** Synthesis and pharmacological evaluation of novel piperine analogs for the therapeutic potential to prevent ER stress)
 - Published a research article in “Cell Stress and Chaperones.”
 - Won second place in the 2016 Three-Minute Thesis competition at Qatar University.
 - Won the Best Oral Presentation Award at the 2015 International Student Congress of Biomedical Sciences, University of Groningen, Netherlands.
3. **Heba El Gamal**, MSc (Pharm); Graduated in May 2015 (**Thesis Title:** Investigation of the role of aldose reductase pathway in high glucose-induced renal cell injury)
 - Published a research article in “Biomed Research International.”

- Published a review article in the journal “Protein and Peptide Letters.”

B. Graduate Student Supervisory Committee Member

1. Arwa Hammuda, MSc (Pharm); Graduated in January 2016 (**Thesis Title:** Design and Synthesis of Novel MAO Inhibitors)
2. Sadaf Riaz, MSc (Pharm); Graduated in November 2015 (**Thesis Title:** Role of Cathepsin B in cardiac hypertrophy)
3. Iman Abdelaziz, MSc (Pharm); Graduated in December 2013 (**Thesis Title:** The cellular interplay of Na⁺/H⁺ exchanger isoform I and osteopontin in cardiac remodeling)

UNDERGRADUATE STUDENT RESEARCH AND MENTORING

- I have supervised **26** undergraduate pharmacy students on **10** intramural and **3** extramural research projects (funded by the Qatar National Research Foundation) at Qatar University.
 - Awarded the second “Outstanding Research Project” award for the undergraduate research project (UREP 14-008-3-006) from the Qatar National Research Fund.
 - Awarded the second “Best Poster Award” for the undergraduate research project (QUST-CPH-SPR\2017-12) from the College of Pharmacy, Qatar University.
 - Abstracts from two internally funded undergraduate research projects were presented as posters at the Experimental Biology conferences in 2014 and 2016 and at the Inter-Professional Education Poster Day at Weill Cornell Medical College in Qatar.
 - A nationally funded undergraduate research project was selected for oral presentation at the 2015 Dubai International Pharmaceuticals and Technologies Conference and Exhibition in Dubai, UAE.
 - Two undergraduate research projects were selected for oral presentation at the Annual Student Research Day (Qatar University College of Pharmacy) in 2012 and 2016.

AD HOC REVIEWER FOR GRANTING AGENCIES

2023 – Present	National Science Centre, Poland
2017 – Present	American Association of Colleges of Pharmacy (ACCP)
2016 – Present	Diabetes UK, United Kingdom
2015 – Present	American University of Beirut, Lebanon (Intramural Grants)

EDITORIAL BOARD MEMBER OF PEER-REVIEWED JOURNALS

2023 – Present	<i>Pharmacy</i> , MDPI (Basel, Switzerland)
2022 – Present	<i>Journal of Pharmacy and Pharmacology</i> , Oxford University Press.
2020 – Present	<i>BMC Endocrine Disorders</i> , Springer Nature.
2019 – Present	<i>Scientific Reports</i> , Springer Nature.
2018 – Present	<i>Frontiers in Pharmacology: Translational Pharmacology</i> (Review Editor)

AD HOC REVIEWER FOR PEER-REVIEWED JOURNALS

Pharmacy Education Research Journals

2022 – Present	American Journal of Pharmaceutical Education, Elsevier, Netherlands
2020 – Present	Pharmacy, MDPI, Switzerland
2014 – Present	Currents in Pharmacy Teaching and Learning, Elsevier, Netherlands

Pharmacology and Biomedical Research Journals

2025 – Present	Biochemical Pharmacology, Elsevier, Netherlands
2024 – Present	Cell Biology and Toxicology, Springer Nature, UK
2023 – Present	Cellular & Molecular Biology Letters, BioMed Central, Springer Nature, UK
2021 – Present	Journal of Pharmacy and Pharmacology, Oxford Academic, UK
2021 – Present	Pharmaceuticals, MDPI, Switzerland
2020 – Present	European Journal of Pharmacology, Elsevier, Netherlands
2020 – Present	Cells, MDPI, Switzerland
2019 – Present	British Journal of Pharmacology, Wiley, UK
2019 – Present	Life Sciences, Elsevier, Netherlands
2019 – Present	Oxidative Medicine and Cellular Longevity, Hindawi, UK
2019 – Present	Journal of International Medical Research, SAGE Publishing, UK
2019 – Present	Journal of Cancer, Ivyspring International Publisher, Australia
2019 – Present	Molecular and Cellular Endocrinology, Elsevier, Netherlands
2019 – Present	Molecular Medicine, Spandidos Publications, UK
2019 – Present	Nutrition and Metabolism, BioMed Central, Springer Nature, UK
2019 – Present	Current Pharmaceutical Design, Bentham Science, Dubai, UAE
2019 – Present	International Journal of Medical Sciences (IJMS), MDPI, Switzerland
2019 – Present	Medicina, MDPI, Switzerland
2019 – Present	Molecules, MDPI, Switzerland
2019 – Present	Nutrients, MDPI, Switzerland
2018 – Present	Journal of Clinical Medicine, MDPI, Switzerland
2018 – Present	Public Library of Science (PLOS) ONE, PLOS, USA
2018 – Present	Bioorganic and Medicinal Chemistry, Elsevier, Netherlands
2018 – Present	Current Pharmaceutical Biotechnology, Bentham Science, Dubai, UAE
2018 – Present	Biomedicine and Pharmacotherapy, Elsevier, Netherlands
2018 – Present	International Journal of Nephrology & Renovascular Disease, Dove Press, New Zealand
2017 – Present	Current Drug Targets, Bentham Science, Dubai, UAE
2017 – Present	Drug Design, Development, and Therapy, Dove Press, New Zealand
2016 – Present	Frontiers in Pharmacology, Frontiers International, Switzerland
2016 – Present	Cell Stress and Chaperones, Springer, USA
2015 – Present	Scientific Reports, Nature Publishing Group, UK
2014 – Present	Canadian Journal of Pharmacy and Pharmacology, NRC Press, Canada
2013 – Present	Cellular Biochemistry and Biophysics, Springer, USA

EXTERNAL EXAMINER FOR DISSERTATION

2020 – Present	SRM Institute of Science and Technology, Chennai, India
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ADJUNCT FACULTY APPOINTMENTS

2020 – 2022	UCSI University, Kuala Lumpur, Malaysia
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PROFESSIONAL MEMBERSHIPS

2017 – Present	American Association of Colleges of Pharmacy (AACP)
2004 – Present	American Society for Pharmacology and Experimental Therapeutics

BOARD CERTIFICATIONS

Sep. 2010	<i>Foreign Pharmacy Graduate</i> , National Association of Boards of Pharmacy (NABP), USA
2002 – Present	<i>Registered Pharmacist (R.Ph)</i> , Tamil Nadu State Pharmacy Council, India

CONTINUING PROFESSIONAL DEVELOPMENT

Jul. 2025	Teachers Seminar , American Association of Colleges of Pharmacy
Apr. 2025	Safe Space Ally Training organized by Drake University
Oct. 2024	IUPUI Assessment Institute , organized by the University of Indianapolis
Aug. 2024	ACPE Site Visit Team Evaluator Training , Accreditation Council for Pharmacy Education (ACPE)
Aug. 2024	Teaching Online – An Introduction to Online Delivery Certification from Quality Matters® (QM)
May. 2024	Inclusive Teaching and Transparency in Learning and Teaching , organized by Drake University
Apr. 2024	Artificial Intelligence (AI) Institute organized by the American Association of Colleges of Pharmacy (AACP)
Jan. 2024	Equity, Diversity, and Inclusion (EDI) Institute organized by the American Association of Colleges of Pharmacy (AACP)
Jan. 2024	Mental Health First Aid certification from the Mental Health First Aid USA
2022 – 2023	Academic Leadership Fellows Program (ALFP) , Cohort 19, American Association of Colleges of Pharmacy (AACP)
Feb. – Apr. 2022	Intercultural Learning , True North Intercultural Inc.
Apr. – Dec. 2021	Rising Higher Education Leaders Fellowship , Education Advisory Board (EAB)
Jul. 2021	Teachers Seminar , American Association of Colleges of Pharmacy
Dec. 2020	Enhancing academic leadership horizons in trying times (online course) offered by the International Pharmaceutical Federation (FIP)
May 2018	Summer SoTL Institute organized by the Center for Innovative Pharmacy Education and Research at the University of North Carolina-Chapel Hill
Oct. 2017	Fall Leadership Institute organized by the American Association of Colleges of Pharmacy (AACP)

- April 2017 ***Introduction to Systematic Review and Meta-Analysis*** – an online course offered by Johns Hopkins University on Coursera.
- April 2014 ***Microsoft Faculty Fellow***, Worldwide Higher Education, Microsoft Inc.

HOSPITAL PHARMACY EXPERIENCE

- Jan. - Feb.1999 Trained in drug dispensing at Sri Ramachandra Medical Center and Research Foundation, Chennai, Tamil Nadu, India.

INDUSTRIAL PHARMACY EXPERIENCE

- May - Jun.1999 Trained in the quality control and assurance department in Orchid Chemicals and Pharmaceuticals Limited, Chennai, Tamil Nadu, India.

VOLUNTEERING AND COMMUNITY SERVICE

- **2022 – 2025:** Faculty Advisor, South Asian Student Association (SASA), Drake University
- **2018 – 2025:** Honorary Faculty Member, Kappa Psi – Beta Chi Pharmacy Fraternity at Drake University
- **2011 – 2017:** Active participant in the outreach events organized by the College of Pharmacy, Qatar University, Doha, Qatar.
- **2004 – 2008:** Active member of the graduate students' committee for organizing annual Career Day Workshops at the University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA.
- **2000 – 2001:** Student member on the editorial board of a research magazine named "Current Research Information in Pharmaceutical Sciences" (CRIPS) at the National Institute of Pharmaceutical Education and Research, Mohali, Punjab, India.
- **1996 – 2000:** Student volunteer in Polio Vaccination Camps and Rural Health Camps during undergraduate studies at Pallavan Pharmacy College, Kanchipuram, Tamil Nadu, India.

TECHNICAL SKILLS

- Proficient in using learning management systems (Blackboard Ultra, CORE ELMS), audience-response systems (Poll Everywhere, Socrative, Padlet, Quizlet), survey tools (Qualtrics, Google Forms), and statistical and reference management software such as GraphPad Prism, EndNote, and Zotero.

REFERENCES

- Available upon request

REFERENCES

1. Michael Nelson, PhD, RPh

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