# RANI J. QASEM, PHD


## PERSONAL INFORMATION

Academic Rank: Assistant professor

Address: Amman/ Jordan

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## ACADEMIC QUALIFICATIONS

| Degree | Major | Duration (From-To) | University | Country |
|---|---|---|---|---|
| **PhD** | Pharmacology and Toxicology | August 2006 - November 2011 | University of the Sciences in Philadelphia (USciences) | USA |
| **MSs** | Pharmaceutical Sciences | September 2000 – July 2022 | University of Jordan | Jordan |
| **BSc** | Pharmacy | September 1995- June 2000 | University of Jordan | Jordan |

## TEACHING EXPERIENCE

| Duration (From-To) | Rank | Institution | Department/Faculty | Country |
|---|---|---|---|---|
| October 2021 to date | Assistant professor | Middle East University (MEU) | Department of Pharmacology and Clinical Pharmacy | Jordan |
| September 2014 – September 2021 | Assistant professor | King Saud Bin Abdulaziz University for Health Sciences (KSAU-HS) | Department of Pharmaceutical Sciences | Saudi Arabia |
| September 2013 – September 2014 | Assistant professor | Applied Science Private University (ASU) | Department of Clinical Pharmacy | Jordan |
| October 2011 – June 2023 | Postdoctoral fellow | University of Pennsylvania (Penn) | Perelman School of Medicine | USA |
| August 2006- September 2011 | Graduate student – teaching Assistant | University of the Sciences in Philadelphia (USciences) | Philadelphia College of Pharmacy (PCP) | USA |
| October 2002- June 2006 | Lecturer & director of the pharmacy technician/ assistant program | Sebai Institute for Health Sciences | Department of Pharmacy Technician | Saudi Arabia |
| September 2000- June 2002 | Graduate student – teaching Assistant | University of Jordan | College of Pharmacy | Jordan |

## OTHER EXPERIENCE

| Duration | Rank | Institution | Department/Faculty | Country |
|---|---|---|---|---|
| June – September 2016<br>June – September 2017<br>June – September 2018<br>June – September 2019<br>June – September 2021 | Research Associate/ Scientist | University of North Carolina at Chapel Hill (UNC Chapel Hill) | Department of Pharmacoengineering and Molecular Pharmaceutics, Eshelman School of Pharmacy | USA |

## PUBLICATIONS – JOURNALS

- **Rani J. Qasem**. **2006.** The effect of microwave thermal denaturation on release properties of bovine serum albumin and gluten matrices. ***AAPS PharmSciTech*.** 7 (1); E104-E110.
- **Rani J. Qasem**, Ganesh Cherala, Anil P. D'mello. **2010.** Maternal protein restriction during pregnancy and lactation in rats imprints long-term reduction in hepatic lipid content selectively in the male offspring. ***Nutrition Research*.** 30 (6); 410-417.
- **Rani J. Qasem**, Elizabeth Yablonski, Jing Li, Heeman Tang, Laura Pontiggia, Anil P. D'mello. **2012.** Elucidation of thrifty features in offspring of rat dams fed a low protein diet during pregnancy and lactation. ***Physiology and Behavior*.** 105 (5); 1182-1193.
- **Rani J. Qasem**, Jing Li, Heeman Tang, Veron Browne, Claudia Mendez, Elizabeth Yablonski, Laura Pontiggia, Anil P. D'mello. **2015.** Decreased liver triglyceride content in adult rats exposed to protein restriction during gestation and lactation: role of hepatic triglyceride utilization. ***Clinical and Experimental Pharmacology and Physiology*.** 42; 380-388.
- **Rani J. Qasem**, Jing Li, Heeman Tang, Laura Pontiggia, Anil P. D'mello. **2016.** Maternal protein restriction during pregnancy and lactation alters central leptin signaling, increases food intake, and decreases bone mass in one-year-old rat offspring**.** ***Clinical and Experimental Pharmacology and Physiology*.** 43; 494–502.
- **Rani J. Qasem**, Ibrahim Farh, Mohammed Al Essa. **2017.** A novel LC-MS/MS method for the quantitative measurement of the acetate content in pharmaceutical peptides. ***Journal of Pharmaceutical and Biomedical Analysis*.** 146; 354-360.
- **Rani J. Qasem**. **2018.** Single-tube biosynthesis and extraction of U-$^{13}$C and U-$^{14}$C arachidonic acid from microcultures of *Mortierella alpina* for *in vivo* pharmacology and metabolic tracing studies. ***Journal of Pharmacological and Toxicological Methods*.** 92; 1-12.
- **Rani J. Qasem**, Anas S. Aldawsari, Faisal E. Almutairi, Abdullah S. Alsadoon. **2019.** Identification of recombinant human insulin and biosynthetic insulin analogues by multiplexed targeted unlabeled mass spectrometry of proteotypic tryptic peptides. ***Journal of Pharmaceutical and Biomedical Analysis*.** 172; 357-363.
- **Rani J. Qasem**. **2020.** The estrogenic activity of resveratrol: a comprehensive review of *in vitro* and *in vivo* evidence and the potential for endocrine disruption. ***Critical Reviews in Toxicology.*** 50 (5), 439-462.
- Manisha Nautiyal, **Rani J. Qasem**, John K. Fallon, Kristina K. Wolf, Jingli Liu, Darlene Dixon, Philip C. Smith, Merrie Mosedale. **2021.** Characterization of Primary Mouse Hepatocyte Spheroids as a Model System to Support Investigations of Drug-Induced Liver Injury. ***Toxicology In Vitro*.** 70, 105010.
- **Rani J. Qasem**, John K. Fallon, Manisha Nautiyal, Merrie Mosedale, Philip C. Smith. **2021.** Differential detergent fractionation of membrane protein from small samples of hepatocytes and liver tissue for quantitative proteomic analysis of drug metabolizing enzymes and transporters. ***Journal of Pharmaceutical Sciences*.** 110 (1), 87-96.
- **Rani J. Qasem**, Ibrahim K. Frah, Ahmad S. Aljada, Faisal A. Sehli. **2021.** Bioanalysis of plasma acetate levels without derivatization by LC-MS/MS. ***Bioanalysis*.** 13(5), 373-386.

## CONFERENCES

- **Rani J. Qasem**, Anil P. D'mello. Effect of maternal protein restriction during pregnancy and lactation on plasma and liver lipid content and activity of hepatic mitochondrial carnitine palmitoyltransferase-1 in the offspring. **2009** Joseph B. Schwartz Memorial Symposium, Philadelphia, PA, USA.
- **Rani J. Qasem**, Elizabeth Yablonski, Jing Li, Hee Man Tang, Laura Pontiggia, Anil P. D'mello. Low birth weight in rats is associated with chronic hyperphagia and reduced plasma leptin levels. 2010 Obesity meeting, San Diego, CA, USA. Published in Obesity, Volume 18, Supplement 2, Page S73.
- Elizabeth Yablonski, **Rani J. Qasem**, Jing Li, Hee Man Tang, Laura Pontiggia, Anil P. D'mello. Fetal growth restriction alters lipid homeostasis in the adult offspring. 2010 Obesity meeting, San Diego, CA, USA and 2010 AAPS annual meeting and exposition, New Orleans, LA, USA. Published in Obesity, Volume 18, Supplement 2, Page S74.
- Jing Li, Hee Man Tang, Elizabeth Yablonski, **Rani J. Qasem**, Laura Pontiggia, Anil P. D'mello. Maternal protein restriction during pregnancy and lactation alters liver triglyceride secretion rate in the adult male offspring. **2010** Obesity meeting, San Diego, CA, USA. Published in Obesity, Volume 18, Supplement 2, Page S75.
- **Rani J. Qasem**, Jing Li, Elizabeth Yablonski, Hee Man Tang, Laura Pontiggia, Anil P. D'mello. Early life growth restriction programs chronic hyperphagia mediated through central leptin resistance in the male offspring. **2011** Obesity meeting, Orlando, FL, USA. Published in Obesity, Volume 19, Supplement 1, Page S90.
- Veron Browne, **Rani J. Qasem**, Elizabeth Yablonski, Jing Li, Hee Man Tang, Laura Pontiggia, Anil P. D'mello. Effect of Maternal Low Protein Diet During Pregnancy and Lactation on the Activity of Liver, Muscle, and Heart Carnitine Palmitoyltransferase-1 Activity in the Adult Offspring. **2012** The Delaware Valley Drug Metabolism Discussion Group, Langhorne, PA, USA.
- Anil P. D'mello, **Rani J. Qasem**, Hee Man Tang, Jing Li, Laura Pontiggia. Continued protein restriction during lactation protects adult one-year-old offspring from the detrimental metabolic effects of gestational low protein diet exposure. **2013** World congress on developmental origins of health and disease (DOHaD), Suntec City, Singapore.
- **Rani J. Qasem**, John K. Fallon, Manisha Nautiyal, Merrie Mosedale, Philip C. Smith. Protein recovery and quantification of drug metabolizing enzymes and transporters in membrane extracts prepared by differential detergent fractionation: comparison with established methods. **2019** International Society for the Study of Xenobiotics (ISSX), Portland, Oregon, USA. Published in Drug Metabolism and Pharmacokinetics, Volume 35, Issue 1, Supplement, **2020**, Page S57.
- Manisha Nautiyal, Sabine U. Vorrink, **Rani J. Qasem**, John K. Fallon, Philip C. Smith, Magnus Ingelman-Sundberg and Merrie Mosedale. Gene Expression Analysis, Quantitative Proteomics, and Chronic Toxicity Studies in Primary Mouse Hepatocyte Spheroids Support the Development of an *In Vitro* Collaborative Cross Platform for the Evaluation of Genetic Susceptibility Factors Associated with DILI. **2020** Society of Toxicology (SOT) Annual Meeting, Anaheim, California, USA. Published in The Toxicologist, a Supplement to Toxicological Sciences, Volume 174, Issue 1, Page 227.
- John K. Fallon, **Rani J. Qasem**, Philip C. Smith. Transporter Expression in Liver from Two Cystic Fibrosis (CF) Mouse Models by Quantitative Targeted Absolute Proteomics (QTAP). Abstract submitted to the Drug Metabolism, Gordon Research Conference (GRC) held from **July 10th – 15th, 2022**, at the Holderness School, Holderness, NH, USA.

## MEMBERSHIPS OF SCIENTIFIC AND PROFESSIONAL SOCIETIES

- Member, American Association of Pharmaceutical Scientists (AAPS). 2007-2011
- Member, Graduate Student Organization (GSO), University of the Sciences 2007-2011
- Member, American Association for the Advancement of Science (AAAS). 2011-2013
- Member, American Society for Pharmacology and Experimental Therapeutics 2012-2016
- Member, Jordan Food and Drug Administration 2013-2014
- Member, Research and Examination committees- Applied Science University 2013-2014
- Member, Basic Science Research Committee- King Abdullah International Medical Research Center (KAIMRC) 2016-2017
- Member, American Society for Mass Spectrometry (ASMS). 2015-2021
- Member, American Society for Mass Spectrometry (ASMS). 2015-2021
- Member, International Society for the Study of Xenobiotics (ISSX). 2019-2021

## UNIVERSITY COMMITTEES

- Member, Academic Accreditation Committee of the Pharmacy Program at King Saud Bin Abdulaziz University for Health Sciences (KSAU-HS) for Certification by the Saudi National Commission for Academic Accreditation and Assessment 2014-2021
- Member, Academic Accreditation Committee of the Pharmacy Program at the Middle East University (MEU) for Certification by the National Academic Accreditation Committee of the Ministry of Education and the American Accreditation Council for Pharmacy Education (ACPE). 2021-2022

## WORKSHOPS ATTENDED

- Peptides and Proteins; a two-day course given during the 64th annual meeting for the American Society for Mass Spectrometry (ASMS) held in San Antonio, Texas in 2016.
- Teaching and learning; a three-day course given by the department of education of Strathclyde University, held at the Middle East University campus, Amman, Jordan, 2022.

## RESEARCH INTERESTS

- The biochemistry & pharmacology of lipids and lipid derived compounds.
- Mass spectrometric and other analytical methods for qualitative & quantitative analysis of lipids (lipidomics).
- Quantitative targeted absolute proteomics (qtap) of membrane associated proteins (emphasis on drug metabolizing enzymes and transport proteins).
- Biosynthetic methods for 13c labeling for metabolic tracing studies and mass spectrometric applications.
- Programming of metabolic disease that leads to obesity, type ii diabetes mellitus and metabolic syndrome.

## LANGUAGES

English and Arabic