
AMAL ABU OMAR

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Summary

- Assistant professor at department of Physiology and Biochemistry at Jordan University for Science and Technology
 - Postdoctoral associate at the department of surgery at Western University investigating the role of circular RNAs in different human diseases such as cardiac diseases and different malignancies using both in-vivo and in vitro models.
 - PhD in Neuroscience graduate from Queen's University with 6 years of research experience in life sciences. Thesis title: Excitation of colonic afferent nerves by fecal supernatants from gastrointestinal disease patients.
 - Master in Human anatomy graduate from Jordan University for Science and Technology. Thesis title: Effect of progesterone on nitric oxide/ cyclic guanosine monophosphate signaling and contraction in gastric smooth muscle cells.
 - Demonstrated ability to design, implement and manage multiple research projects simultaneously, and to critically analyze, interpret and communicate results. Expertise in laboratory techniques, such as handling mammalian cell culture, maintaining cell lines, conducting cytotoxicity assays, immunoassays, qPCR, flow cytometry and ELISA, ex-vivo afferent nerve recordings, patch clamp, protein analysis, analytical chemistry, and microscopy.
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Skills

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| • Primary and secondary cell culture | • ELISA |
| • In vitro cellular screening assays | • Histological techniques |
| • Multi-colour flow cytometry | • Biochemical analysis |
| • DNA and RNA isolation | • Research animal handling & care |
| • Cytotoxicity assays | • Research and writing |
| • Immunoassays | • Communication skills |
| • qPCR | • Ability to work in a team |
| • Ex vivo afferent nerve recordings | • Reporting and data management skills |
| • Patch clamp | • Experience with GraphPad |
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Education

Postdoctoral Fellowship : Immunology	2022
Western University	London, ON, Canada
PhD: Neuroscience	2021
Queen's University	Kingston, ON, Canada
Master: Human anatomy	2015
Jordan University for Science and Technology	Irbid, Jordan
Bachelor of Dental Surgery: Dentistry	2010
Jordan University for Science and Technology	Irbid, Jordan

Employment History

Postdoctoral associate	09/2022 to Current
Western University	
<ul style="list-style-type: none">• Plans and conducts day-to-day experimental activities relating to assigned research projects• Adheres to experimental protocols required to produce high quality• Troubleshoot and customize experimental tools to respond to research questions• Research cell signaling, flow cytometry, western blotting and immunohistochemistry• Generate clear and timely records of experimental work• Present research results at meetings and engage in result publication• Develop hypotheses and experimental plans for in vitro and in vivo models	

- Develop figures and manuscripts for publications
- Supervise team's junior members

Assistant Professor

08/2022 to Current

Jordan University of Science & Technology (JUST)

Irbid, Jordan

- Assistant professor in the Department of Physiology and Biochemistry/ Faculty of Medicine at JUST

Teaching Assistant

05/2021 to 05/2021

Queen's University

- Prepared and delivered laboratory materials for pre-medical students for the courses of physiology and pathophysiology
- Graded assignments and tests using answer key, documented results and informed lead teacher of students' performance

Lecturer

08/2015 to 09/2017

Al-Balaq' Applied University

Al-Salt

- Served as primary lecturer for Human Anatomy department, College of Medicine
- Utilized diverse teaching methods, including lectures, presentations and class activities to deliver curriculum
- Prepared and delivered in-class lectures and laboratories to students for in areas of human anatomy, histology, embryology and neuroscience

Dentist

01/2011 to 06/2015

Al-Israa Medical Center

Irbid

- Performed root canals, filled cavities and instructed patients on pain management to repair dental structures with minimal discomfort to patients
- Treated infections caused by chronic and acute issues and diseases within soft oral tissues
- Designed and fit patients with prosthodontic dental appliances, including dentures, bridges and crowns
- Educated patients on proper oral hygiene to promote oral health and disease prevention

Teaching Assistant

09/2013 to 05/2015

Jordan University for Science and Technology

Irbid

- Prepared and delivered laboratory materials for medical students for the courses of human anatomy and histology
- Graded assignments and tests using answer key, documented results and informed lead teacher of students' performance

Publications

- Corey C Baker, Jessica L Sessenwein, Hannah M Wood, Yang Yu, Quentin Tsang, Taylor A Alward, Nestor N Jimenez Vargas, **Amal Abu Omar**, Abby McDonnell, Julia P Segal, Calvin P Sjaarda, Nigel W Bunnett, Brian L Schmidt, Alberto Caminero, Nadejda Boev, Courtney A Bannerman, Nader Ghasemlou, Premeet M Sheth, Stephen J Vanner, David E Reed, Alan E Lomax. (2024). Protease-Induced Excitation of Dorsal Root Ganglion Neurons in Response to Acute Perturbation of the Gut Microbiota Is Associated With Visceral and Somatic Hypersensitivity. Cellular and Molecular Gastroenterology and Hepatology. 2024;18(4):101334
- Shuailong Li, **Amal Abu Omar**, Adam Greasley, Bowen Wang, Tan Ze Wang, Serina Chahal, Raj Kumar Thapa, Douglas Quan, Anton Skaro, Kexiang Liu, Xiufen Zheng. (2023). Circular RNA MAP2K2-modified immunosuppressive dendritic cells for preventing alloimmune rejection in organ transplantation. Bioengineering & Translational Medicine. 2023 Nov 13;9(1):e10615
- Bailey J A Brant, Yang Yu, **Amal Abu Omar**, Josue O Jaramillo Polanco, Cintya D Lopez Lopez, Nestor N Jiménez Vargas, Quentin Tsang, Abby McDonnell, Kaede Takami, David E Reed, Alan E Lomax, Stephen J Vanner, Caroline J Tuck. (2023). Dietary monosodium glutamate increases visceral hypersensitivity in a mouse model of visceral pain. Neurogastroenterology Motility. 2023 Sep;35(9):e14596
- Caroline J Tuck*, **Amal Abu Omar***, Giada De Palma, Samira Osman, Nestor N Jiménez-Vargas, Yang Yu, Sean Mp Bennet, Cintya Lopez-Lopez, Josue O Jaramillo-Polanco, Corey C Baker, Aidan Sw Bennett, Mabel Guzman-Rodriguez, Quentin Tsang, Taylor Alward, Sebastien Rolland, Celine

Morissette, Elena F Verdu, Premysl Bercik, Stephen J Vanner , Alan E Lomax, David E Reed. ***Shared first authors.** (2022). Changes in signalling from faecal neuroactive metabolites following dietary modulation of IBS pain. Gut. 2022 Dec 13;gutjnl-2022-327260

- Othman A Al-Shboul, Ayman G Mustafa, **Amal Abu Omar**, Ahmed N Al-Dwairi, Mohammad A Alqudah, Mona S Nazzal, Mahmoud A Alfaqih, Rami A Al-Hader. (2018). Effect of progesterone on nitric oxide/cyclic guanosine monophosphate signaling and contraction in gastric smooth muscle cells. Biomedical reports. 2018 Dec;9(6):511-516
- Othman A Al-Shboul, Ayman G Mustafa, **Amal Abu Omar**, Ahmed N Al-Dwairi, Mohammad A Alqudah, Mona S Nazzal, Mahmoud A Alfaqih, Rami A Al-Hader. (2020). Effect of progesterone on nitric oxide/cyclic guanosine monophosphate signaling and contraction in gastric smooth muscle cells. Biomedical reports.2020 Jan;12(1):36.

Conferences

- The 2nd ACRE Canada Scientific Meeting (ACRE Canada). London, Ontario. Poster presentation. 2024
- Department of Surgery Research Day. London, Ontario. Poster presentation. 2022
- Oncology Research and Education Day. London, Ontario. Poster presentation. 2022
- London Health Research Day. London, Ontario. Poster presentation. 2022
- Canadian Digestive Diseases Week (CDDW). Montreal, Quebec. Poster presentation. 2020
- Neuroscience Day. Kingston, Ontario, Oral presentation. 2019
- The Twenty-Second Annual Scientific Meeting for Health Science Research Trainees. , Kingston, Ontario. Oral presentation. 2019

Languages

Arabic: First Language

English: C1

 Advanced