

CURRICULUM VITAE

Mohammad Ibrahim Mohammad Alwahsh

Department of Pharmacy / Faculty of Pharmacy,

Al-Zaytoonah University of Jordan, Amman,

Jordan Phone: +962 6 4291511 ext.: 197

Fax: +962 6 4291432

E-mail: m.alwahsh@zuj.edu.jo

Homepage: <https://www.zuj.edu.jo/faculty-of-pharmacy-1/faculty-members/assistant/>



1. Personal Data

Date of Birth: 07.03.1994

Nationality: Jordanian

2. Education

- Ph.D. (Toxicologic Pathology) 2022, Heidelberg University, Heidelberg, Germany
- M.Sc. (Pharmaceutical sciences) 2018, Al-Zaytoonah University of Jordan, Amman, Jordan
- B.Sc. (Pharmacy) 2015, Al-Zaytoonah University of Jordan, Amman, Jordan

3. Ph.D. Dissertation

- *Thymic Tissue Metabolomics and Bioengineering of an Artificial Thymic Carcinoma 3D Cell Culture for in vitro 3D/2D Drug Screening and the Investigation of Toxicity Employing a Novel Nuclear Magnetic Resonance Technique, University of Heidelberg, Heidelberg, Germany.*



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4. Employment

Academic Positions

- Assistant Professor, Faculty of Pharmacy, Al Zytoonah University of Jordan, Amman-Jordan (2022 – Now)

5. Research Interests

- Cancer Metabolomics.
- Identifying new methods to develop 3D cancer models for drug screening.
- Multi-Omics.
- Biomarkers Identification.

6. Membership in Scientific Societies and Associations

- Jordan Pharmacists Association
- Society of Toxicology (SOT)
- Metabolomics Society
- Arab Toxicologists Association
- Comparative Toxicology, Pathology, and Veterinary Association

7. Honors and Awards

8. Fellowships and Scholarships

- PhD Scholarship from Al-Zaytoonah University of Jordan

9. Teaching Experience

- *Undergraduate Courses*
 - Pathophysiology
 - Toxicology
 - Pharmacology
 - Professional Pharmacy Practice 1
 - Professional Pharmacy Practice 2
 - Drug Information and Health Informatics



10. Supervision of Graduate Research

- 1) Amani Al-Doridee, "Cytotoxic Differences of Anticancer Drugs on 2D and 3D Cancer Cell Lines", 2023
- 2) Dina Mahdali, "Correlation between Colla1, Colla2 and ITGA/B genes expression in tamoxifen resistant breast cancer cell lines and their effect on migration and metastasis", 2023
- 2) Maedeh Nadertehrani, "Assessing Optimal Fluorescence Parameters for Staining of 3D Cell Culture in Confocal Fluorescence Microscopy", 2021.

11. Grants

- 1) Metabolic and molecular changes of 3D versus 2D Tamoxifen resistant breast cancer cell lines and their prognostic impact on breast cancer patients, 2023 – 2025, Deanship of Scientific Research and Graduate Studies, Al-Zaytoonah University of Jordan, Amman, Jordan

12. Patents

Alwahsh Mohammad, Hergenröder Roland, Lambert Joerg, Raschke Hannes, Knitsch Robert. "Verfahren zur Analyse des Metaboloms dreidimensionaler lebender Zellkulturen mittels NMR-Spektroskopie" 64/24651 jm/s 02.03.2022.

13. Membership of Committees

- **National and International**
- **Examination Committee of the following postgraduate students:**
 1. Internal examiner for Mais Altaweel, Master thesis entitled: Correlating the biomarkers glutamate, glutamine, cysteine, glutathione and xanthine with their molecular alteration in tamoxifen-resistant MCF-7 cells, June 2023.
- **University**
 - 1) Equivalency and Guidance Committee
 - 2) Pharmacy students Training Committee
 - 3) The Committee for Quality assurance



2. Professional and Scientific Meetings

- 1) Society of Toxicology 2023 Annual Meeting and ToxExpo March 19 - March 23 USA
- 2) The 2nd International Conference for Science and Pharmacy (MSPC2) Mutah University Al-Karak, Jordan October 25-27, 2023
- 3) Society of Toxicology 2021 Annual Meeting and ToxExpo March 12 - March 26 USA
- 4) 15th Annual Conference of the Metabolomics Society, The Hague, Netherlands
- 5) EMBL Symposium: Organoids: Modelling Organ Development and Disease in 3D Culture 21 - 24 October 2020
- 6) Member of the Scientific Committee of the Al-Zaytoonah University of Jordan International Pharmaceutical Conference (ZTIPC 2022), Amman, Jordan, 18th to 19th of November 2022.
- 7) Al-Zaytoonah University of Jordan & The University of Toledo International Pharmaceutical Conference (ZTIPC 2019), Amman, Jordan, 6th to 7th of November 2019.
- 8) Al-Zaytoonah University of Jordan & The University of Toledo International Pharmaceutical Conference (ZTIPC 2017), Amman, Jordan, 29th to 30th of November 2017.

3. Participation in or organization of curricular and/or extra-curricular activities

- 1) PhD Students Representative at Leibniz Institut für Analytische Wissenschaften (2019-2022)
- 2) Participation in summer schoolwork shop which also includes courses about (Intercultural Communication, Scientific Presentation and GSP for PhDs) At ISAS campus, Germany 10th–14th September 2018, 2019 and 2020
- 3) Participation in organizing committee for 1st Leibniz PhD Network Conference on Interdisciplinary Magdeburg, Germany, June 21-22, 2018



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- 4) Invited as Guest speaker in “Nanomaterials for Drug Delivery Applications Workshop (NMDDA-2016)” held in 23/12/2016, SVU, Qena, Egypt. The talk title “Liver Cirrhosis and correlate gene with nano-material drug delivery “
- 5) Participation in Scientific presentation training course for Young Scientist Workshop "Communication in Science" University of Jordan, Amman, Jordan April, 25 - 26, 2017 in connection with the International Conference/Humboldt Kolleg "Jordanian Life Sciences for Sustainable Development"
- 6) Participation in training titled “Novel magnetic nanoparticle doped Nano filtration polymeric membranes for heavy metal removal from wastewater At Leibniz-Institut für Analytische Wissenschaften funded by Deutscher Akademischer Austauschdienst (DAAD) 01/07/2016 – 31/08/2016
- 7) Participation in organizing committee in Alexander von Humboldt conference on 27/04/2017 – 29/04/2017 at marriott hotel and Al Al-Bayt University Mafraq, Jordan also with poster titled “Mechanisms of stellate cell activation and removal in acute hepatotoxicities “
- 8) Participation in Leadership and innovation course, Amman, Jordan, 30.10.2022-03.11.2022

4. Publications

- Papers in refereed journals

Elisabeth Jeanclos, Jan Schlötzer, Kerstin Hadamek, Natalia Yuan-Chen, **Mohammad Alwahsh**, Robert Hollmann, Stefanie Fratz, Dilan Yesilyurt-Gerhards, Tina Frankenbach, Daria Engelmann, Angelika Keller, Alexandra Kaestner, Werner Schmitz, Martin Neuenschwander, Roland Hergenröder, Christoph Sotriffer, Jens Peter von Kries, Hermann Schindelin, Antje Gohla. Glycolytic flux control by drugging phosphoglycolate phosphatase. Nature communication; 2022

Mohammad Alwahsh, Joviana Farhat, Shahd Talhouni, Lama Hamadneh, Roland Hergenröder. Bortezomib advanced mechanisms of action in multiple myeloma, solid and liquid tumors along with its novel therapeutic applications. EXCLI journal; 2023

Joviana Farhat, Ishan Pandey, **Mohammad AlWahsh**. Transcending toward advanced 3D-cell culture modalities: a review about an emerging paradigm in translational oncology. Cells; 2021



Mohammad AlWahsh, Amnah Othman, Lama Hamadneh, Ahmad Telfah, Jörg Lambert, Suhair Hikmat, Amin Alassi, Fatma El Zahraa Mohamed, Roland Hergenröder, Tariq Al-Qirim, Steven Dooley, Seddik Hammad. Second exposure to acetaminophen overdose is associated with liver fibrosis in mice. EXCLI journal; 2019

Robert Knitsch, **Mohammad AlWahsh**, Hannes Raschke, Jörg Lambert, Roland Hergenröder. In vitro spatio-temporal NMR metabolomics of living 3D cell models. Analytical chemistry; 2021

Mohammad Alwahsh, Robert Knitsch, Rosemarie Marchan, Jörg Lambert, Christian Hoerner, Xiaonan Zhang, Berthold Schalke, De Hyung Lee, Elena Bulut, Thomas Graeter, German Ott, Katrin Kurz, Gerhard Preissler, Sebastian Schölch, Zhihan Yao, Carsten Sticht, Philipp Ströbel, Roland Hergenröder, Alexander Marx and Djeda Belharazem. Metabolic profiling of thymic epithelial tumors hints to a strong Warburg effect, glutaminolysis and precarious redox homeostasis as potential therapeutic targets. Cancers; 2022

Lama Hamadneh, Mohamad Bahader, Rama Abuarqoub, **Mohammad AlWahsh**, Ala Alhusban. Matrix Metalloproteinases Gene Expression Changes during Tamoxifen Resistance Development Associated with PI3K/AKT and MAPK Overexpression. Breast Cancer; 2021

Joviana Farhat, Lara Alzyoud, **Mohammad Alwahsh**, Basem Al-Omari. Structure–Activity Relationship of Benzofuran Derivatives with Potential Anticancer Activity. Cancers; 2022

Mohammad A Al-Kafaween, **Mohammad Alwahsh**, Abu Bakar Mohd Hilmi, Dina H Abulebdah. Physicochemical characteristics and bioactive compounds of different types of honey and their biological and therapeutic properties: a comprehensive review. Antibiotics; 2023

Magdalena Keller, Katharina Rohlf, Annika Glotzbach, Gregor Leonhardt, Simon Lücke, Katharina Derksen, Özlem Demirci, Defne Göçener, **Mohammad AlWahsh**, Jörg Lambert, Cecilia Lindskog, Marcus Schmidt, Walburgis Brenner, Matthias Baumann, Eldar Zent, Mia-Lisa Zischinsky, Birte Hellwig, Katrin Madjar, Jörg Rahnenführer, Nina Overbeck, Jörg Reinders, Cristina Cadenas, Jan G Hengstler, Karolina Edlund, Rosemarie Marchan. Inhibiting the glycerophosphodiesterase EDI3 in ER-HER2+ breast cancer cells resistant to HER2-targeted therapy reduces viability and tumour growth. Journal of Experimental & Clinical Cancer Research; 2023

Arwa R Althaher, **Mohammad Alwahsh**. An overview of ATP synthase, inhibitors, and their toxicity. Heliyon; 2023



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Majed Shtaiwi, Mohammad Alemlah, Kayed A Abu-Safieh, Bader A Salameh, Amneh Shtaiwi, **Mohammad Alwahsh**, Lama Hamadneh, Monther A Khanfar. Design, Synthesis, Crystal Structure, Biological Activity and Molecular Modeling of Novel Schiff Bases Derived from Chalcones and 5-Hydrazino-1,3-Dimethyl-4-Nitroprazole as Anticancer Agents. Polycyclic Aromatic Compounds; 2023

Nagwa M Abdelazeem, **Mohammad Alwahsh**, Shahd Talhouni, Lama Hamadneh, Atef G Hanna. Synthesis of some sulfonamide derivatives coupled with salicylamide or anisamide scaffold as potent PD-L1 inhibitors and their anti-proliferation assay. Egyptian Journal of Chemistry; 2023

Tariq Al-Qirim, Abdel Qader Al Bawab, Yusuf Al-Hiari, Nisreen Haj Ahmad, **Mohammad Alwahsh**, Sameer Al-Kouz, and Ghassan Shattat. Synthesis and lipid-lowering properties of novel N-(4-benzoylphenyl) pyrrole-2-carboxamide derivatives in Triton WR-1339-Induced hyperlipidemic rats. Journal of Applied Pharmaceutical Science; 2023

Basmah Al-Jammal, Buthaina Hussein, Yusuf Al-Hiari, Tareq Al-Qirim, Manal Al-Najdawi, Lama Hamadneh, **Mohammad Alwahsh**, Balqis Ikhmais. Synthesis of microwave-assisted carboxamides in Triton WR-1339-induced hyperlipidemic rats: possible hypolipidemic heterocyclic compounds. RSC advances; 2023