Asst. Prof. Dr. Ahmad Saleh Hussein Malkawi

Current Job: Asst. Prof. Dr. (Lecturer and Researcher at Jadara University/Faculty of Pharmacy, Jordan)

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- **Personal details:**

-Date of birth: 31/07/1987.

-Nationality: Jordanian.

- **Academic degrees:**

Academic Degrees	Institution/ Country	Period
PhD in Pharmaceutical Sciences (**Thesis Title:** Formulation of Novel Self-Emulsifying Drug Delivery Systems (SEDDS) For Improved Mucolytic Targeting and Effective Intestinal Mucopermeation)	Cyprus International University/ Cyprus	February 2022-June 2025
Master of Clinical Pharmacy	Charles Sturt University/ Australia - **Nostrified by the University of Vienna**	February 2014-June 2015
The Degree of Doctor of Pharmacy (Pharm D.)	Jordan University of Science and Technology/ Jordan - **Nostrified by the University of Vienna**	September 2005-September 2011
Jordanian General Secondary Education Certificate, Science Stream	Irbid Secondary School for Boys/ Jordan	August 2003-August 2005

- **Work/Research experience:**

Date	Position	Institution
September 2025-till now	Asst.Prof.Dr. (Lecturer and Researcher at the Faculty of Pharmacy)	Jadara University, Jordan
September 2022-September 2025	Asst.Prof.Dr. and Senior Lecturer for all pharmacy subjects: pharmaceutical technology, pharmaceutical and medicinal chemistry, analytical chemistry, organic chemistry, pharmacology, clinical pharmacy and pharmacotherapy, pharmaceutical technology lab, medicinal chemistry and organic chemistry lab, analytical chemistry lab, for pharmacy students in all years and working as researcher on original papers and review articles. Until now, working as Peer reviewer for Springer Nature Journals and Editorial Member of Reference Citation Analysis (RCA) for World Journal of Pharmacology and World Journal of Gastroenterology. link: https://referencecitationanalysis.com/00043215	Cyprus Health and Social Sciences University/Cyprus, Springer Nature Journals, Reference Citation Analysis (RCA) membership
November 2017-February 2022	Doctoral Researcher in Pharmaceutical Technology. Completion of 20 academic research courses based on laboratory work as well as group seminars/discussions in the field of biopharmaceuticals as a PhD degree researcher at the University of Innsbruck/Austria with Excellent grades and 3 peer-reviewed scientific research papers published in prestigious scientific journals.	University of Innsbruck/Austria
June 2017-October 2017	Doctoral Researcher in Mechanical Dynamic Simulation, Researcher in Neurophysiology and Pharmacology	Medical University of Vienna/Austria
February 2017-May 2017	Doctoral Researcher in Pharmaceutical and Medicinal Chemistry and Chemical Reactions for Drug Synthesis and Purification	University of Vienna/Austria
September 2015-Februaray 2016	Lecturer and Pharm D. for (Clinical Pharmacy Cases and Practice)/ Research Assistant	Jordan University of Science and Technology/Jordan
February 2014-July 2015	Dissertation work in Clinical Pharmacy	Charles Sturt University/Australia

September 2011-October 2013	Pharmacist in Clinical and Hospital Pharmacy	King Abdullah University Hospital/Jordan

- **Completed Research Courses at University of Innsbruck, Austria, while working and as a Researcher between November 2017-February 2022. Up to 20 practical research courses based on laboratory work and group seminars/discussions as well as 3 peer-reviewed research papers published in prestigious journals were completed at University of Innsbruck, Austria, with Excellent grades, as follows:**

740929 Analysis of current research data I, 740956 Analysis of the students own research results II, 740929 Analysis of current research data III, 740956 Analysis of current research data IV, 740929 Analysis of current research data V, 740956 Analysis of current research data VI, 740930 Discussion of current research data I, 740957 Discussion of current research results II, 740930 Discussion of current research data III, 740957 Discussion of current research data IV, 740930 Discussion of current research data V, 740957 Discussion of current research data VI, 740923 Pharmaceutical core subjects 2, 740971 Cav X IV: key techniques in neuroscience: ion channel physiology, 740962 GENDER DIFFERENCES IN DRUG ACTION AND SAFETY, LCMS-test development in Clinical routine settings I basics with course code: 740963, VU NMR based structure elucidation of secondary natural products-basics with course code: 740920, 740922 (2018W) Quality assurance, quality control, ethics in science, plagiarism, 740955 (2018S) Academic Writing.

- **List of Scopus and peer-reviewed publications until now (first & corresponding author):**

Airemwen, C. O., Obarisiagbon, J. A., & **Malkawi, A.** (2025). Green Synthesis of Zinc Oxide Nanoparticles from Vernonia amygdalina Leaf Extract and Evaluation of their Antioxidant, Antimicrobial, and Photocatalytic Activities. *Pharm Nanotechnol*. doi:10.2174/0122117385387428250915071600

Malkawi, A. S., Airemwen, C. O., & Malkawi, A. (2025). Formulation of Mixed Micelles of Various Model Drug Ionic Complexes in an Optimized Micellar Base Composed of Surfactants and Cosolvent Mixture: In Vitro Analysis of Drug Delivery Efficiency. *Journal of Pharmaceutical Innovation, 20*(4), 132. doi:10.1007/s12247-025-10041-4

Bayatli, N., **Malkawi, A. S.**, Malkawi, A., Khaled, K., Alrabadi, N., Ovenseri, A. C., . . . Elnefaily, S. E. (9900). Impact of biofilms on healthcare settings and management strategies. *Reviews and Research in Medical Microbiology*, 10.1097/MRM.0000000000000425. doi:10.1097/mrm.0000000000000425

Malkawi, A., Alrabadi, N., Haddad, R., Malkawi, A., Khaled, K., & Ovenseri, A. C. (2022). Development of Self-Emulsifying Drug Delivery Systems (SEDDSs) Displaying Enhanced Permeation of the Intestinal Mucus Following Sustained Release of Prototype Thiol-Based Mucolytic Agent Load. *Molecules, 27*(14). doi:10.3390/molecules27144611

Malkawi, A., Alrabadi, N., & Kennedy, R. A. (2021). Dual-Acting Zeta-Potential-Changing Micelles for Optimal Mucus Diffusion and Enhanced Cellular Uptake after Oral Delivery. *Pharmaceutics, 13*(7). doi:10.3390/pharmaceutics13070974

Malkawi, A., Jalil, A., Nazir, I., Matuszczak, B., Kennedy, R., & Bernkop-Schnürch, A. (2020). Self-Emulsifying Drug Delivery Systems: Hydrophobic Drug Polymer Complexes Provide a Sustained Release in Vitro. *Mol Pharm, 17*(10), 3709-3719. doi:10.1021/acs.molpharmaceut.0c00389

Malkawi, A., Kennedy, R., Asim, M. H., & Arshad, S. (2021). Self-Emulsifying Drug Delivery Systems: Mucolytic Action of N-acetylcysteine (NAC)-Polymer Hydrophobic Complexes for Effective Mucopermeation. *Journal of Pharmaceutical Sciences*.

Malkawi, A. S., Haddad, R., Malkawi, A., & Alrabadi, N. (2022). Development of Fluorescently Labeled Self-Emulsifying Drug Delivery Systems (SEDDS) for Prolonged Stability, In Vitro Sustained Release, and Cellular Uptake. *Pharm Nanotechnol, 10*(2), 146-161. doi:10.2174/2211738510666220314103400

- **Other submitted research papers are in process:**

1. Formulation and In Vitro Evaluation of Metformin-Loaded Chitosan Nanoparticles Using Ionic Gelation Technique (**status: accepted/proof reading**).
2. The Novel Oral Transformation of Tobarmacin Utilizing A Newly Synthesiszed Nanoparticles Based on Ion Pairing With Fatty Acids of Various Side-Chain Length (**status: under review**).
3. Formulation of Diclofenac Potassium Sustained Release Tablets Using Hydroxypropylated Starches Modified from Two Dioscorea Species (**status: submitted**).

- **Currently submitted review articles:**

1. From Chain Length to Clinical Choice: How Hydrocarbon Side Chain Characteristics Shape Surfactant Safety and Drug Delivery Design in Pharmaceutical and Clinical Applications.
2. Beyond Delivery: Tracking The *In Vivo* Fate of Nanoemulsion Surfactants About Metabolism and Clearance After Uptake.
3. Systematic Evaluation and Meta-Analysis of Antimicrobial Efficacy in Nanocarriers: Role of Excipient and Synergy.

- **Personal research achievements, skills, instruments, and interests:**

1. Chemical synthesis using all the possible synthesis methods and techniques.

2. Drug synthesis, purification, characterization, and development in all stages.

3. Drug synthesis of selenium-based organic compounds (more than 50 purified synthesis; NMR of the synthesized compounds are available upon request).

4. Drug synthesis using different reagents, such as: organo-lithium compounds, Iodide-, bromide-based, and different alkyl halides.

5. Drug synthesis using personal methods such as alkyl phosphorylation, disulfide bond, DNA modification.

6. Chemical purification (column chromatography, simple chromatography based on predicting solubility of product and impurities using multi-solvation/lyophilization/evaporation/filtration steps as needed.

7. Conventional dosage forms: tablets, capsules, oral solutions & suspensions, and others.

8. Advanced drug dosage forms (nanotechnology-based) preparation and quality testing using all instrumentations needed.

9. Development of novel conventional or nano-dosage forms based on different innovations such as hydrogen bonding, esterification-based drug delivery.

10. Development of nanoparticles based on the structure of various peptide hormones through synthesis of covalent bond linking the peptide drug with surfactant that provides masking and protection of the peptide drug from the harsh gastrointestinal conditions, enhanced oral bioavailability, sustained peptide drug release through breaking down the covalent bond by endogenous esterases, consistent long lasting therapeutic action devoid of side effects.

11. Development of nanoparticles based on large polymeric structures such as Eudragit-system and polyethyleneimines by ion pairing of various therapeutic drugs and their evaluation.

12. Green-synthesis of various metal oxide nanoparticles using plant-extracts and their evaluation.

13. Neurophysiology and pharmacology: all types of patch-clamping and investigations of different ion-channels mechanisms through cell receptor targeting using different pharmacologic entities and drugs with monitoring under microscopes and through recording of cellular electrical current changes representing depolarization, repolarization, and resting cell membrane potentials.

14. UV-analyzers: various types such as TECAN.

15. XRD/EDX.

16. Zeta-sizers/ Rheometer.

17. HPLC/LC-MS.

18. All types of ionic pairing and complexation in wide range of solvents polarity of protic and aprotic nature.

20. Cell culture/Resazurin assay/cytotoxicity/cell uptake assay, ELISA, PCR, cellular and nuclear staining.

21. Infrared/NMR/mass spectroscopy.

22. Microscopic imaging: Scanned electron microscope, light microscopes, confocal and fluorescent microscopes.

- **Activities during working as researcher:**

a. Meetings/conferences:

1. 13th International Conference & Expo on Advances in Chromatography Techniques Peptide and protein drug delivery using nanoemulsions, London/UK.

2. 5th International Conference on Nanomedicine and Nanotechnology, London/UK.

3. Mechanism of the cytotoxic potential of surfactants.

4. Novel methods for developing drug delivery-based ion pairing.

5. Influence of lipases on drug release from self-emulsifying drug delivery systems.

6. Peer-reviewed conference on June 24 and 25, 2019 at University of Innsbruck.

7. Metabolic Signal Transmission: From Mechanisms to Systems in Biochemistry.

8. Ion channels in cellular functions.

9. Conference about Organic Drug Synthesis, March 2017, University of Vienna, Vienna, Austria.

10. Conference about New Methods and Techniques for Drug Synthesis and Joining Monomers for Polymerization, April 2017, Vienna, Austria.

b. Presentations while researching at University of Innsbruck:

- **Personal Presentations**

1. Human intestinal fluid characterization in fed and fasted states.

2. Development of self-emulsifying drug delivery systems for fenofibrate drug delivery.

3. Development of self-emulsifying drug delivery systems and sustained release evaluation of the drug captopril.

4. Sustained release of model drugs based from micelles using hydrophobic ion pairs.

5. Co-solvent Evaporation Method for Enhancement of Solubility and Dissolution Rate of Poorly Aqueous Soluble Drug Simvastatin: In vitro–In vivo Evaluation.

6. Time-dependent interplay between mucus diffusion and cellular uptake of zeta potential changing micelles.

7. Elucidation of Laboratory Research Techniques and Methodology Used in Pharmaceutical Technology, and Mechanisms of Instruments' Functioning.

8. Gender differences in drug action, safety, and response to drug therapy.

- **Colleagues' presentations, discussions, and seminars:** many scientific meetings and research group discussions covering different research topics with research results/experiments follow-up in pharmaceutical sciences.

- **Links and Memberships:**

- Scopus: https://www.scopus.com/authid/detail.uri?authorId=57219430097
- Google scholar: https://scholar.google.com/citations?user=qGF-sN8AAAAJ&hl=en&oi=ao
- ORCiD: https://orcid.org/0009-0008-3997-2874
- Reference Citation Analysis (RCA) Editorial Membership: https://referencecitationanalysis.com/00043215
- Peer reviewer in Springer Nature Journals.

- **Awards:**

- Personal research selected by Global Best Achievements Awards for the "Best Researcher Award."

- **Software:**

Professional use of Microsoft Office software (Word, PowerPoint, Excel, and others), Graphpad Prism, Chemdraw, Image J, Endnote, and many others.

- **Languages:**

1. English: Advanced level in English for doctoral research work, scientific writing, peer-reviewing, editorial management, conferences, and lecturing. Previously (2014): Australian occupational English test (OET) with grade B.

2. Arabic: mother tongue.

- **References:**

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