CURRICULUM VITAE
Lara Fakhouri, Ph.D.

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Lara Fakhouri is an assistant professor of Synthetic Medicinal Chemistry at the Department of Medicinal Chemistry and Pharmacognosy, Faculty of Pharmacy, Jordan University of Science and Technology (JUST). Since joining JUST in 2016, she has taught Pharmaceutical Organic Chemistry and Medicinal Chemistry courses to undergraduate Pharmacy and PharmD students. At the graduate level, she has taught Advanced Organic Chemistry and Stereochemistry. Her research interests focus on drug discovery and the design of small molecules that target proteins involved in cancer development and proliferation

Dr. Fakhouri earned a Ph.D. in Medicinal Biochemistry from the Department of Chemistry and Biochemistry at the University of North Carolina at Greensboro (UNCG). Her doctoral work involved the design and synthesis of GPR55 agonists, as well as SAR studies and the optimization of a TAK1 (kinase) inhibitor derived from a fungal secondary metabolite lead. This research was conducted under the supervision of Dr. Mitchell Croatt (Stanford Graduate), an Associate Professor at UNCG. Prior to her studies at UNCG, she served as a full-time lecturer at the Faculty of Pharmacy, University of Jordan, in Amman, Jordan. She holds both a B.Sc. in Pharmacy and an M.Sc. degree in Medicinal Chemistry and Pharmacognosy under the supervision of Dr. Amjad Qandil at the Jordan University of Science and Technology.

Dr. Fakhouri is the author of 9 papers in peer-reviewed international indexed journals and is a registered pharmacist. Currently, in April 2025, Dr. Fakhouri's Google Scholar h-index is 4 and her i10-index is 4 with 88 total citations, while her Scopus h-index is 4 with 72 total citations

EDUCATION

2011-2015 PhD in Medicinal Biochemistry, Synthetic Medicinal Chemistry Track (GPA 3.94), Department of Chemistry and Biochemistry, University of North Carolina at Greensboro, NC, USA.
Specialty: Synthetic Medicinal Chemistry
Thesis title: Design, Synthesis and Biological Evaluation of GPR55 Agonists and Resorcylic Acid Lactone-based Analogues as TAK-1 Inhibitors
Advisor: Dr. Mitchel Croatt

2002-2005: M.Sc. in Medicinal Chemistry and Pharmacognosy (Cumulative Average 85.2, V.Good), Faculty of Pharmacy, Jordan University of Science & Technology, Irbid, Jordan.
Specialty: Synthetic Medicinal Chemistry
Thesis title: Design, Synthesis and Antimicrobial Evaluation of 3-Aminobenzamide derivatives
Advisor: Dr. Amjad Qandil

1997-2002: B.Sc. in Pharmacy (Cumulative Average 74.1, Good), Faculty of Pharmacy, Jordan University of Science & Technology, Irbid, Jordan.

1997: General Secondary Education Certificate, (Percentage Average 89.9).

PROFESSIONAL EXPERIENCE

7/2022-9/2022 Short-term scholar at the University of Illinois at Chicago/Department of Pharmaceutical Sciences, working under the supervision of Professor Terry Moore.

6/209-8/2019 Short-term scholar at the University of Illinois at Chicago/Department of Pharmaceutical Sciences, working under the supervision of Professor Terry Moore.

2016 – present Assistant professor, Department of Medicinal Chemistry and Pharmacognosy, Jordan University of Science and Technology. Irbid, Jordan.

2015 -2016 Assistant professor, Department of pharmaceutical sciences, Applied Sciences University. Amman, Jordan.

2011-2015: Ph.D. Research Experience, working under the supervision of Professor Mitchell Croatt/UNCG in the area of design and synthesis of pharmaceutically active compounds.

2013-2015: Teaching assistant, Department of Chemistry and Biochemistry, University of North Carolina at Greensboro, NC, USA.

9/2012-8/2013: Research assistant, Croatt Research Group, Department of Chemistry and Biochemistry, University of North Carolina at Greensboro, NC, USA.

9/2011-8/2012: Teaching assistant, Department of Chemistry and Biochemistry, University of North Carolina at Greensboro, NC, USA.

2/2008-8/2011: Full-time Lecturer. Department of Pharmaceutical Sciences, Faculty of Pharmacy, University of Jordan, Amman 11942. Jordan.

2/2006-6/2007: Part-time lecturer. Department of Medicinal Chemistry and Pharmacognosy, Faculty of Pharmacy, Jordan University of Science and Technology, Irbid 22110, Jordan.

2003-2004: Teacher Assistant. Department of Medicinal Chemistry and Pharmacognosy, Faculty of Pharmacy, Jordan University of Science and Technology, Irbid 22110, Jordan.

10/2004-1/2005: Part-Time Lecturer, Faculty of Pharmacy, Department of Medicinal Chemistry and Pharmacognosy, Jordan University of Science and Technology, Irbid, Jordan.

2002-2005: MS.c research experience, worked in Dr Amjad Qandil's (Graduate of Purdue University, Lafayette, IN) medicinal chemistry research laboratory.

10/2002-6/2003: Undergraduate Research Assistant in Dr. Amjad Qandil's Research Laboratory, Department of, Medicinal Chemistry and Pharmacognosy, Faculty of Pharmacy, Jordan University of Science and Technology, Irbid 22110, Jordan.

TEACHING

GRADUATE COURSE INSTRUCTOR

- *Advanced Pharmaceutical Organic Chemistry* (PHAR721): Jordan University of Science and Technology (Fall 2022, Fall 2023, Fall 2024)
- *Stereochemistry* (PHAR723): Jordan University of Science and Technology Spring 2025
- *Organic Synthesis Research Laboratory* (PHAR727): Jordan University of Science and Technology Spring 2023
- *Research Methodology* (PHAR720): Jordan University of Science and Technology Fall 2022

UNDERGRADUATE COURSE INSTRUCTOR

- Pharmaceutical *Organic Chemistry* (PHAR124): Jordan University of Science and Technology Spring 2025
- *Medicinal Chemistry II* (PHAR323): Jordan University of Science and Technology Fall 2022, Fall 2023, Spring 2024, Fall 2024
- *Medicinal Chemistry II* (PHMD323): Jordan University of Science and Technology Fall 2023
- *Medicinal Chemistry III* (Phar324): Jordan University of Science and Technology Fall 2022, Spring 2023, Spring 2024, Summer 2024
- *Medicinal Chemistry III* (PHMD324): Jordan University of Science and Technology Fall 2023, Spring 2024

GRDUATE STUDENTS' SUPERVISION

- Enas Al-Rousan:
  - M.Sc., Medicinal Chemistry, Department of Medicinal Chemistry and Pharmacognosy, Faculty of Pharmacy, Jordan University of Science and Technology, May 2018.
  - Thesis title: "Identification and Biological Evaluation of Potential Glyoxalase-I Inhibitors as Anti-Cancer Agents Using Ligand-Based Pharmacophore Modeling".
- Banan Al-Omari:
  - M.Sc., Medicinal Chemistry, Department of Medicinal Chemistry and Pharmacognosy, Faculty of Pharmacy, Jordan University of Science and Technology, June 2022.
  - Thesis title: "Design Synthesis and Biological Evaluation of Hydroxybenzoic Acid-based analogues to Inhibit Glyoxalase-1 as a Potential Anticancer Therapy".

GRDUATE STUDENTS CO-SUPERVISION

- Manar Abu Sarhan:
  - M.Sc., Medicinal Chemistry, Department of Medicinal Chemistry and Pharmacognosy, Faculty of Pharmacy, Jordan University of Science and Technology. July 2023.
  - Thesis title: "Lead Optimization of TOPK inhibitors Using Complementary Computational and Synthetic Approaches".
- Ramzi Munaiem:
  - M.Sc., Pharmacognosy, Department of Medicinal Chemistry and Pharmacognosy, Faculty of Pharmacy, Jordan University of Science and Technology. July 2022.
  - Thesis title: "Cytotoxic Alkaloids from Colchicum tuviae".

GRDUATE STUDENTS COMMITTEE MEMBERSHIP

- Rand Al-Waqfi:
  - M.Sc., Medicinal Chemistry, Department of Medicinal Chemistry and Pharmacognosy, Faculty of Pharmacy, Jordan University of Science and Technology, February 2018.
  - Thesis title: "Identification of Possible Glyoxalase-I Inhibitors Using Structure Based Pharmacophore Modeling Virtual Screening and Molecular Dynamics-Guided Docking"

- Enas Al-hurani:
  - M.Sc., Medicinal Chemistry, Department of Medicinal Chemistry and Pharmacognosy, Faculty of Pharmacy, Jordan University of Science and Technology, January 2019.
  - Thesis title: "Design Synthesis and Biological Evaluation of LSD1 Inhibitors as Potential Anticancer Agents Using Fragment-Based Drug Design Approach"

AWARDS

- Sherri Forrester Award for Outstanding Academic Achievement. University of North Carolina at Greensboro, Spring 2015.

- Outstanding Performance as Graduate Teaching Assistant in Advance Laboratory, University of North Carolina at Greensboro, 2015.

- International Student Academic Achievement Award, University of North Carolina at Greensboro (Fall 2011, Spring 2012, Fall 2012, Spring 2013, Fall 2013, and Spring 2014).

- The 2nd best Poster Award at the 13th Annual Poster and Vendor Night, Central North Carolina Section of the American Chemical Society, Greensboro, NC, March 26, 2013.

- University of North Carolina at Greensboro Graduate Research Assistantship 2012-2013.

- University of North Carolina at Greensboro Graduate Teaching Assistantship for the academic years (2011-2012, 2013-2014, 2014-2015).

WORKSHOPS AND CONFERENCES

- Carolina Cannabinoid Collaborative Conference, Wake Forest University, Winston Salem, North Carolina, November 7-9, 2014.

- The 66th Southeastern Regional Meeting of ACS **(**SERMACS 2014**)**, Nashville Tennessee, October 16-19, 2014

- MS Training Course. Triad Mass Spectrometry Laboratory, Department of Chemistry and Biochemistry, University of North Carolina at Greensboro NC, Greensboro, 17 January- 28 February 2014.

- Carolina Cannabinoid Collaborative Conference, Greenville, North Carolina, October 19-21, 2012.

- 245th ACS national meeting. New Orleans, Louisiana. April 7-11, 2013.

- 11th Jordanian Pharmaceutical Conference between 28-30th, September, 2005 Amman, Jordan.

POSTER PRESENTATIONS

- **Fakhouri, L**.; Sharir, H.; Hurst, D.; Abood, M.; Reggio, P.; Croatt, M. "Synthesis of GPR55 agonists" *66th Southeast Regional Meeting of the ACS* **2014**, Nashville, TN.

- **Fakhouri, L**.; Sharir, H.; Hurst, D.; Abood, M.; Reggio, P.; Croatt, M. P. "Design, synthesis and biological evaluation of GPR55 agonists" *128th North Carolina regional meeting* **2014**, Durham, NC.

- **Fakhouri, L**.; Sharir, H.; Hurst, D.; Abood, M.; Reggio, P.; Croatt, M. P. "Synthesis and SAR studies of GPR55 agonists" *8th Carolina Cannabinoid Collaborative Conference* **2014**, Winston-Salem, NC.

- **Fakhouri, L.**; Sharir, H.; Hurst, D.; Abood, M.; Reggio, P.; Croatt, M. "Synthesis of GPR55 agonists" *American Chemical Society, Central North Carolina Section, 13th Annual Poster and Vendor Night* **2013**, Syngenta, Greensboro NC.

  Fakhouri, L.; Sharir, H.; Hurst, D.; Abood, M.; Reggio, P.; Croatt, M. "Synthesis and biological evaluation of GPR55 agonists" *245th ACS Meeting* **2013**, New Orleans, LA

COMMITTEE ASSIGNMENTS

- Faculty of Pharmacy Board: Member
- Departmental Scientific Research Committee: Member
- Laboratory and Supplies Committee: Member
- Faculty Quality Control of Courses Committee: Member
- Accreditation Council for Pharmacy Education (ACPE) Faculty Subcommittee #5: Chair
- Faculty Scientific Committee: Member
- Faculty Public Safety Committee: Member
- Faculty Public Safety Committee: Chair

PUBLICATIONS

Qandil AM, **Fakhouri LI**. α-Anilinoketones, Esters and Amides: A Chemical Study. *Pharmaceuticals*. 2012 Jun 5;5(6):591-61. DOI: https://doi.org/10.3390/ph5060591

Fakhouri L, El-Elimat T, Hurst D, Reggio P, Pearce C, Oberlies N, *et al*. Isolation, semisynthesis, covalent docking and transforming growth factor beta-activated kinase 1 (TAK1)-inhibitory activities of (5Z)-7-oxozeaenol analogues. *Bioorg Med Chem*. 2015;23(21):6993-9. DOI: 10.1016/j.bmc.2015.09.009

- **Fakhouri L**, Cook CD, Al-Huniti MH, Console-Bram LM, Hurst DP, Spano MBS, *et al*. Design, synthesis and biological evaluation of GPR55 agonists. *Bioorg Med Chem*. 2017;25(16):4355-67. DOI: 10.1016/j.bmc.2017.06.020.

- Al-Shar'I NA, Al-Rousan EK, **Fakhouri LI**, Al-Balas QA, Hassan MA. Discovery of a nanomolar glyoxalase-I inhibitor using integrated ligand-based pharmacophore modeling and molecular docking. *Med Chem Res*.1 2020;29(3):356-76. DOI: 10.1007/s00044-020-02499-w.

- **Fakhouri, L.I**., Al-Shar'i, N.A. The design of TOPK inhibitors using structure-based pharmacophore modeling and molecular docking based on an MD-refined homology model. *Mol Divers* (2022). https://doi.org/10.1007/s11030-021-10361-w

- Alomari BO, **Fakhouri LI**, Al-Shar'i NA, Albalas Q. Design, synthesis and biological evaluation of potent thiazolidinedione salicylic acid inhibitors against glyoxalase-I as potential anticancer agents.1 **Med Chem Res**. 2024. DOI: 10.1007/s00044-024-03131-z

- Al-Sarhan M, **Fakhouri LI**, Al-Shar'i NA, El-Elimat T, Zayed A. Lead Optimization of TOPK Inhibitors Using Complementary Computational and Synthetic Approaches. *Pharm Sci*. 2024;30(4):456-68. DOI: 10.34172/PS.2024.20

- Al-Oudat BA, Audat SA, Al-Shar'i NA, Al-Balas QA, Jaradat HM, **Fakhouri L**, *et al*. Design, synthesis and biological evaluation of benzimidazole/bis-imine derivatives as glyoxalase I inhibitors. *Med Chem Res*. 2025. DOI: 10.1007/s00044-025-03404-6

PATENTS

- Cedric Pearce, Mitchell Croatt, Lara Fakhouri, and Nicholas Oberlies. Non-aromatic difluoro analogues of resorcylic acid lactones. The United States Patent Application WO2016196256A2; Application Number: 2016/034562; Filing Date: 2016-05-27; Publication Date: 2016-12-08.

GRANT REVIEWING

- Scientific Research & Innovation Support Fund, Ministry of Higher Education and Scientific Research, Amman, Jordan

GRANTS

- Deanship of Research/ Jordan University of Science and Technology Grant No. 340/2023. Synthesis and Biological evaluation of Thiazolidiedione phenyl salicylic acid-based analogues as Glyoxalase-I Inhibitors, amount: JD 9000. (Principal Investigator)

- Deanship of Research/ Jordan University of Science and Technology Grant No. 163/2023. Design, synthesis and biological evaluation of salicylic acid analogues as Glyoxalase-I inhibitors. (Co-Principal Investigator)

- Deanship of Research/ Jordan University of Science and Technology Grant No. 379/2022. Design and synthesis of gamma-functionalized stapled peptides to selectively target estrogen receptor with D538G mutation. (Co-Principal Investigator)

- Deanship of Research/ Jordan University of Science and Technology Grant No. 81/2021. Optimization of N-substituted-2-arylmethylenehydrazinecarbothiomide derivatives as potent TOPK inhibitors with potential anticancer activity: JD 9000. (Principal Investigator)

- Deanship of Research/ Jordan University of Science and Technology Grant No. 143/2020. Design, Synthesis and Biological evaluation of Hydroxybenzoic acid-based analogues as Glyoxalase-I Inhibitors, amount: JD 6000. (Principal Investigator)

- Deanship of Research/ Jordan University of Science and Technology Grant No. 191/2019. Investigation of the SAR of isoquinoline-based KEAP1/NRF2 Inhibitors (Co-Principal Investigator)

- Deanship of Research/ Jordan University of Science and Technology Grant No. 321/2017. Total Synthesis and biological evaluation of Greensborone C and its analogues, amount: JD 9500. (Principal Investigator)

- Deanship of Research/ Jordan University of Science and Technology Grant No. 312/2017. Identification of Novel TOPK Inhibitors Using Structure-Based Pharmacophore Modeling, Virtual Screening and Molecular Docking, amount: JD 9500. (Principal Investigator)

- Deanship of Research/ Jordan University of Science and Technology Grant No. 276/2017. Identification and Biological Evaluation of Potential Glyoxalase-I Inhibitors as Anti-Cancer Agents Using Ligand-Based Pharmacophore Modelling, amount: JD 5500. (Principal Investigator)

LANGUAGES

- Arabic (Mother Language).
- Fluent in English: spoken and written. TOEFL (internet based 112).

COMPUTER SKILLS

- Experience in using MS Office applications.
- Excellent knowledge in the scientific search engine.
- Excellent experience in using the following softwares: Chemdraw, EndNote, Delta™ NMR Data Processing Software, Thermo Scientific Xcalibur software, Empower®, a chromatography data software, Galaxie® Chromatography Software, ACD/1D NMR Manager and ACD/ChemSketch.

RESEARCH METHODS AND SCIENTIFIC TECHNIQUES

- Expertise in using state of art chromatographic techniques: HPLC (analytical and preparative), UPLC, LC/MS, open columns and preparative TLC.
- Expertise in small molecule structure determination using 1D-NMR (^{1}H, ^{13}C and ^{19}F) and 2D NMR (HSQC, edited-HSQC, HMBC and COSY) and HRMS.
- Operate a JEOL ECA-500 and JEOL ECS-400 MHz NMR spectrometers.
- Operate a Thermo Fisher Scientific LTQ Orbitrap XL mass spectrometers.
- Expertise in use of Ab-initio (Spartan/Wavefunction) and Covalent Docking (Maestro/ Schrödinger) packages

PROFESSIONAL MEMBERSHIP

- Member of Jordanian Pharmaceutical Association.

REFERENCES

- Dr. Mitchell Croatt, Assistant Professor, University of North Carolina at Greensboro, P.O. Box 26170, 435 Sullivan Science Building Greensboro, NC 27402-6170. E-mail: mpcroatt@uncg.edu

- Dr Nicholas H. Oberlies, Associate Professor, Department of Chemistry and Biochemistry, University of North Carolina at Greensboro, P.O. Box 26170, 435 Sullivan Science Building Greensboro, NC 27402-6170. E-mail: N_OBERLI@uncg.edu

- Dr Feras Q. Alali, Professor, Medicinal Chemistry and Pharmacognosy, Faculty of Pharmacy, Qatar University. E-mail: feras.alali@qu.edu.qa

- Dr. Amjad Qandil, Associate Professor, Department of Medicinal Chemistry and Pharmacognosy, Faculty of Pharmacy, King Saud bin Abdulaziz University for Health Sciences. E-mail: Qandila@ksau-hs.edu.sa