

Hana Hammad

Department of Biological Sciences
School of Science
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EDUCATION

North Dakota State University, Ph.D. Pharmacology, Fargo, North Dakota, USA, 2005
Dissertation "Physiological Studies of Cellular Adaptations Following Chronic Drug Exposure"

University of Jordan, M.Sc. Biology (Physiology), Amman, Jordan, 1995
Thesis "Physiological Effects of Selected Flavonoids on Smooth Muscle and Perfused Heart Isolated from Rat: Structure-Activity Relationship"

University of Jordan, B.Sc. Biology, Amman, Jordan, 1992

JOB/POSITION HISTORY

University of Jordan

11/2019-present	Professor, Department of Biological Sciences
3/2014-11/2019	Associate Professor, Department of Biological Sciences
9/2014-8/2015	Chair of the Department of the Biological Sciences
2/2014-present	Electrophysiology Consultant/ Cell Therapy Center
9/2007-3/2014	Assistant Professor, Department of Biological Sciences

North Dakota State University

8/2006-5/2007	Assistant Professor, Department of Pharmaceutical Sciences
1/2006-5/2006	Lecturer, Department of Pharmaceutical Sciences

University of North Dakota

5/2005-12/2005	Postdoctoral fellow, Department of Pharmacology, Physiology and Therapeutics
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North Dakota State University

1999-2005	Graduate Research Assistant, Department of Pharmaceutical Sciences
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Amman University

1997-1998	Instructor, Department of Medical Analysis
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Al-Zaytoonah University

1995-1997	Lecturer, Faculty of Pharmacy
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University of Jordan

1992-1995	Graduate Teaching Assistant, Department of the Biological Sciences
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HONORS

- Faculty Development Travel Award, North Dakota State University, 2007
- Faculty Development Travel Award, North Dakota State University, 2006

- North Dakota Board of Higher Education Scholarship (Spring 2005)
- Rho Chi Pharmacy Honor Society, North Dakota State University, 2001

TEACHING EXPERIENCE

Developed and taught course in:

- Physiology for Biology and Medical Technology students
- Advanced Physiology for graduate students (M.Sc. level)
- Molecular Physiology for graduate students (Ph.D. level)
- Pathophysiology for Pharmacy and PharmD students
- Physiology for Paramedic students
- Endocrinology for Biology and Medical Technology students
- General Biology 101 and 102
- Introductory Biology for Premedical students
- Coordinator for Special Topics in Pharmaceutical Sciences

GRADUATE STUDENTS

Advisor/Co-advisor

- Heba Khlaif, M.Sc., “The Impact of Cerebrospinal Fluid from Multiple Sclerosis Patients on Therapeutic Capacity of Mesenchymal Stem Cells”, August 2021, Major advisor
- Bayan Almomany, Ph.D., “The role of dihydrotestosterone in influencing chemosensitivity of triple-negative breast cancer cells by regulating ABCG2 transporter via microRNA: a possible therapeutic strategy”, August 2020, Co-advisor
- Fuad Mansour, Ph.D., “The Effect of Long Term Hypoxia on Cancer Stem Cells and The Impact of Developed Cells Secretions on Angiogenesis Using Human Umbilical Vein Endothelial Cells (HUVEC)”, April 2019, Major advisor
- Sophia Al-Adwan, Ph.D., “Influence of Diabetes Mellitus on the Angiogenicity Potential of Bone Marrow Derived Mesenchymal Stem Cells: An miRNA Perspective”, February 2019, Major advisor
- Laila Baqlouq, “Dermining the Relative Gene Expression Level of Hypoxia Related Genes in Different Cancer Cell Lines”, April 2019, Co-advisor
- Laiali Quraan, Ph.D., “Dietary Omega-3 Fatty Acids Effects on Hippocampal Brain-Derived Neurotrophic Factor (BDNF) Level, Selective Oxidative Stress Enzymes, Inflammatory Gene Expression of Selected Cytokines, Learning and Memory Impairment Induced by Post-Traumatic Stress Disorder in Rat Model”, July 2019, Co-advisor
- Suzie Rababah, Ph.D., “Changes in the Gene Expression of Matrix Metalloproteinases in the Brain Hippocampus after Exposure to Psychosocial Stress in Rat Model: The Neuroprotective Role of L-Carnitine”, expected defense date: Fall 2019, Co-advisor
- Nihad Othman, Ph.D., “Role of Androgens in Differential Profiling of miRNA in Relation to the Biology of Triple Negative Breast Cancer,” July 2017, Co-advisor
- Dana Hattab, Ph.D., “The Effect of Oxytocin on Mesenchymal Stem Cells Isolated from Human Umbilical Cord: Gene Expression Analysis and Cardiomyocytes Differentiation,” July 2016 , Co-advisor
- Zina Habib, M.Sc., “Antiangiogenic Activities of the Hydro-alcoholic Extract of *Trigonella foenum-graecum*,” December 2014, Major advisor

Committee Member/External Examiner

- Maram Hasan, Ph.D., “Effect of Human Mesenchymal Stem Cells on the Healing of High Glucose-Induced Nephropathy *In-Vitro*” May 2021, committee member

- Fatima Kareem, M.Sc., “Structural and Physiological Study of the Effect of Benton on the Deoxynivalenol (DON)-induced Toxicity in Domestic Fowl” April 2019, committee member
- Bayan Al-Hourani, M.Sc., “The Effect of Poly Lactic-Co-Glycolic Acid Microcarriers on Proliferation and Differentiation of Wharton’s Jelly Mesenchymal Stem Cells”, July 2018, External examiner
- Suzanne Sober, M.Sc., “Comparison of Cell Surface Markers Between Mesenchymal Stem Cells from Different Sources and fibroblasts” January 2018, External examiner
- Farah Mubarkeh, M.Sc., “The Effect of Different Concentrations of Pooled Human Platelet Lysate on Urinary Mesenchymal Stem Cells Proliferation into Urothelial Cells”, August 2017, External examiner
- Samar Tarazi, M.Sc., “The Effect of TGF-beta, EGF and VEGF Growth Factors on The Proliferation and Differentiation of Mesenchymal Human Urine Stem Cells into Urothelial Cells”, August 2017, External examiner
- Hashem Al-Mousa, M.Sc., “Investigating the potential genotoxic effect of etoposide on human lymphocytes”, May 2017, committee member
- Aya Alwais, M.Sc. “Study the Relationship Between Trace Elements, Hormones and Interlukin-6 among Jordanian Infertile Women,” February 2016, External examiner
- Aman Ishaqat, M.Sc. “Phytochemical Screening and Evaluation of Antioxidant, Antimicrobial, Antiangiogenic and Antiproliferative (Against Different Breast Cancer Cell Lines) Activities of the Leaves of *Elaeagnus angustifolia* Grown in Jordan,” August 2015, committee member
- Amani Harb, M.Sc., “Effects of Betacaryophyllene and Eugenol as Antioxidant Compounds on Hypercholesterolemic Rats”, 2015, committee member
- Abeer Harb, M.Sc., “Effects of trans-resveratrol, isolated from *Smilax aspera*, on smooth muscle, blood pressure, inflammation in rats and nociception in mice,” 2008, committee member

RESEARCH EXPERIENCE

Current research interests

- Angiogenesis
- Hypoxia
- Stem cells
- Electrophysiology
- Natural products

Grant support and active research projects include:

- “The effect of chronic cyclic hypoxia on miRNA expression profile of MCF7 cells” Funded by the University of Jordan Deanship of Academic Research, ~ 20,000 JD (10/2021-Active), PI
- “Profiling the expression of genes involved in modulating the hypoxia-induced angiogenesis impact of hypoxic cancer stem secretions on Human Umbilical Vein Endothelial Cells (HUVEC). Funded by the University of Jordan Deanship of Academic Research, ~ 20,000 JD (4/2018-2021), PI
- “Determining the gene expression changes that cause chemoresistance in chronic hypoxic MCF7 Breast Cancer Cell line”, Funded by Scientific Research Support Fund/ Ministry of Higher Education and Scientific Research Amman, Jordan ~ 37,850 JD (10/2016-4/2018), PI
- “Antiangiogenic Activities of the hydro-alcoholic extracts of *Achillea* species grown in Jordan” Funded by the University of Jordan Deanship of Academic Research, ~ 30,000 JD (Active), PI
- “The Effect of Oxytocin on Mesenchymal Stem Cells Isolated From Human Umbilical Cord and Amniotic Fluid: Gene Expression Analysis and Cardiomyocytes Differentiation”, Funded by Scientific Research Support Fund/ Ministry of Higher Education and Scientific Research Amman, Jordan ~ 62,000 JD , Co-investigator (PI: Dana Hattab)
- “The effects of topically applied agents on extra- and intraoral wound healing in a rat

model”, Funded by the University of Jordan Deanship of Academic Research, ~ 23,000 JD (6/11-12/14), PI

- Polymorphic CYP2A6 and Risk of Tobacco-Dependence. In collaboration with Dr. Malek Alzihlif, Collage of Medicine, University of Jordan, Amman, Jordan
- Antioxidant, antiproliferative and antiplatelet activities of selected Jordanian plants. In collaboration with Dr. Fatma Afifi, Collage of Pharmacy, University of Jordan

PUBLICATIONS

1. **Hammad HM**, Imraish A, Al-Hussaini M, Zihlif M, Harb AA, Abu Thiab TM, Lafi Z, Nassar ZD, Afifi FU. Ethanol Extract of *Achillea fragrantissima* Enhances Angiogenesis through Stimulation of VEGF Production. *Endocrine, Metabolic & Immune Disorders - Drug Targets* 2021; 21 . <https://doi.org/10.2174/1871530321666201230113018>
2. Al-Momany B, **Hammad H**, Ahram M. Dihydrotestosterone induces chemo-resistance of triple-negative breast MDA-MB-231 cancer cells towards doxorubicin independent of ABCG2 and miR-328-3p. *Current Molecular Pharmacology*. 2021; 14(0). DOI: 10.2174/1874467214666210531170355. PMID: 34061013.
3. Baqlouq L, Zihlif M, **Hammad H**, Abu Thaib TM. Determining the Relative Gene Expression Level of Hypoxia Related Genes in Different Cancer Cell Lines. *Curr Mol Pharmacol*, 2021; 14(1) . <https://doi.org/10.2174/1874467213666200521081653>
4. Imraish A, Abu Thiab T, Al-Awaida W, Al-Ameer HJ, Bustanji Y, **Hammad H**, Alsharif M, Al-Hunaiti A. In vitro anti-inflammatory and antioxidant activities of ZnFe₂O₄ and CrFe₂O₄ nanoparticles synthesized using *Boswellia carteri* resin. *J Food Biochem*. 2021; 45:e13730. <https://doi.org/10.1111/jfbc.13730>
5. Shehadi IA, Delmani F-A, Jaber AM, **Hammad H**, AlDamen MA, Al-Qawasmeh RA, Khanfar MA. Synthesis, Characterization and Biological Evaluation of Metal Adamantyl 2-Pyridylhydrazone Complexes. *Molecules*. 2020; 25(11):2530. <https://doi.org/10.3390/molecules25112530>
6. Al Khalyfeh, K, Taher D, Helal W, KORB M, Hamadneh I, AL-Dujail A, Imraish A, **Hammad HM**, Al-As'ad RM, Abu-Orabi ST, Hildebrandt A, Lang H. Synthesis and characterization of 1,4-chalcogenesters bearing 5-membered heterocycles. *J Chem Sci*, 2020; 132, 117 <https://doi.org/10.1007/s12039-020-01825-x>
7. **Hammad HM**, Abu Thiab TM, Zihlif M. Hypoxia-induced gene expression pattern in doxorubicinresistant MCF7 cells. *Trop J Pharm Res*, 2019; 18(8): 1589-1590. <http://dx.doi.org/10.4314/tjpr.v18i8.3>
8. **Hammad HM**, Imraish A, Azab B, Best AM, Khader YS, Zihlif M. Associations of CYP2A6 Gene Polymorphism with Smoking Status among Jordanians: Gender-Related Differences. *Curr Drug Metab*. 2019, 20(9): 765 - 770. doi: 10.2174/1389200220666190827161112.
9. Alhawarat FM, **Hammad HM**, Hijjawi MS, Sharab AS, AbuarqoubDA, Al Shhab MA, Zihlif MA. The effect of cycling hypoxia on MCF-7 cancer stem cells and the impact of their microenvironment on angiogenesis using human umbilical vein endothelial cells (HUVECs) as a model. *PeerJ* 2019, 7:e5990.
10. Rababa'h S Y, Alzoubi KH, **Hammad HM**, Alquraan L, El-Salem K. Memory Impairment Induced by Chronic Psychosocial Stress Is Prevented by L-Carnitine. *Drug Des Devel Ther.*, 2019; 13: 4341–4350, doi: 10.2147/DDDT.S225264
11. Alhattab D, Jamali F, Ali D, **Hammad H**, Adwan S, Rahmeh R, Samarah O, Salah B, Hamdan M, Awidi A. An Insight into the Whole Transcriptome Profile of Four Tissue Specific Human Mesenchymal Stem Cells. *Regen. Med* 2019, <https://doi.org/10.2217/rme-2018-0137>
12. Alquraan L, Alzoubi KH, **Hammad H**, Rababa'h SY, Mayyas FA. Dietary Omega-3 Fatty Acids Prevents Post-Traumatic Stress Disorder-Induced Memory Impairment. *Biomolecules* 2019, 9, 100; doi:10.3390/biom9030100
13. Al-Qtaitat MA, El-Abadelah MM, Sabri SS, Matar SA, **Hammad HM**, Mubarak MS.

Synthesis, Characterization, and Bioactivity of Novel Bicinnolines Having 1-Piperazinyl Moieties. *J Heterocyclic Chem* 2019, 56:158-164

14. Azab B, alassaf A, Abu-Humdan A, Dardas Z, Almousa H, Alsalem M, Khabour O, **Hammad H**, Saleh T, Awidi A. Genotoxicity of cisplatin and carboplatin in cultured human lymphocytes: a comparative study. *Interdiscip Toxicol.* 2019; 12(2): 93–97.
15. Al-Othman N, **Hammad H**, Ahram M. Dihydrotestosterone regulates expression of CD44 via miR-328-3p in triple-negative breast cancer cells. *Gene* 2018, 675:128-135.
16. Ishaqat AA, Afifi FU, Abu Dahab R, **Hammad HM**, Al-Zihlif M., Abaza IF, Nassar ZD, Afifi FU. Phytochemical analysis and evaluation of anti-angiogenic and anti-proliferative activities of the leaves of *Elaeagnus angustifolia* L. grown in Jordan. *Nat Prod Chem Res* 2018, 6:3, DOI: 10.4172/2329-6836.1000319
17. Habib-Martin ZA, **Hammad HM**, Afifi FU, Zihlif M, Al-Ameer HJ, Saleh MM, Abaza IF, Nassar ZD. *In vitro* and *in vivo* evaluation of the antiangiogenic activities of *Trigonella foenum- graecum* extracts. *Asian Pac J Trop Biomed* 2017, 7(8): 732-738
18. Al-Aqtash RA, Zihlif MA, **Hammad H**, Nassar ZD, Meliti JA, Taha MO. Ligand-Based Computational Modelling of Platelet-Derived Growth Factor Beta Receptor Leading to New Angiogenesis Inhibitory Leads. *Comput Biol Chem.* 2017, 71:170-179.
19. Abdelqader A, Al-Fataftah A, **Hammad HM**, Abuajamieh M. Effects of Dietary Butyrate Supplementation on Intestinal Integrity of Heat-Stressed Cockerels. *J Anim Physiol Anim Nutr.* 2017, 101(6): 1115–1121 DOI: 10.1111/jpn.12622
20. Al-Othman N, **Hammad H**, Ahram M. Type of serum as a cell culture supplement influences regulation of microRNA expression in MDA-MB-231 cell line. *JMJ* 2017, 51 (4):159-165.
21. Al-Jaber HI, **Hammad HM**, Al-Qudah MA, Abaza IF, Al-Humaidi JY, Khater DF, Saleh AM, Barham M, Abu-Zarga MH, Afifi FU. *Achillea santolina*: Growth Dependent Variation in Essential Oil Composition and Some in-vitro Bioactivity Studies. *Eur J Med Pl* 2016, 13(1): 1-11, DOI : 10.9734/EJMP/2016/23870
22. Alefishat E, **Hammad H**, Shehadeh M, Ramadan S, Mukattash T. Increasing patient knowledge and awareness of osteoporosis among Jordanian women. *EJPCH.* 2015; 3(1): 100-107.
23. Anani J. and **Hammad H.**, Effects of drugs and psychotropic substances abuse, In: Oweidat A., Training manual for the prevention of abuse of Narcotics and Dangerous Drugs, Arab Society for Public Awareness from Dangerous Drugs and Narcotics, Jordan. 2015, pp. 47-78
24. Shehadeh MB, Sosa S, Suaifan G, Darwish RM, Giangaspero A, Vassallo A, Lepore L, Oran SA, **Hammad H**, Tubaro A, De Tommasi N, Della Loggia R. Topical Anti-Inflammatory Potential of Six *Salvia* Species Grown in Jordan. *JJPS.* 2014; 7: 153-161.
25. **Hammad HM**, Matar SA, Litescu SC, Abuhamdah S, Al- Jaber HI, Afifi FU. Biological Activities of the Hydro-alcoholic and Aqueous Extracts of *Achillea fragrantissima* (Forssk.) Grown in Jordan. *Nat Sci.* 2014; 6: 23-30.
26. **Hammad HM**, Litescu SC, Matar SA, Al- Jaber HI, Afifi FU. Biological Activities of the Hydro-alcoholic and Aqueous Extracts of *Achillea falcata* L. (Asteraceae) Grown in Jordan. *Eur J Med Pl* 2014; 4(3):259-270.
27. Al-Jaber HI, **Hammad HM**, Al-Qudah MA, Abaza IF, Al-humaidi J, Abu-Zarga MH, Afifi FU. Volatile Oil Composition and Antiplatelet Activity of Jordanian *Achillea biebersteinii* Collected at Different Growth Stages. *J ESSENT OIL BEAR PL.* 2014; 17:584-598.
28. **Hammad HM**, Albu C, Matar SA, Litescu SC, Al Jaber HI, Abualraghib AS, Afifi FU. Biological Activities of the Hydro-alcoholic and Aqueous Extracts of *Achillea biebersteinii* Afan. (Asteraceae) Grown in Jordan. *Afr. J. Pharm. Pharmacol.* 2013; 7(25): 1686-1694.
29. Mukattash TL, Tahaine L, AlRawi N, Jarab A, **Hammad H**, Nuseir K. Behaviors and Attitudes towards Dysmenorrhea; a Cross-sectional Survey of 2,000 Jordanian University Students. *Jordan Medical Journal.* 2013; 47(1): 26-34.
30. Jurgens CW, **Hammad HM**, Lichter JA, Boese SJ, Nelson BW, Goldenstein BL, Davis KL, Xu K, Hillman KL, Porter JE, Doze VA. α 2A Adrenergic Receptor Activation Inhibits Epileptiform Activity in the Rat Hippocampal CA3 Region. *Mol Pharmacol.* 2007; 71(6):1572-

81.

31. **Hammad H** and Wagner JJ. Dopamine-mediated Disinhibition in the CA1 Region of Rat hippocampus via D3 Receptor Activation. *J Pharmacol Exp Ther.* 2006; 316(1):113-20.
 32. O'Rourke ST, **Hammad H**, Delagrange P, Scalbert E, Vanhoutte PM. Melatonin Inhibits Nitrate Tolerance in Isolated Coronary Arteries. *Br J Pharmacol.* 2003; 139(7):1326-32.
 33. **Hammad HM** and Abdalla SS. Pharmacological Effects of Selected Flavonoids on Rat Isolated Ileum: Structure-Activity Relationship. *Gen Pharmacol.* 1997; 28:767-71.
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CONFERENCE PAPERS

- Al-Othman N, **Hammad H**, Ahram M. Dihydrotestosterone regulates expression of CD44 via miR-328-3p in triple-negative breast cancer cells. The 5th Middle East Molecular Biology Congress and Exhibition 2018, Dead Sea, Jordan.
 - **Hammad HM**, Dana Alhattab D, Awidi A. Oxytocin Preconditioning of Bone Marrow (BM)- and Umbilical Cord (UC)- Derived Mesenchymal Stem Cells (MSCs): Whole Transcriptome Analysis. The 4th Middle East Molecular Biology Congress and Exhibition 2017, Abu Dhabi, UAE.
 - **Hammad HM**, Matar SA, Al-Jaber HI, Afifi FU. Comparative Screening of Chemical Composition and Biological Activities of *Achillea* species in Jordan. The 15th International Congress of the International Society for Ethnopharmacology 2015, Petra, Jordan
 - **Hammad H**, Habib Z, Afifi F, Zihlif M. Antiangiogenic Activities of the *Trigonella foenum-graecum* Seed Extracts. The FASEB Journal 2015; 29(1) Supplement LB536. Experimental Biology 2015, Boston, MA.
 - Shehadeh MB, Kolodziej H, **Hammad H**. *In vitro* Effect of Medicinal Plant Extracts on Collagen-Induced Platelet Aggregation of Human Blood. The 13th Jordan Pharmacist Association Conference 2010, Amman Jordan.
 - Xu K, Hillman K, **Hammad H**, Jurgens CWD, Goldenstein B, Johnson J, Porter J, Doze V. Adrenergic Receptor Characterization of Rat Hippocampal Neurons Using Real Time, Single Cell RT-PCR. Experimental Biology 2007, Washington, D.C.
 - **Hammad HM**, Hillman KL, Porter JE, Doze VA. Adrenergic Receptor Characterization of Rat Hippocampal CA3 Pyramidal Neurons Using Real Time Single Cell RT-PCR. Experimental Biology 2006, San Francisco, California.
 - Rau KE, Jurgens CWD, **Hammad HM**, Porter JE, Doze VA. Adrenergic Receptor Expression in Rat Hippocampal CA3 Pyramidal Neurons Using Real Time, Single Cell RT-PCR. The Annual Meeting of the Society for Neuroscience 2005, Washington, D.C.
 - **Hammad HM** and Wagner JJ. Cocaine Decreases IPSCs in CA1 Pyramidal Cells via Dopamine Receptor Activation. The Annual Meeting of the Society for Neuroscience 2004, San Diego, California.
 - **Hammad HM** and Wagner JJ. Cocaine Modulation of Inhibitory Circuitry in the Hippocampal Formation. Engebritson Symposium 2004, Fargo, North Dakota.
 - O'Rourke ST and **Hammad H**. Role of K Channels in Nitroglycerin-Induced Vasorelaxation: Functional Implication for Nitrate Tolerance. Experimental Biology 2003, San Diego, California.
 - **Hammad H** and O'Rourke ST. Nitrate Tolerance Unmasks a Role for TEA-Sensitive K Channels in Nitroglycerin-Induced Relaxation of Isolated Rat Aorta. Experimental Biology 2002, New Orleans, Louisiana.
 - O'Rourke ST, **Hammad H**, Yang Q, Scalbert E, Delagrange P, Vanhoutte PM. Melatonin Prevents Nitrate Tolerance in Porcine Coronary Arteries. Experimental Biology 2001, Orlando, Florida.
 - **Hammad H**. and Abdalla S. Effect of Flavones on Ileal Smooth Muscle: Structure- Activity Relationship. Proceedings of the 1st scientific conference of Faculty of Pharmacy/University of Philadelphia 1995, Jerash, Jordan.
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SERVICE AS REVIEWER

- Journal of Applied Life Sciences International, ISSN: 2394-1103, ScienceDomain International, Since 1/2015
- Jordan Journal of Biological Sciences, ISSN 1995- 6673, The Hashemite University, since: 12/2014
- Journal of Medicinal Plant Research, ISSN: 1996-0875, Academic Journals, since: 4/2014
- African Journal of Pharmacy and Pharmacology, ISSN: 1996-0816, Academic Journals, since: 4/2014
- British Journal of Pharmaceutical Research, ISSN: 2231-2919, ScienceDomain International, since: 8/201

ACADAMIC/SERVICE UNIVERSITY COMMITTEES

- Biorisk committee, The University of Jordan, Amman, Jordan, 11/2019- present
- Program Accreditation Committee, Department of Biological Sciences, Collage of Science, The University of Jordan, Amman, Jordan 9/2019-present
- Graduate Program Advisor, Department of Biological Sciences, Collage of Science, The University of Jordan, Amman, Jordan, 9/2017- 9/2019
- Scientific Research Committee, Department of Biological Sciences, Collage of Science, The University of Jordan, Amman, Jordan, 2013- present
- Collage Council, Collage of Science, The University of Jordan, Amman, Jordan, 2014-2015
- Development and Modernization Committee, Collage of Science, University of Jordan, Amman, Jordan, 2008- 2014
- Students Board Election Committee, Collage of Science, The University of Jordan, Amman, Jordan, 2012
- Department Board Secretary, Department of Biological Sciences, Collage of Science, The University of Jordan, Amman, Jordan, 2009- 2013
- National Nanotechnology Committee, Higher Council for Science and Technology, Amman, Jordan, 2008- 2009
- Website committee, Collage of Science, The University of Jordan, Amman, Jordan, 2008- 2009
- Drug Addiction Awareness (speaker), Community Service Office, The University of Jordan, Amman, Jordan, 2008- 2009
- Social Committee, Collage of Science, The University of Jordan, Amman, Jordan, 2007- 2013
- Curriculum Committee, College of Pharmacy, Nursing and Allied Sciences, North Dakota State University, 2006 - 2007
- Assessment Committee, College of Pharmacy, Nursing and Allied Sciences, North Dakota State University, 2006 - 2007
- NDSU-ADVANCE/FORWARD committee, North Dakota State University, 2006 - 2007
- Faculty Women in Science, Math, Engineering and Technology (WISMET), North Dakota State University, 2006 - 2007
- Student WISMET, faculty advisor, North Dakota State University, 2006 - 2007
- Search Committee, Assistant Professor of Pharmacology, Department of Pharmaceutical Sciences, North Dakota State University, 2004

PUBLIC SERVICE

- Arab Society for Public Awareness from Dangerous Drugs and Narcotics, Board of Directors (1/2018-present)
- Arab Society for Public Awareness from Dangerous Drugs and Narcotics, member (4/2015-present)

WORKSHOPS/TRAINING

- Building Capacity for Health and Engineering Education: Open Educational Resources(OER) with Dr. Khalaf Al Tell, Ministry of Manpower-Oman, Technological Education, held at the University of Jordan, 12/4/2017
- Polymerase Chain Reaction, Art & Science, Medical Technology & Laboratory Society, Amman, Jordan, 31/3-1/4/2017
- Advanced electrophysiological techniques with Dr. Benjamin Whalley, Reading School of Pharmacy, University of Reading, UK, 25-29/7/2016
- The Muse microelectrode array (MEA) system online user training with Dr. Elena Dragicevic, Axion BioSystems, 24/5/2016; 6/6/2016
- IonFlux Automated Patch Clamp System user training with Dr. Mark McPate, Molecular Devices, Berkshire, UK, 26-27/1/2016
- Designing Study Plans, The University of Jordan, 26-27/8/2012
- Teaching Design and Its Strategies, The University of Jordan, 28/8-2/9/2012
- Effective University Teaching Skills, The University of Jordan, 3-6/9/2012
- Exams Preparation and Learner's Assessment, The University of Jordan, 9-12/9/2012
- Laws, Bylaws and Regulations of the University of Jordan, The University of Jordan, 13/9, 16/9/2012
- Academic Ethics, The University of Jordan, 17/9/2012
- Advanced molecular and cell culture techniques with Dr. Anumantha Kanthasamy, Department of Biomedical Sciences, Iowa State University, Ames, IA, 2010
- PharmD curricula accreditation training, the American Association of Colleges of Pharmacy (AACCP) Institute, Salt Lake City, UT, 2007
- Using 'Low Technology' to Enhance Engagement, Learning and Embodied Knowledge. The Teaching Professor Conference, Nashville, Tennessee, 2006
- Advanced patch-clamp techniques with Dr. Nancy Rusch, Department of Physiology, Medical College of Wisconsin, Milwaukee, WI, 2001

PROFESSIONAL AFFILIATIONS

- Society for Experimental Biology and Medicine (SEBM)
- Middle East Molecular Biology Sources (MEMBS)
- American Society for Pharmacology and Experimental Therapeutics (ASPET)
- International Society for Ethnopharmacology (ISE)

LANGUAGES

- Fluent in English and Arabic