Dr. Inshad. Jum'h

Isra University
President's Assistant of Academic affairs and International Projects
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Education:

- **PhD-Doctor in Natural Science/Physics:** University of Erlangen-Nuremberg, Germany, Ph.D. Dissertation: " Simultaneous AFM and STM measurements: Carbon allotropes, polymer and Supramolecular compounds".

- **M.Sc. in Applied Physics:** Jordan University of Science and Technology, Jordan Master Thesis: " High Tc Superconductors Thick film as a Magnetic Sensor".

- **B.S. in Physics: Yarmouk** University, Jordan.

Employment History:

- **October 2024-present**
  President's Assistant of Academic affairs and International Projects
  Professor, Isra University Jordan, Faculty of Sciences, Physics department.
- **August 2023- present**
  Professor,German Jordanian University. School of Basic Sciences and Humanities.
- **March 2018 – August 2023:**
  Associate Professor, German Jordanian University. School of Basic Sciences and Humanities.
- **November 2018 – September 2019**:
  Exchange coordinator of International Office, German Jordanian University.
- **September 2017 – November 2018:**
  Vice Dean, School of Basic Sciences and Humanities, German Jordanian University.
- **January 2012 – March 2018:**
  Assistant Professor, German Jordanian University, School of Basic Sciences and Humanities.
- **September 2006-April 2008:**
  Lecturer and Physics Labs Supervisor, German Jordanian University Teaching and supervising various Mechanics and Electromagnetic physics labs for undergraduate engineering students.
- **2005-2006: Teaching Assistant, Department of Applied Physics,** Jordan University of Science and Technology, Jordan

Projects and Research:

Metrics (as of October, 2024). Source Google Scholar: **H-index: 15, i10-index 18**

Funded Projects:

- **PI:** "A Novel Antimicrobial polymeric Nanomaterials for Antifouling water Filtration Membrane using Controlled Doping with Nano cobalt Cerium Dioxide (CeO_2:Co)", **(€169.710,00**) Funded by German Academic Exchange Service (DAAD), 2019-2022.

- **PI:** "Novel magnetic nanoparticle doped nanofiltration polymeric membranes for heavy metal removal from wastewater", **(€39.718,00)** Extension of project no: 57247627, Funded by German Academic Exchange Service (DAAD), Jan. 2018-Dec. 2018.

- **Partner**: "A promising hybrid anticancer drug based on a stimulated physicochemical conjugation of a novel anticancer with gold nanoparticle", (51.740 JD), funded by Scientific Research Support Fund (SRF), Jordan, 2017-2022.

- **PI:** "Novel magnetic nanoparticle doped nanofiltration polymeric membranes for heavy metal removal from wastewater", (**€270.000,00**) Funded by German-Arab Transformation Partnership, Programme DAAD project no: 57247627, Jan. 2015-Dec. 2017.

- **PI:** "Polymeric nanocomposites doped with magnetically aligned nanoparticles for monovalent and multivalent ion rejection and electromagnetic wave polarizer", (JD **58.000**) Scientific Research Support Fund (SRF), Jordan, 2015-2018.

- **PI:** "Manufacturing of Magnetite Magnetic Nano-particles, Magnetic Liquids and Magnetic Lubricants", (**14.000 JD**) Funded by German Jordanian University Seed Grant, 2013-2016.

- **Member:** "Joint Master program named as Excellence in Nanoscience Education for the MENA Region, XNEM", (**€100.000**), funded by EU Tempus grant, 2013-2017.

Key Course Work

- **Undergraduate Courses:** Classical Mechanic, Electricity and Magnetism, Physics for Medicine, Physics for Architecture, Applied Math for Engineers, and Physics labs.

- **Graduate Courses:** Nano-science master course in fabrication and characterizations of nano- structural materials

Ph.D. Dissertations and Master's Thesis Supervision:

1. **Ph.D. dissertation:** Novel Polyaniline/COXFe_3-XO_4 Nanocomposites for Thermoelectric and Optical Sensor Materials, Mahmoud Al Gharam, The University of Jordan, December 2021.
2. **Master's thesis:** Photocatalytic degradation of Acid orange 7 employing Iron Nickel Oxide-Doped Titanium Dioxide nanoparticles and attenuated intermolecular Bonding, Rashed Abu-Aleqa, Jordan University of Science and Technology, August, 2021
3. **Master's thesis**: Synthesis of TiO_2/ Fe_3O_4 Nanostructures for water Treatment Applications, Wajde Bani-Hani, Jordan University of Science and Technology, August, 2019.
4. **Master's thesis:** Tethering the silver nanoparticles (AgNPs) with Besifloxacin antibiotics forming AgNPs-Besifloxacin as a novel wider spectral range of antimicrobial and characterizing the compound using 19F NMR, 1H NMR and UV-vis spectroscopy, Mahmoud Telfah, Jordan University of Science and Technology, August, 2018.
5. **Master's thesis:** Ordered metal nanoparticles -polymethylmethacrylate/Polyaniline (PMMA/PANI) nanocomposite as an ultra-grade organic ultraviolet (UV) filter, Mahmoud Mhawish, Mu'tah University, November 2018.

6. **Master's thesis:** PANI-CSA/TiO_2-Fe_2NiO_4 Nanocomposite Films: Optical, Morphological, and Structural Properties, Batool M. Almarzoq, Mu'tah University,2023.

7. **Master's thesis:** Photocatalytic Degradation of Different Chemical Structure Antibiotic Families Using Titanium Dioxide Nanoparticles doped with Iron-Nickel Oxide Nanoparticles. Hussein Qashnoon, Jordan University of Science and Technology, (under preparation).
8. **Master's thesis:** Characterizing and Quantifying Suspended Dust and Particles in Amman-Jordan: Assessing their Impact on the Environment and Economy, Shahed Al-disi, German Jordanian University, (under preparation).

Publications:

1. Rami Jumah, Safaa Alsalman, Inshad Jum'h, Mohammad Al-Addous, Fawaz Hrahsheh, Hanadi Ghanem, Stefan Rosiwal, Ahmad Telfah, Chemical structure dependent electrochemical degradation of antibiotics using Boron-doped Diamond Electrodes, Journal of Environmental Chemical Engineering, Volume 12, Issue 6, 2024, 114115, ISSN 2213-3437, https://doi.org/10.1016/j.jece.2024.114115.

2. Hrahsheh, Fawaz, **Inshad Jum'h**, and Gerald Wilemski. "Second inflection point of supercooled water surface tension induced by hydrogen bonds: A molecular-dynamics study." The Journal of Chemical Physics 160.11 **(2024**). https://doi.org/10.1063/5.0185832

3. Telfah, A., Al-Akhras, M. A., AlShheamat, H., Mousa, M. S., **Jum'h, I.,** Albawab, A. Q., ... & Hergenröder, R. Dissociation Kinetics and Antimicrobial Activity of Ofloxacin Antibiotic in Artificial Tears Via 1H-NMR, Raman, and UV-Vis Spectroscopic Analysis. Journal of Ocular Pharmacology and Therapeutics, 40(1), 78-88, (**2024**). https://doi.org/10.1089/jop.2023.0019

4. Ahmad Telfah, Ayten Kalfe-Yildiz, Qais M. Al Bataineh, **Inshad Jum'h**, Carlos J. Tavares, Roland Hergenröder, Thermal-dependent morphological evolution effect on ion transportation in polyethylene oxide films, Polymer, Volume 288, **2023**, https://doi.org/10.1016/j.polymer.2023.126440.
5. Ahmad Telfah, Nour Abu Shari'ah, Riad Ababneh, Ahmad Bahti, M-Ali Al-Akhras, Yusuf Al-Hiari, **Inshad Jum'h**, Rana Abu-Dahab, Mahmoud Telfah, Qais M. Al Bataineh, Roland Hergenröder, 1H-NMR analysis of fluoroquinolone (pyridopyrrole quinoxaline, PPQ) conjugated to gold nanoparticles for synergistic anticancer drug design, Journal of Molecular Structure, Volume 1292, 2023, https://doi.org/10.1016/j.molstruc.2023.136081.

6. Mahmoud Telfah, M-Ali Al-Akhras, Ahmad Telfah, **Inshad Jum'h**, Riad Ababneh, Yasser Bustanji, Yusuf Al-Hiari, Roland Hergenröder, 19F- and 1H-NMR investigations of ofloxacin fluoroquinolone tethered with silver nanoparticles as synergistic antibiotic combinations, Journal of Molecular Structure, Volume 1292, 2023, https://doi.org/10.1016/j.molstruc.2023.136024.
7. Ababneh, R., Smadi, M., Bensiradj, N.E.H. et al. UV–Vis, FTIR and DFT Studies of the Fluoroquinolone [Pyrido Pyrolo Quinoxaline (PPQ)] Tethered to Gold Nanoparticles as a Novel Anticancer. J Inorg Organomet Polym 33, 1646–1656 (2023). https://doi.org/10.1007/s10904-023-02596-x
8. **Inshad Jum'h**, Husam H. Abu-Safe , Morgan E. Ware , I. A. Qattan , Ahmad Telfa and Carlos J. Tavares, Surface Atomic Arrangement of Aluminum Ultra-Thin Layers Grown on Si(111), Nanomaterials, **Vol.** *13*(6), 970, **2023** https://doi.org/10.3390/nano13060970.

9. **Inshad Jum'h**, Rashed Abu-Aleqa, Rami Jumah, Carlos J. Tavares, Ahmad Telfah, Efficiency of TiO_2/Fe_2NiO_4 Nanocomposite in Photocatalytic Degradation of Acid Orange 7 (AO7) Under UV Irradiation. Water Air Soil Pollut Vol. 234, 18, **2023**, https://doi.org/10.1007/s11270-022-05978-y

10. **Inshad Jum'h,** Ahmad Telfah, Marwan S. Mousa, Mais Jamil A. Ahmad, Carlos J. Tavares, Roland Hergenröder, "XPS and UV-Vis Studies of Nanoparticle Positioning Effect on Optical, Morphological and Structural Properties of Metal-Polymer Nanocomposites" Journal of Applied Polymer Science, Vol. 139 (26), e52433, **2022**, https://doi.org/10.1002/app.52433.

11. **Inshad Jum'h**, Yousef Al-Abdallat, Ehab M. AlShamaileh,Mohammad D. AL-Tahat, and Ahmad Telfah, "Polypyrrole-Metal Oxide-CarbonNanocomposite Films Corrosion Enhancementon Industrial Steel". 2nd International Conference on Industry 4.0 and Artificial Intelligence (ICIAI), Vol 175.,193-198, **2022**. https://DOI:10.2991/aisr.k.220201.034

12. Ahmad A. Ahmad, Areen A. Bani-Salameh, Qais Al-Bataineh, **Inshad Jum'h**, Ahmad Telfah. „Optical, structural and morphological properties of synthesized PANI-CSA-PEO-based GaN nanocomposite films for optoelectronic applications" Polymer Bulletin, Vol. 80, 809–828, 2023, https://doi.org/10.1007/s00289-021-04033-w.

13. M. Al-Gharram, **I. Jum'h,** A. Telfah, M. Al-Hussein," Highly crystalline conductive electrodeposited films of PANI-CSA/$CoFe_2O_4$ nanocomposites" Colloids and Surfaces A: Physicochemical and Engineering Aspects 628, 127342, **2021, https://doi.org/10.1016/j.colsurfa.2021.127342.**

14. A. Abdelhay, **I. Jum'h**, A Albsoul, D. Abu Arideh, B. Qatanani,"Performance of electrochemical oxidation over BDD anode for the treatment of different industrial dye-containing wastewater effluents", Water Reuse 11 (1), 110-121, **2021,** https://doi.org/10.2166/wrd.2020.064.
15. Mokhtari, D. J., **Inshad Jum'h**, H. Baaziz, Z. Charifi, T. Ghellab, Ahmad Telfah, and Roland Hergenröder. "Structural, electronic, magnetic and thermoelectric properties of inverse Heusler alloys Ti_2CoSi, Mn_2CoAl and Cr_2ZnSi by employing Ab initio calculations." *Philosophical Magazine* Vol. 100 (12), 1636-1661, **2020**, https://doi.org/10.1080/14786435.2020.1731926

16. Alsaad, A. M., Qais M. Bataineh, A. A. Ahmad, **Inshad Jum'h**, Nabil Alaqtash, and Areen Bani-Salameh. "Optical properties of transparent PMMA-PS/ZnO NPs polymeric nanocomposite films: UV-Shielding applications." Materials Research Express Vol. 6, 126446, **2019**, **DOI** 10.1088/2053-1591/ab68a0.

17. Jameel, Dler Adil, John Fredy Ricardo Marroquin, Mohsin Aziz, Noor Alhuda Al Saqri, **Inshad Jum'h**, Ahmad Telfah, Mohamed Henini, and Jorlandio Francisco Felix. "Investigation of the effects of GaAs substrate orientations on the electrical properties of sulfonated polyaniline based heterostructures." Applied Surface Science, 144315. Vol. 504,144315, **2020**, https://doi.org/10.1080/14786435.2020.1731926

18. **Inshad Jum'h**, Marwan S. Mousa, Mahmoud Mhawish, Suhad Sbeih, Ahmad Telfah, "Optical and structural properties of (PANI-CSA-PMMA)/NiNPs nanocomposites thin films for organic optical filters." Journal of Applied Polymer Science Vol. 137 (18), 48643, **2020**, https://doi.org/10.1002/app.48643

19. Abdelhay, Arwa, **Inshad Jum'h**, Abeer Albsoul, and Dina Al Tarazi. "Dairy wastewater remediation using electrochemical oxidation on boron doped diamond anode (BDD)." Desalination and Water Treatment, Vol. 171 177–182, **2019**, doi: 10.5004/dwt.2019.24753

20. Yousef Al-Abdallat, **Inshad Jum'h**, Abeer Al Bsoul, Rami Jumah, Ahmad Telfah, "Photocatalytic Degradation Dynamics of Methyl Orange Using Coprecipitation Synthesized Fe_3O_4 Nanoparticles." *Water, Air, & Soil Pollution* Vol. 230:277, **2019**, https://doi.org/10.1007/s11270-019-4310-.

21. **I. Jum'h**, S. Sâad essaoud, H. Baaziz, Z. Charifi, A. Telfah, "Electronic and magnetic structure, elastic and thermal properties of Mn_2-based full Heusler alloys", J Supercond Nov Magn, DOI 10.1007/s10948-019-5095-3, **2019**. Vol. 32, pp 3915–3926. **2019**, https://doi.org/10.1007/s10948-019-5095-3
22. Abeer Al Bsoul, Mohammad Hailata, Arwa Abdelhay, Muhammad Tawalbeh, **Inshad Jum'h,** Khalid Bani-Melheme, "Treatment of olive mill effluent by adsorption on titanium oxide nanoparticles", Science of The Total Environment, Vol. 688, pp. 1327-1334, **2019**, https://doi.org/10.1016/j.scitotenv.2019.06.381

23. Riad Ababneha, Ahmad Telfah, **Inshad Jum'h**, Mohammad Abudayah, Yousef Al-Abdallat, Jörg Lambert, Roland Hergenröder, 1H NMR spectroscopy to investigate the kinetics and the mechanism of proton charge carriers ionization and transportation in hydrophilic/hydrophobic media: Methyl sulfonic acid as a protonic ion source in water/alcohol binary mixtures, Journal of Molecular Liquids, Vol. 265, 621-628, **2018**, https://doi.org/10.1016/j.molliq.2018.05.134

24. Ahmad Telfah, Mousa Jafar, **Inshad Jum'h,** Mais Jamil, Jörg Lambert, Roland Hergenröder, "Identification of relaxation processes in pure polyethylene oxide (PEO) films by the dielectric permittivity and electric modulus formalisms", Polymer for Advance Technology. Vol.29, 7, pp 1974-1987, **2018**, https://doi.org/10.1002/pat.4306

25. **Inshad. Jum'h**, Arwa. Abdelhay, Ahmad. Telfah, M-Ali Al-Akhras, Akeel. Al-Kazwini, Stefan. Rosiwal ,"Veratric acid removal from water by electrochemical oxidation on BDD anode". Materials Science and Engineering Journal.Vol 305, **2018**. **DOI** 10.1088/1757-899X/305/1/012021

26. **Inshad Jum'h**, Ahmad Telfah, Jörg , Lambert, Mikheil gogiashvili, Huessein Altaani, Roland Hergenröder, "^{13}C- and ^{1}H-NMR measurements to investigate the kinetics and the mechanism of acetic acid (CH3CO2H) ionization as a model for organic acids dissociation dynamics for polymeric membrane water filtration", Journal of Molecular Liquids, Vol 227 pp 106–113, **2017.** https://doi.org/10.1016/j.molliq.2016.11.108

27. **I. Jum'h**, M.S. Abd EL-Sadek, H. AL-Taani, I.S. Yahia, G. Karczewski, "Influence of Illumination on the Electrical Properties of p-(ZnMgTe/ZnTe:N)/CdTe/n-(CdTe:I)/GaAs Heterojunction Grown by Molecular Beam Epitaxy (MBE)", Journal of Electronic Materials, Vol. 46, No. 2, **2017**. https://doi.org/10.1007/s11664-016-5071-7

28. **I. Jum'h**, M. AL-Addous, H. AL-Taani, M.S. ABD El-Sadek, N. Ayoub. "Effect of Boron Concentration on Nano-crystalline Diamond Deposited on Niobium Substrates", Digest Journal of Nanomaterials and Biostructures 12 (2), 589-593, **2017.**

29. H. Al-Taani, **I. Jum'h**, M.S. Abd El-sadek, V. V. Dremova, "Super Sharp-Metal Tips for Combined Scanning Tunneling and Force Microscopy Based on Piezoelectric Quartz Tuning Fork Force Sensors", Digest Journal of Nanomaterials and Biostructures, Vol. 12, No. 1, p. 47 – 51, **2017.**
30. Arwa Abdelhay, Abeer Al Bsoul, Amani Al-Othman, Nada M Al-Ananzeh, **Inshad Jum'h**, Ahmed A Al-Taani, "Kinetic and thermodynamic study of phosphate removal from water by adsorption onto (Arundo donax) reeds", Adsorption Science & Technology, Vol 36, pp. 46-61, **2017.**
31. Abdelhay, Arwa, **Jumh Inshad**, Abdulhay, Enas, Al-Kazwini, Akeel, Alzubi, Mashael. "Anodic oxidation of slaughterhouse wastewater on boron doped diamond: process variables effect". Water Science and Technology. Vol 76, pp 3227-3235, **2017.**

32. **I. Jum'h**, W. AL Sekhaneh, H. AL-Taani, B. A. Al-Biss, "Preparation and cherctrization of high quality single walled carbon nanotube using ARC discharge technique", Digest Journal of Nanomaterials and Biostructures, Vol. 11, No. 2, pp. 517 – 523, **2016.**

33. **Inshad Jum'h**, Borhan Al-Biss, Slava.dremova, "Production of low-cost, high quality graphene and few layered graphene (FLG) on conductive substrate", Digest Journal of Nanomaterials and Biostructures, Vol. 11, No. 1, pp. 277 – 282, **2016.**

34. V. V. Dremova,, **I. Jum'h**, H. A. Harramova, and P. H. Müllerd, "A Method for Manufacturing a Probe for a Combined Scanning Tunneling and Atomic Force Microscope on the Basis of a Quartz Tuning Fork with a Supersharp Metal Tip", Instruments and Experimental Techniques, Vol. 56, No. 5, pp. 584–588, **2013.**

35. N. Fischer, M. Alam, **I. Jum'h**, M. Stocker, N. Fritsch, V. Dremov, F. Heinemann, N. Burzlaff, P. Müller, "trans-1,2-Bis(N-methylimidazol-2-yl)ethylene: Towards Building Block for 2D Fabrics and MML-Type Molecular Strands", Chem. Eur. J. 17,9293–9297, **2011.**
36. M. Gharaibeh, B. A. Al-Biss, **I. Jumah**, and I. Obaidat. Effective incorporation of nanoceria into polycrystalline MgB2. J. Appl. Phys 107, 063908, **2010.**

37. B. A. Albiss, W. Sakhaneh, **I. Jumah**, I. Obaidat, "NO_2 Gas Sensing Properties of ZnO/Single-Wall Carbon Nanotube Composites". Sensors Journal, IEEE 10, 1807 – 1812, **2010.**
38. Riad Ababneh, Maha Smadi, Nour Bensiradj, M-Ali Al-Akhras, Yusuf Al-Hiari, **Inshad Jum'h,** Rana Abu-Dahab, Mahmoud Telfah, Qais M. Al Bataineh, Ahmad Telfah, UV–Vis, FTIR and DFT Studies of the Fluoroquinolone [Pyrido Pyrolo Quinoxaline (PPQ)] Tethered to Gold Nanoparticles as a Novel Anticancer, Journal of Inorganic and Organometallic Polymers and Materials, DOI.10.1007/s10904-023-02596-x, **Accepted.**

Invited Speeches and Seminar Participation-Meetings, Conferences and workshops:

- **Conference:** 9th International Conference on Nanomaterials, Nanodevices, Fabrication and Characterization. PANI-CSA/TiO2 - Fe2NiO4 Nanocomposite Films: Optical, Morphological, and Structural Properties | London, United Kingdom, April 08 - 10, 2024.
- **Conference:** The 2023 Fall Meeting of the European Materials Research Society (E-MRS), Controlled Nanoscale Doping Effect on Metal-Polymer Nanocomposites Properties for Optoelectronics Application, September 18 to 21, 2023.
- **Conference National Committee:** International Conference, Humboldt Kolleg, "How to Change the World via Science", German Jordanian University, June 9-11, 2022.
- **Training of Trainers:** Advanced Innovation and Entrepreneurship Training of Trainers (ToT), Care Jordan 31.October to 11 November, 2021.
- **Conference:** participating in the international conference on INDUSTRY 4.0 ANDARTIFICIAL INTELLIGENCE (ICIAI 2021), Tunisia, Sousse 2021.
- **Organizing Committee and Speaker:** DAAD German Jordanian School 2020 (DGJS 2020), Virtual School, December 07-16, 2020.
- **Conference:** Scintefic commity of the international conference on INDUSTRY 4.0 ANDARTIFICIAL INTELLIGENCE (ICIAI 2021), Tunisia, Sousse 2020.
- **Seminar:** participating in the International DAADn Alumni-Seminar "Applied Engineering for Smart Integration of Renewable Energy in Value Chains in Developing Countries" at the University of Kassel in Witzenhausen (24. – 31.03.2019) and the subsequent visit of the "Hannover Messe 2019 " in Hannover (01.04. – 06.04.2019).
- **Conference:** Organizing commity of the international conference on current nanotechnology and its Applications (ICCNA2018) at Jordan university of science and technology 2018.
- **Seminar:** "Return or Stay" organized by the Centre for International Migration and Development (CIM) on Jordanian and Palestine, from 06.04. - 08.04.2018 in Berlin.
- **Conference:** the 2nd International Conference on Advanced Materials (ICAM-2017) at Jordan university of science and technology- Jordan 2017.
- Conference: International conference Fontiers in Theoretical and Applied Physics-UAE 2017, United Arab Emirates, February 2017.
- **Workshop:** At the School of Physics and Astronomy at Nottingham University 2016.

- **Workshop**: "Nanotechnology in Heavy Metal Removal and Water Treatment and scientific day of nanotechnology" in the fram work of a Collaboration between German Jordanian Universityand Jordan University of Science and Technology with the Leibniz Institute for Analytical Science-ISAS-e.V. from Dortmund, Germany, 26–28 April 2016.
- **Conference:** the International Conference Advanced Materials (ICAM2015), Jordan University of Science and Technology, Irbid, Jordan. April 2015.
- **Workshop:** "Heavy Metal Removal and Water Treatment" within the Collaboration Project BetweenGerman Jordanian University and Leibniz Institute for Analytical Science-ISAS-e.V. at German Jordanian University Campus, October 2015.
- **Conference**: International conference in Cairo" Network conference "Where do we go from here? – Perspectives on Equal Opportunity Policies at Egyptian and German Universities". Cairo University 2014.
- **Seminar:** International Summer School "Gender in Teaching", Campus der TU Berlin in El Gouna 2014.
- **Conference:** "One-dimensional coordination polymers: towards molecular wires", DPG March meeting, Dresden. Germany 2011.
- **Meetinge:** "Combined AFM/STM for imaging of nanostructures under ambient conditions", Klausurtagung des Interdisciplinary Center for Molecular Materials (ICMM) Universität Erlangen, Staffelstein, 2010.
- **Conference:** "Investigation of Hybrid nanostructures using AFM/STM based on tuning fork sensors", DPG March meeting, Regensburg, Geramny, 2010.
- **Spring School:** 40th IFF School, Spintronics from GMR to quantum Information, Julich, Germany, 2009.
- **Winter school:** Joint Universities Accelerator School (JUAS), the European Organization for Nuclear Research CERN, 2005.

Research Stay Abroad:

- **Staff mobility** (**October 2023**) at Schweinfurt, Germany, funded by Erasmus+.
- **GJU staff mobility** (**December 2022**) at Erlangen University, Germany, funded by GJU and DAAD.
- **Research stays** (**Summer 2015-2019**) at ISAS (Leibniz-Institute for Analytical science), Dortmund Germany funded by DAAD, Scientific Award for research, ISAS (Leibniz-Institute for Analytical science),
- **Research stay** (Summer 2014) at Leibniz-Institute for Analytical science funded by The Mobility Grant, The EU-Jordan Net II project.
- **Fellowship:** research stay (2013), at Institute of Metals Science and Technology, Erlangen- Nuremberg University, Germany., Germany, funded by DFG: German Research Foundation

Achievements, Honors and Awards:

- **The first prize (€10.000):** for Women and Girls in Science in Jordan, EU-program (SRTD II): "Support to Research, Technological Development and Innovation in Jordan, 2017.
- **The best proposal award** / short listed: The Elsevier Foundation Chemistry for Climate Action Challenge, 2022.
- **The best paper Award:** The 2nd International Conference on Industry 4.0 and artificial intelligence (ICIAI 2021), Tunisia, Sousse, 2021.
- **The best poster prize:** The international conference Frontiers in Theoretical and Applied Physics-UAE 2017, United Arab Emirates, 2017.
- **PhD Scholarship,** DAAD German Academic Exchange Service Germany, 2008.
- **Postgraduate certificate:** Joint Universities Accelerator School (JUAS) postgraduate certificate in Accelerator physics, the European Organization for Nuclear Research CERN, 2005.
- **M.Sc. Scholarship**, Jordan University of science and technology, 2003.

Professional Services:

- **Scientific evaluation member:** The Abdul Hameed Shoman Foundation Research Support Fund/ Jordan.
- **Scientific evaluation member:** Scientific Research Innovation Support fund (SRISF), Ministry of Higher Education & Scientific Research/ Jordan.
- **Consultant** : (Green Jordan) the Non-Governmental organization in Jordan.

- **Reviewer - local Journals:**
  - Jordan Journal of physic
  - The Jordan Journal of Biological Sciences

- **Reviewer-International Journals:**
  - Arabian Journal of Chemistry/Elsevier
  - Chemical Engineering and Processing – Process Intensification/Elsevier
  - Journal of Molecular Liquids/Elsevier
  - Nano-Structures & Nano-Objects/Elsevier
- **Ph.D Co-Supervisor, Master Co-Supervisor:** Different Jordanian universities
- **External Examiner:** Master thesis in different jordanian universitis**.**
- **Supervisor and Consultant: for** scientific projects Jordanian High School Student to Compete in Intel.

Associations Membership and Affiliations:

- The Association of Jordanian Women Academics, 2022-present.

- Organization for Women in Science for the Developing World (**OWSD**), 2018-present.

- Global ambassador of sustainability (**GAoS**), March 2023-Present
- German Physical Society (**DPG**), 2009 – present.
- The Centre for International Migration and Development (**CIM**), Germany, 2011-present
- The Middle East Network on Innovative Teaching and Learning (**MENIT**) supported by **The** Deutsche Gesellschaft Fur Internationale Zusammenarbeit (**GIZ**) GmbH.