

## **Khansaa Al-Essa**

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### **EXPERIENCE**

- 2013- Associate Professor, Department of Chemistry, Jerash University, Jordan.
- 2017-2018 A part- time lecturer, Faculty of Pharmacy, Jerash University, Jerash - Jordan.
- 2012- 2013 Visiting Scholar, Peter A. Rock Thermochemistry Laboratory and NEAT ORU 4415 Chemistry Annex, University of California, Davis, USA.
- 2011-2012 Lecturer, Department of Chemistry, Faculty of Science, Jordan University of Science and Technology, Irbid - Jordan.
- 2011-2012 Lecturer, Department of Chemistry, Faculty of Science, AL- al Bayt University, Mafraq- Jordan.

### **EDUCATION**

- 2006-2011 Ph.D. in Chemistry  
The University of Jordan, Amman, Jordan.  
Dissertation Title: Adsorption of Some Heavy Metal Ions on Modified Jordanian Kaolin Clay by Humic Acid. Academic Advisor: Prof. Fawwaz Khalili.
- 2000-2004 Masters of Science, Applied Chemistry, Jordan University of Science and Technology, Irbid- Jordan.  
Thesis Title: Reaction of Ciprofloxacin and Norfloxacin with Divalent Metal Ions. Academic Advisor: Dr. Jamil Ahmed.
- 1996-2000 Bachelors of Science, Applied Chemistry, Jordan University of Science and Technology, Irbid- Jordan.

## **RESEARCH EXPERIENCE**

2000            Research Assistant, Medicinal Chemistry and Drug laboratory, Faculty of pharmacy, Jordan University of science and technology, Irbid- Jordan.

## **TEACHING EXPERIENCE**

2008-2011     A part- time lecturer, Department of Chemistry, Faculty of Science, the University of Jordan, Amman-Jordan.

2007-2008     A part- time lecturer, Department of Chemistry, Faculty of Science, University of Science and Technology, Irbid-Jordan.

2001            Teaching Assistant, Department of Chemistry, Faculty of Science, Jordan University of Science and Technology, Irbid-Jordan.

## **MASTER THESIS EXAMINING COMMITTEE**

**1- Mais T. Al-Zu'bi (2016) "USING NANOPARTICLES TO REMOVE HEAVY METALS FROM WASTEWATER" Chemical Engineering Department, Jordan University of Science and Technology.**

**2- Odai Al Husainat (2017) "HEAVY METALS REMOVAL FROM WASTE WATER USING MAGNETIC NANOPARTICLES" Chemical Engineering Department, Jordan University of Science and Technology.**

**3- Fatimah Mamdouh Rezeq (2018) "THE EFFECT OF CHLORPROMAZINE ON THE GROWTH RATE OF LUCILIA SERICATA (MEIGEN) (DIPTERA: CALLIPHORIDAE) FOR FORENSIC POST-MORTEM INTERVAL DETERMINATION" Forensic Science and toxicology Department, Jordan University of Science and Technology.**

**4- Zain Salam Khasawneh (2019) "QUANTITATIVE ANALYSIS OF AMINO ACIDS IN SCALP HAIR OF AUTISTIC JORDANIAN CHILDREN" Department of Chemistry, Jordan University of Science and Technology.**

**5- Ahmad Rafiq Mohammad (2019) "DEVELOPMENT OF NANOHYBRID MATERIALS CONSISTING OF GRAPHENE OXIDE AND OXIDIZED CARBON NANOTUBES FOR REMOVAL OF PHARMACEUTICAL DRUGS FROM AQUEOUS SOLUTIONS" Department of Chemistry, Jordan University of Science and**

## **Technology.**

**6- Eman Nathim Hammad (2020) "QUANTIFICATION OF AFLATOXINS IN FREQUENTLY CONSUMED HERBAL MEDICINES" Forensic Science and toxicology Department, Jordan University of Science and Technology.**

**7- Lubna Nasser Al-Banna (2020) "SYNTHESIS OF ACTIVATED CARBON DERIVED FROM DATE PITS FOR THE REMOVAL OF PHARMACEUTICAL DRUGS FROM AQUEOUS SOLUTIONS" Chemical Engineering Department, Jordan University of Science and Technology.**

**8- Mohammad Mahmoud Ananbeh (2020) "EARLY POSTMORTEM TIME-COURSE OF METHOMYL TOXICOKINETIC AND TOXICODYNAMIC" Forensic Science and toxicology Department, Jordan University of Science and Technology.**

**9- Haneen Jamal Abuu Ganem (2021) "IMMUNOTOXICITY OF CIPROFLOXACIN IN RATS AND PROTECTIVE EFFECT OF VITAMIN C" Forensic Science and toxicology Department, Jordan University of Science and Technology.**

## **EQUIPMENTS IAM PROFESSIONAL TO USE**

- (Varian Spectra AA-250 pulse) atomic absorption spectrometer (AAS).
- UV-VIS Spectrophotometer (Varian Cary100).
- Freeze-dryer (ALPHA 1-4).
- Fourier transform infrared (Thermo Nicolet NEXUS 670 FT-IR Spectrophotometer).
- X-ray diffraction (Philips Xpert pro).
- Elemental analysis (Euro Vector 3000 Elemental Analyzer).
- Thermal gravimetric analysis (NETZCH STA 409 PG/PC Thermal Analyzer).
- Scanning electron microscope (The FEI inspect F50 scanning electron microscope) and the energy dispersion spectrum (EDS).
- Surface area, (Gemini VII) instrument from micromeritics according to Langmuir surface area method which is based on the isothermal adsorption of nitrogen.
- Mercury Porosimetry Analyzer instrument (Model: PM-60-13) from Quantachrome Instruments.

## **PERSONAL SKILLS**

- Bilingual, intelligent and dynamic person.
- Excellent communication skills at all levels and ability to communicate well with others.
- Self-motivated hard working, team worker and open minded.
- Expert knowledge in the use of modern analytical instruments and techniques.
- Experience in ability to work with guidance from supervisors and collaborators.
- Good computer skills.
- Exemplary ethical conduct of integrity, honesty, and mutual respect, both intellectually and in interpersonal workplace interactions.
- Work cross-functionally and collaboratively, and exhibit willingness to learn new techniques associated with other functions.
- Analyze data and report findings in written and oral presentations for staff and facility collaborators.
- Participate in group meetings.
- Assist with training and managing the workflow of other technical staff.
- Maintain an accurate and detailed scientific logbook of all experiments performed.

## **PUBLICATIONS**

### **Peer reviewed:**

**1- Khansaa Al-Essa** and Fawwaz I. Khalili, Sorption of Pb(II) Ions by Kaolinite Modified with Humic Acids, Journal of Environmental Science and Engineering A, 2016; 5(8): 416-431.

**2- Khansaa Al-Essa** and Fawwaz Khalili, Adsorption of Humic Acid onto Jordanian Kaolinite Clay: Effects of Humic Acid Concentration, pH, and Temperature, Science Journal of Chemistry, 2018; 6(1): 1-10.

**3- Khansaa Al-Essa** and Fawwaz Khalili, Heavy Metals Adsorption from Aqueous Solutions onto Unmodified and Modified Jordanian Kaolinite Clay: Batch and Column Techniques, American Journal of Applied Chemistry, 2018; 6(1): 25-34.

**4- Khansaa Al-Essa**, Olive Mill Wastewater Treatment Using a Simple Raw and Purified Jordanian Bentonite Based Low-Cost Method, Asian Journal of Chemistry, 2018; 30(2): 391-397.

**5- Khansaa Al-Essa**, Activation of Jordanian Bentonite by Hydrochloric Acid and Its Potential for Olive Mill Wastewater Enhanced Treatment, Journal of Chemistry (Hindawi) 2018; Volume 2018, Article ID 8385692, 10 pages.

**6- Khansaa Al-Essa**, NaCl – Activated Jordanian Bentonite for Olive Mill Wastewater Treatment: Evaluation of Physicochemical Properties, Adsorption of Phenolic

Compounds: Isotherms and Thermodynamic Studies, Research Journal of Pharmaceutical, Biological and Chemical Sciences, May–June 2018; 9(3): 1362- 1384.

**7- Khansaa Al-Essa**, A.V. Radha, Alexandra Navrotsky, Calorimetric Measurement of Interface Enthalpy of Nano crystalline Silver (I) Oxide ( $\text{Ag}_2\text{O}$ ), Nano Research & Applications, 2018; 4: 112, DOI: 10.21767/2471-9838-C6-025, ISSN 2471-9838.

**8- Khansaa Al-Essa**, Adsorption of Humic Acid onto Kaolinite Clay: A Mini-Review, Journal of Chemical Science and Engineering, January 2019; 2(1): 53-57.

**9- Khansaa Al-Essa**, A.V. Radhal and Alexandra Navrotsky, Drop Solution Calorimetric Studies of Interface Enthalpy of Cubic Silver (I) Oxide ( $\text{Ag}_2\text{O}$ ) Nanocrystals, Key Engineering Materials, September 2020; 878: 73-80. ISSN:1013-9826 (print), 1662-9795 (online).

**10- Khansaa Al-Essa**, and Ethar M. Al-Essa, Effective Approach of Activated Jordanian Bentonite by Sodium Ions for Total Phenolic Compounds Removal from Olive Mill Wastewater, Journal of Chemistry, 7 July 2021 ,Volume 2021, Article ID 7405238, 16 pages, <https://doi.org/10.1155/2021/7405238>

**11- Khansaa Al-Essa**, Kristina I. Lilova, Lei Zhang, and Alexandra Navrotsky, A Novelty Analytical Approach to Determine Oxidation States in Complex Refractory Oxides Containing Iron, Uranium, Cerium and Other Mixed Valence Cations, Key Engineering Materials, 21 Jan 2022, Vol. 907, pp 77-82, ISSN: 1662-9795, <https://doi.org/10.4028/www.scientific.net/KEM.907.77>

**12- Shreen Deeb Nusair**, Mohammad Ibrahim Ahmad, Tamam M. El-Elimat, **Khansaa Al-Essa**, Luay Fawzi Abu-Qatouseh, Rawand Khasawneh " Methanolic extract of Eryngium creticum Lam leaves, flowers and roots: Quantification and qualification of phenolic contents, antitumor effect and antioxidant capacity", Journal of Research in Pharmacy. 2022, Vol 26, Issue 4, pp 770-780. <http://dx.doi.org/10.29228/jrp.174>.

**13- Abdulaziz N. Amro**, **Khansaa Al-Essa**, Ethar M. Al-Essa, Abbas I. A. Alakhras, Mohammad Habib, and Taleb Odeh, A study on the Ability of Processed Squeezed Bitter Almond for the Removal of Cadmium Ions from Contaminated Water, Desalination and Water Treatment, **Accepted**.

#### **Editorial work:**

- Associate Editor: **Journal of Analytical & Pharmaceutical Research**
- Editorial Board Member: **Journal of Chemical Science and Engineering**
- Reviewer: **Journal of Applied Chemical Science International, Journal of Chemical Science and Engineering, Journal of Materials Science Research**

and Reviews, Journal of advanced Sciences and Engineering Technologies, Jordan  
Journal of Chemistry

## **AWARDS**

- Support to Research, Technological Development and Innovation in Support to Research and Technological Development & Innovation Initiatives and Strategies in Jordan (SRTD II), European Union Funded Project, Budget line BGUE-2011-19.080101-CI-DEVCO, Reference: SRTD/2014/GRT/AR/2321, Jerash University, Jordan.
- ICAM-I2CAM Junior Scientist Exchange Awards, 2012, University of California, Davis, USA.

## **PROFESSIONAL CONFERENCES AND POSTERS**

**Oral presentation** of the Global Summit on Nanotechnology and Materials Science (GSNMS – 2022), August 17-19, 2022, Nice, France, organized by Wisdom Meetings. (<https://www.wisdommeetings.com/nanotechnology/>)

- **Technical Committee Member and Session Chair** (5th International Conference on Materials Sciences and Nanomaterials, <http://www.icmsn.org/2020.html>, <http://www.icmsn.org/2021.html>, **6th ICMSN-London, UK**)
- Best oral presentation of the 5th International Conference on Materials Sciences and Nanomaterials (ICMSN 2021), London, United Kingdom during July 13-15, 2020. <http://www.icmsn.org/index.html>
- Best oral presentation of the 4th International Conference on Materials Sciences and Nanomaterials (ICMSN 2020), Cambridge, United Kingdom during July 08-10, 2020. <http://www.icmsn.org/2020.html>
- Poster presentation and attended the International Research Conference on “**Structure and Thermodynamics of Oxides at High Temperature** October 20 – 22, 2016” University of California, Davis.
- Poster presentation and attended the International Conference on Advanced Materials (ICAM2015), April 27-29, 2015, Jordan University of Science and Technology, Irbid, Jordan.
- Poster presentation and attended the 14 th Jordanian chemical conference, (selected as one of the most excellent posters), April 8, 2015, Al al Bayt University, Mafraq, Jordan.

- Poster presentation and attended the IMI-ICAM and NSF Site Visit, January 28-29, 2013, University of California, Davis, USA.

Poster title: **"New Analytical Approach to Determine Oxidation States of Bulk and Nano Metals and in Complex Refractory Oxides Containing Iron, Uranium, Cerium and Other Mixed Valence Cations"**

- Participated in Junior Scientists discussion with the NSF Committee. January 28, 2013, University of California, Davis, USA.
- Oral presentation in the International Conference of Young Chemists (ICYC), April 8 - 10, 2012, Amman- Jordan.
- Poster presentation and attended the 11th Eurasia Conference on Chemical Science, October 6-10, 2010, the Dead Sea – Jordan.
- Attended the Sixth Jordanian International Conference of Chemistry, April 19-21, 2011, Yarmouk University, Irbid - Jordan.

## **WORKSHOPS**

- Training Program for STEM Early Career Academics in the Jordanian Universities: Navigating Research Excellence, from British Council, 20-21 November 2019, Philadelphia University.
- Presence "Jordan-European Union Higher Education: Regional Cooperation Day" 4 November 2019, Erasmus+ program of the European Union, Al al Bayt University, Mafraq, Jordan.
- Presence "Chemical Security Seminar (III), 27-30 August 2017, Amman, Jordan.
- Participated with oral presentation in "Winter Workshop 2015 on Heavy Metal Removal and Water Treatment within the Collaboration Project Between German Jordanian University and Leibniz Institute for Analytical Science-ISAS - e.V", October 18 – 22, 2015, German Jordanian University Campus, Jordan.
- Presence "Orientation, Networking & Brokerage Workshop" for SRTD-II Grant Beneficiaries, organized by the SRTD-II Project in collaboration with the "Enhancement of Jordan-European S&T Partnership (EU-JordanNet II)", May 23-24, 2015, Geneva Hotel, Amman, Jordan.
- Presence **"Nanotechnology, The Very Big Potential of the Very Small"** about "Gold nanorod assisted near-infrared plasmonic photothermal therapy (PPTT) of squamous cell carcinoma in mice" by: Mostafa A. El-Sayed, Georgia Institute of Technology Department of Chemistry and Biochemistry, Atlanta, Georgia, USA in Sixth Jordanian International Conference of Chemistry, from April 19, 2011, Yarmouk University, Irbid - Jordan.

- Attended Plenary Lecture on **Material Science and Nanochemistry**, Molecular composites: A Sub-nano approach to material design. By George Zahr, USA, in the 11th Eurasia Conference on Chemical Science from October 6-10, 2010, the Dead Sea – Jordan.

## **PROFESSIONAL TRAINING**

2018 Jordan chemical security seminar IV, Oak Ridge National Laboratory, The U.S. Department of State's/ Chemical Security Program, August 27-30, 2017, Amman, Jordan.

2015 On-Site-Training on HORIZON 2020, May 17, 2015, **Jordan** University of Science and Technology, Irbid, Jordan.

Horizon 2020 is the biggest European Union Research and Innovation programme. It promises more breakthroughs, discoveries and world-firsts by taking great ideas from the lab to the market.

2012 Analytical X-ray Safety course, September 11, 2012, University of California, Davis, USA.

1999 Training course at Jordan Standards and Metrology Organization, Amman – Jordan.

It Mission, to practice an initiative and effective role in protecting human's health, safety, and rights as well as the environment. Furthermore, enhancing confidence in services and national products as well as those put into markets, through developing and implementing systems that are compatible with best international practices in the fields of standardization, metrology, conformity assessment, market surveillance, accreditation and knowledge management, in cooperation with stakeholders and through providing a supportive environment internally and externally. "<http://www.jism.gov.jo/>"

## **EXTRACURRICULAR EXPERIENCE**

2004 Training course "**World Links**", empowering youth worldwide through technology,

World Links Arab Region is the Arab holding of World Links. The mission is to improve educational outcomes, economic opportunities and global understanding for youth in the Arab region through the use of technology and the Internet.

## **PROFESSIONAL MEMBERSHIPS AND COMMUNITY SERVICE**

- Jordanian Chemical Society
- Association of Jordanian Women Academics



## **COURSES TAUGHT**

- General Chemistry (I)
- General Chemistry (II)
- Analytical Chemistry
- Instrumental Analysis Chemistry
- Chemical Separation Methods
- Environmental Chemistry
- Pollution and industrial Safe
- Literature Seminar
- Practical Training in Chemistry
- Nuclear Chemistry
- Pharmaceutical analytical Chemistry (I and II)
- Pharmaceutical Instrumental Analysis Chemistry
- General Chemistry Lab(I)
- General Chemistry Lab(II)
- Analytical Chemistry Lab
- Instrumental Analysis Chemistry Lab

