



# MAHMOUD ABUALHAIJA

*Associate Professor and Researcher*

## SUMMARY

*DR. ABUALHAIJA is an experienced Associate Professor and Researcher of environmental sciences/environmental chemistry at the University of Jordan. He obtained his PhD from the University of Liverpool in the United Kingdom. DR. ABUALHAIJA has 15+ years of experience performing data analysis, conducting field research, and teaching environmental sciences courses. He is skilled in conducting environmental sciences/environmental chemistry and pollution research, analyzing results, publishing high-impact research, and creating reports.*

## RESEARCH INTERESTS

*DR. ABUALHAIJA possesses specialized expertise in environmental pollution, biogeochemistry of natural waters, biopolymers composites, biomaterials, marine electrochemistry, heavy metals and nutrients in natural waters, chemical speciation of trace elements in the environment, water quality, wastewater pollutants, water treatment, water resources management and, EIA. He has been extensively involved in and led many local, regional, and international academic and research activities. He also has a significant publication record in environmental sciences and environmental chemistry.*

### **CONTACT**

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### **EMAIL**

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[mah.abualhaija@gmail.com](mailto:mah.abualhaija@gmail.com)

### **WEBSITES**

Jordan University:  
<https://eacademic.ju.edu.jo/M.abualhaija/default.aspx>

### **Google Scholar:**

<https://scholar.google.com/citations?user=Y9BIX6wAAAAJ&hl=en>

### **Scopus:**

<https://www.scopus.com/authid/detail.uri?authorId=56244957800>

### **Researchgate:**

<https://www.researchgate.net/profile/Mahmoud-Abualhaija>

### **ORCID:**

<https://orcid.org/0000-0002-4341-5308>

### **LinkedIn:**

<https://www.linkedin.com/in/mahmoud-abualhaija-5a0186b2/>

# CURRICULUM VITAE

## Dr. Mahmoud Abualhaija

Associate Professor and Researcher of environmental sciences/environmental chemistry at the University of Jordan

### EDUCATION ▾

- **Ph.D. Degree in ENVIRONMENTAL SCIENCES/ENVIRONMENTAL CHEMISTRY**  
Faculty of Science and Engineering, November 2015  
**Liverpool University**  
Liverpool, United Kingdom
- **Master's Degree in ENVIRONMENTAL SCIENCES/ENVIRONMENTAL CHEMISTRY**  
Faculty of Science (Evaluation: Excellent (rate: 91.9) 1<sup>st</sup> Class Honors), February 2009  
**Yarmouk University**  
Irbid, JORDAN
- **Bachelor's Degree in ENVIRONMENTAL SCIENCES/ENVIRONMENTAL CHEMISTRY**  
Faculty of Science (2<sup>nd</sup> Class Honors), June 2005  
**Jordan University of Science & Technology**  
Irbid, JORDAN

### RESEARCH STUDIES (UNIVERSITY THESES AND GRADUATE PROJECTS) ▾

- **In Ph.D., Thesis title:** "Chemical speciation of iron with humic ligands in estuarine and coastal waters".
- **In Master, Thesis title:** "Nutrients and Selected Heavy Metals in Water, Suspended Matter and Sediments of King Talal Dam".
- **In Master, special topics course:** research on "Long-Term Accumulation of Heavy Metals (Trace Elements) In Water, Sediments, and Biota of King Talal Dam".
- **In Bachelor's, Graduate Project:** entitled "Olive Mills Effluent (ZEBAR) as a Byproduct in Jordan".
- **In Bachelor's, Teamwork Project:** with Swiss MSc Students, entitled "Olive Mill Byproduct, Environmental Hazardous Substances, and Cleaner Production".

### PROFESSIONAL EXPERIENCE ▾

<b>2023 – up to date</b>	<b>Associate Professor and Researcher – Water, Energy, and Environment Center.</b> The University of Jordan-Amman, Jordan ( <a href="http://www.ju.edu.jo">www.ju.edu.jo</a> ).
<b>2016-2023</b>	<b>Assistant Professor and Researcher – Water, Energy, and Environment Center.</b> The University of Jordan-Amman, Jordan ( <a href="http://www.ju.edu.jo">www.ju.edu.jo</a> ).
<b>2017-2019</b>	<b>Head of The Laboratory Department at Water, Energy and Environment Center.</b> The University of Jordan-Amman, Jordan ( <a href="http://www.ju.edu.jo">www.ju.edu.jo</a> ).
<b>2015-2016</b>	<b>Assistant Professor - Faculty of Basic and Marine Sciences.</b> The University of Jordan-Aqaba, Jordan
<b>2014– 2015</b>	<b>Teaching Assistant- University of Liverpool</b> Liverpool, United Kingdom ( <a href="http://www.liv.ac.uk">www.liv.ac.uk</a> ).
<b>2010 – 2011</b>	<b>Teaching Assistant- Faculty of Basic and Marine Sciences.</b> The University of Jordan-Aqaba, Jordan
<b>2007 – 2008</b>	<b>Research and Teaching Assistant - Faculty of Sciences- Department of Earth and Environmental Sciences</b> Yarmouk University, Irbid, Jordan ( <a href="http://www.yu.edu.jo">www.yu.edu.jo</a> )

# CURRICULUM VITAE

2007-2010

**Science Teacher (Biology, Geology, and Chemistry) for Secondary and Preparatory Schools at the Jordanian Ministry of Education.**

Several different schools -Irbid – JORDAN

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## RESEARCH INTERESTS ▾

- The biogeochemistry of natural waters.
- Water Quality.
- Environmental pollution.
- Trace elements (heavy metals) and nutrients in natural waters.
- Electroanalytical chemistry
- Marine electrochemistry
- Voltammetry (metal speciation).
- Biopolymers composite and biomaterials.
- Wastewater pollutants.
- Environmental management.
- Water resources management
- Environmental impact assessment.

## PUBLICATIONS, CONFERENCES, WORKSHOPS, SEMINARS, etc. ▾

### ***Scientific Publications***

- Mohammad AH, Odeh T, **Abualhaija M**, Shatanawi K and Halalshe M (2024). Application of the fuzzy analytic hierarchy process for water resources in the Wadi AlHasa catchment, Jordan. *Journal of Water and Land Development*, 100-111. doi:<https://doi.org/10.24425/jwld.2024.149112>.
- Abdulhameed, A.S., Al Omari, R.H., **Abualhaija, M.** and Algburi, S (2024). Chitosan/modified sidr (*Ziziphus spina-christi*) tree leaves biocomposite for removal of methylene blue dye: characterization, adsorption optimization, isotherms, and kinetics. *Biomass Conversion and Biorefinery*. 1-15. doi: <http://doi.org/10.1007/s13399-024-06268-9>
- Abdulhameed AS, Al Omari RH, **Abualhaija M** and Algburi S (2024). Chitosan polymer/ functionalised rambutan peel using carboxylic acid: process optimisation using Box-Behnken Design for brilliant green dye removal (2024). *International Journal of Environmental Analytical Chemistry*, 1-21. doi:<https://doi.org/10.1080/03067319.2024.2392638>
- Abdulhameed AS, Al Omari RH, Bourchak M, Abdullah S, **Abualhaija M** and Algburi S (2024). Bio-sourced multifunctional adsorbent of chitosan and adipic acid activated-dragon fruit peels for organic dye removal from water: Eco-friendly management and valorization of biomass. *Biomass and Bioenergy* 190: 107414. doi:<https://doi.org/10.1016/j.biombioe.2024.107414>.
- Abdulhameed AS, Al Omari RH, Younes MK, **Abualhaija M** and Algburi S (2024). Highly efficient adsorption of eosin yellow dye from aqueous solutions using polymer-based nanocomposite developed from cross-linked chitosan-citrate and Co2O3 nanoparticles. *Surfaces and Interfaces*, 54: 105146. doi:<https://doi.org/10.1016/j.surfin.2024.105146>.
- Maisa'a WS, Shatanawi K, Al-Zamil M and **Abualhaija MM** (2023). A LONG-TERM ESTIMATION AND MODELING OF DOMESTIC WATER RESOURCES IN THE YARMOUK RIVER BASIN-JORDAN. *Water Conservation & Management*, 7(2): 107-113.
- Maisa'a WS, Shatanawi K and **Abualhaija MM** (2023). Influence of Population Growth on Supply, Demand, and Quality Issues of Water Resources in the Yarmouk River Basin in Jordan. *Journal of Experimental Biology and Agricultural Sciences*, 11(1): 171-178.
- **Abualhaija, M.**, 2023. Applying the quality and pollution indices for evaluating the wastewater effluent quality of Kufranja wastewater treatment plant, Jordan. *Water Conservation and Management*, 7(1):22-27.
- **Abualhaija, M.** and Shammout, M., 2022. Effects of the COVID-19 Pandemic Lockdown on the Quality and Pollution of Irrigation Water in the Dams of Jordan. *Sustainability*, 14(21): 14596.
- **Abualhaija, M.M.** and Mohammad, A.H., 2021. Assessing Water Quality of Kufranja Dam (Jordan) for Drinking and Irrigation: Application of the Water Quality Index. *Journal of Ecological Engineering*, 22(9): 159-75.
- Maisa'a WS, Shatanawi K, Al-Bakri J and **Abualhaija MM** (2021). Impact of Land Use/Cover Changes on the Flow of the Zarqa River in Jordan. *Journal of Ecological Engineering*, (22): 40-50.

# *CURRICULUM VITAE*

- Mohammad A.H., Hazimeh, W., Shatnawi, K. and **Abualhaija, M.M** (2020). Quantity not quality: promoting sustainable wastewater practices in Jordan. *Water Policy*: 1-14.
- **Abualhaija, M.M.**, Shammout, M.W., Mohammad A.H. and Abu Hilal, A.H (2020). Assessment of Reservoir Water Quality Using Water Quality Indices: A Case Study from Jordan. *International Journal of Engineering Research and Technology*. 13(03): 397-406.
- **Abualhaija, M.M.**, Shammout, M.W., Mohammad, A.-H. and Hilal, A.H.A., 2019. Heavy Metals in water and sediments of King Talal Dam the largest Man-Made Water Body in Jordan. *Water and Energy International*, 62(5): 49-62.
- Shammout, M.W and **Abualhaija, M.M.** 2020. An analysis of long-term yearly water flow trend and its impact on sediment yield in King Talal dam. *International Journal of Engineering Research and Technology*, 12(12): 3041-3049
- Mohammad, A., **Abualhaija, M.** and Shammout, M., 2018. Chemical Indices of Water Quality in the Zarqa River-Jordan: Concentrations of Major Cations and Water Suitability for Irrigation. *International Journal of Applied Engineering Research*, 13(1): 697-706.
- **Abualhaija, M.M.**, Whitby, H. and van Den Berg, C.M.G., 2015. Competition between copper and iron for humic ligands in estuarine waters. *Marine Chemistry*, 172(0): 46-56.
- Mahmood, A., **Abualhaija, M.M.**, van den Berg, C.M.G. and Sander, S., 2015. Organic speciation of dissolved iron in estuarine and coastal waters at multiple analytical windows. *Marine Chemistry*, 177(0): 706-719.
- **Abualhaija, M.M.** and van den Berg, C.M.G., 2014. Chemical speciation of iron in seawater using catalytic cathodic stripping voltammetry with ligand competition against salicylaldoxime. *Marine Chemistry*, 164(0): 60-74.
- Abu Hilal, A.H. and **Abualhaija, M.M.**, 2010. Nutrients in Water and Sediments of King Talal Dam-Jordan. *Jordan Journal of Biological Sciences (JJBS)*, 3(3): 87-100.

## **Conferences**

- Attended the 8th International Electronic Conference on Water Sciences: Innovative Trends to Reshape Water Science, Technology, and Engineering, organized by the Water Journal and the Multidisciplinary Digital Publishing Institute (MDPI) from October 14 to 16, 2024.
- Attended the 43rd WEDC International Conference on "Water and Climate Resilience", organized by the Water, Engineering, and Development Centre (WEDC) at Loughborough University, UK, from 9-13 September 2024.
- World Water Week 2024, held at the Waterfront Congress Centre in Stockholm from August 25 to 29, 2024. The theme for this event was "Bridging Borders: Water for a Peaceful and Sustainable Future," and it was organized by the Stockholm International Water Institute (SIWI).
- The international conference entitled "Water security and climate change". Hanoi, Vietnam, 1-4 March 2021.
- 5th IWA International Conference on "Water and Wastewater Technologies in Ancient Civilizations: Evolution of Technologies from Prehistory to Modern Times" (Dead Sea, Jordan, 11-13 September 2019). Dr. Abualhaija was a member of the organizing committee.
- Local conference on "Updates in Infectious Diseases and Antibiotic Resistance in Jordan," held at the University of Jordan, Amman, in 2018. I attended this conference to explore the topic from an environmental perspective.
- The 16th Jordanian Chemistry Conference: Five Decades of Chemistry in Jordan - Challenges and Accomplishments. October 10, 2019, University of Jordan, Amman.
- The International Ocean Sciences Conference 2016 (February 21-26, New Orleans, Louisiana, USA). We presented our paper, titled "Iron Binding Ligands in the Ocean are Similar to Humic Substances." Co-authored by esteemed researchers S. van den Berg, M. Abualhaija, and M.J. Rijkenberg, this work is identified as CT31A-05 in the American Geophysical Union's records.
- International conference about "WEFE Nexus for Human Security in the Post-Pandemic Era "Building Bridges Towards Human Security". 26 September 2021. Amman, Jordan.
- International conference entitled "Water Security and Climate Change (WSCC2022) - Adaptation for sustainable and resilient development". Bangkok, Thailand. 1-3 October 2022.
- The international conference titled "Organic Ligands: A Key Control on Trace Metal Biogeochemistry in the Ocean", Croatia, 2015. I Presented my work through a talk and poster on "Humic Substances and Iron Complexation in Shelf Seawaters" by M.M. Abualhaija. This event provided a platform for discussing the critical role of organic ligands in influencing trace metal biogeochemical processes in marine environments.
- Liverpool Marine Conference (The University of Liverpool. United Kingdom, January 2015). Talk and poster presentations about "Iron Complexation by Humic Substances in Estuarine Waters by Abualhaija, M.M."
- International ElectrochemNW Conference, University of Liverpool, United Kingdom, June 2014. Our presentation was on "Chemical Speciation of Iron in Seawater Using Catalytic Cathodic Stripping Voltammetry."
- PGR conference held at the University of Liverpool, UK, in May 2012, 2013, and 2014 (talk presentations).

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- PRIMES (Postgraduate Research in Marine and Earth Science) conference. I presented a talk on "Speciation of Iron in Seawater". The University of Southampton, United Kingdom, in November 2013.
- ASLO conference. USA. 2013. (poster presentation)

## **Workshops**

- I organized and coordinated a training workshop on the Ion Chromatograph device in collaboration with the Swiss company Metrohm. The workshop took place at the University of Jordan's Water, Energy, and Environment Center, where I was in charge of the laboratories at that time.
- I was one of the organizers and coordinators of a workshop titled "Providing the Highest Quality Biomaterials for a Safer, Healthier World," in collaboration with Al-Shaker Company and Al-Sami Company. The workshop took place at the University of Jordan's Water, Energy, and Environment Center, where I was responsible for managing the Center's laboratories at that time.
- I organized and coordinated a training workshop on "Mass Spectroscopy Devices" in collaboration with the Swiss company Metrohm. The workshop took place at the University of Jordan's Water, Energy, and Environment Center, where I was responsible for overseeing the center's laboratories at that time.
- As a speaker and a member of the host committee, I participated in a workshop titled "Mercury and Mercury Compounds: Results of the Initial Mercury Assessment in Jordan." The workshop took place at the Water, Energy, and Environment Center at the University of Jordan, in collaboration with the United Nations Development Programme (UNDP) and the Jordanian Ministry of Environment.
- An online training workshop organized by ELSEVIER titled "How to Be Well Prepared Before Publishing."
- A training workshop titled "Writing Research Papers Using LaTeX," held at the University of Jordan and organized by the Accreditation and Quality Assurance Center.
- A training workshop on "Best Practices for Completing the Initial Application for the Scientific Research and Innovation Support Fund" and addressed researchers' questions, held at the Ministry of Higher Education and Scientific Research.
- A workshop focused on sustainable production and consumption patterns, as well as the impact of these patterns on the environment, within the framework of the Switch Med initiative funded by the European Union.
- A workshop titled "Water Security in Jordan: From Data to Decision," held at the Geneva Hotel in Jordan, where I represented the University of Jordan.
- I also took part in a workshop on "Developments in Solid Waste Management in Jordan," hosted at the Jordan Engineers Association.
- Participation in a training workshop titled "Web of Science" was conducted at the University of Jordan, organized by the Accreditation and Quality Assurance Center.
- A training workshop organized by the Accreditation and Quality Assurance Center at the University of Jordan, titled "Designing Effective PowerPoint Presentations - Camtasia Software".
- A workshop organized by Springer Nature titled "Step-by-step Guide on How to Prepare a Successful Paper - Jordan".
- A workshop organized by Springer Nature, the workshop's title was "Academic Publishing & Enhancing Research Effectiveness".
- A workshop titled "Proposal Writing for EU Funding Opportunities" was organized by the Higher Council for Science and Technology (HCST).
- A workshop at the University of Jordan Library titled "Practical Training on How to Search in ProQuest Databases".
- A workshop organized by the Foundation supporting PRIMA projects, in collaboration with the Higher Council for Science and Technology (HCST), was held online titled "PRIMA Proposal Writing Workshop and Info Session."
- Attended a workshop organized by Wiley titled "How to Get Published in an Academic Journal."
- Attended a "Gray Water Treatment Technology" workshop at the University of Jordan's Water, Energy, and Environment Center.
- Participated in an international workshop on the "Speciation of Iron in Seawater." During this workshop, I presented "Speciation of Iron in Seawater Using Catalytic Cathodic Stripping Voltammetry with Ligand Competition Against Salicylaldoxime," held at Liverpool University in the United Kingdom in April 2014.

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## Seminars, Courses, and Other Activities

- I organized and coordinated a training course on "Public Safety in Dealing with Hazardous Materials and Proper Procedures for Handling Chemical Accidents in Laboratories." This course was conducted in cooperation with the Civil Defense in Jordan and took place at the University of Jordan's Water, Energy, and Environment Center, where I was responsible for the Center's laboratories at that time.
- A training course organized by the Accreditation and Quality Assurance Center at the University of Jordan, titled "How to Publish in Scopus & Web of Science: Facts and Tips".
- A training course organized by the Accreditation and Quality Assurance Center at the University of Jordan titled "How to Increase Your Citation."
- Participation in a training course on managing websites for educators was conducted at the University of Jordan, organized by the Accreditation and Quality Assurance Center.
- Participation in a training course on e-learning, held at the University of Jordan, hosted by the Centre for Accreditation and Quality Assurance.
- Participation in a training course on the statistical program SPSS, held at the University of Jordan and organized by the Deanship of Scientific Research.
- Participation in a training course on "quality assurance procedures and models" was held at the University of Jordan, organized by the Accreditation and Quality Assurance Center.
- A training course organized by the Deanship of Scientific Research at the University of Jordan, titled "How to Apply for PRIMA Projects".
- A training course organized by the Deanship of Scientific Research at the University of Jordan focused on "How to Write a Research Project for the Scientific Research and Innovation Support Fund".
- Participation in the training course titled "Introducing the Support Mechanism Provided by the Francophonie Agency for Scientific Cooperation Projects Between Universities," held at the University of Jordan and organized by the Deanship of Scientific Research.
- Attended a seminar titled "Message of Tolerance and Harmony" at the University of Jordan, which celebrated His Majesty King Abdullah II receiving the "Templeton Prize".
- An online seminar hosted by Springer Nature titled "How to find the information needed for your research?".
- Co-organized a panel discussion at the Water, Energy, and Environment Center titled "SWOT Analysis of Groundwater Management in the Jordanian Highlands".
- Attended a lecture on "Introducing European Projects (Erasmus Plus)" held at the University of Jordan, organized by the Accreditation and Quality Assurance Center.
- Participated in an international online scientific symposium organized by Separation Science Premier Learning for Analytical Scientists, titled "How to Improve Your Titration Results: Optimizing Performance and Troubleshooting."
- Attended an international scientific webinar organized by SelectScience titled "Volumetric Titration: A Step-by-Step Guide to Achieving Accurate Results."
- Attended another international scientific webinar organized by SelectScience titled "Ensuring Accuracy: An Expert Guide to Selecting Fit-for-Purpose Reference Materials."
- An international scientific webinar organized by SelectScience is titled "Determining Inorganic Anions and Organic Acids in Lithium-Borated Nuclear Power Plant Water Using Ion Chromatography."
- Another international scientific webinar organized by SelectScience is titled "Seamless Integration of Purified Water Supply in New Laboratory Construction."
- Participated in the Frontiers Forum session organized by Frontiers, titled "The Case for Climate Optimism." The speaker for the session was former U.S. Vice President Al Gore.
- One of the members of the Organizing Committee for the celebration of World Water Day, which was organized by the Water, Energy, and Environment Center in cooperation with the University of Jordan Library.

## **COURSES & SOFTWARES** ▼

### Course Title

Course in computer applications  
(Word, Excel, PowerPoint, Access, Windows, IT, DOS)  
C++ Course

### Location

JUST University, Jordan &  
Liverpool University, UK.  
Yarmouk University-Jordan

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## **Course Title**

Geographic Information System (GIS) Course  
Autolab NOVA - Advanced software for electrochemistry  
GPES (an electrochemical analysis software)  
E-learning  
SPSS  
ProQuest database  
AquaChem (Water Quality Software)  
Metrohm (software and apparatuses)

## **Location**

JUST University-Jordan  
Liverpool University-UK  
Liverpool University-UK  
The University of Jordan  
The University of Jordan  
The University of Jordan  
Liverpool University-UK  
Liverpool University-UK

## **SKILLS & INTERESTS ▾**

Teamwork, initiative, excellent social activities, reading, and a good ability to learn.

## **COMPUTER EXPERIENCE ▾**

- Microsoft Office Applications
- Internet
- C++
- Good Typing Skills
- Adobe Acrobat
- High ability to learn and handle computer applications

## **LANGUAGES ▾**

<b><u>Language</u></b>	<b><u>Reading</u></b>	<b><u>Writing</u></b>	<b><u>Speaking</u></b>
Arabic (Mother Tongue)	Fluent	Fluent	Fluent
English	Fluent	Fluent	Fluent

## **REFERENCES ▾**

Prof. Constant van den berg. Liverpool University, UK.	Distinguished Professor of Environmental Sciences/Environmental Chemistry
Dr. Pascal Salaun Liverpool University, UK.	Associate Professor of Environmental Sciences/Environmental Chemistry
Dr. Ivanka Pižeta Croatia	Professor/Senior Researcher of Environmental Chemistry

*Reference letters are available upon request.*