

# Zeyad A. Alshboul

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| <b>Dean, Faculty of Engineering, ANU</b><br><b>Director, Water and Environmental Research Center</b> |   |
|--|---|
| <b>Academic Degree</b>   | <b>PhD. Associate Prof. Civil Engineering - Water and Environmental Engineering</b> |
| <b>Country</b>   | <b>Germany</b>  |
| 1. Family Name:  | Alshboul  |
| 2. First Name:   | Zeyad   |
| 3. Date of Birth:  | Oct. 1982   |
| 4. Nationality:  | Jordanian   |
| 5. Civil Status:   | Married, 1 daughter   |

## 6. Education

|                                  |   |
|----------------------------------|---|
| Institution                      | <b>Koblenz.Landau University, Germany</b>         |
| Date (from mm/yy - to mm/yy)     | 9/2012-3/2016                                     |
| Degree(s) or Diploma(s) obtained | <b>Ph.D., Water and Environmental Engineering</b> |
| Funded by                        | DAAD, NaWaM Program, Germany                      |

|                                  |  |
|----------------------------------|--|
| Institution                      | <b>Al Albayt University, Mafraq, Jordan</b>  |
| Date (from mm/yy - to mm/yy)     | 9/2008/6/2011  |
| Degree(s) or Diploma(s) obtained | <b>M.Sc. Water Resources and Environment</b>   |
| Thesis                           | Evaluating the Brine Water Management Techniques Used in Jordan's RO Desalination Plants |

|                                    |  |
|------------------------------------|--|
| Institution                        | <b>TU Braunschweig, Germany</b>  |
| Date (from mm/yy - to mm/yy)       | 12/2011-3/2012   |
| Research Leave  Fellowship Project | <b>Water Resources Engineering and Management</b><br><b>Exceed, DAAD</b> |
| Funded by                          | DAAD, Exceed Program, Germany  |

## 7. Teaching Experiences

|                         |  |                                   |                                   |
|-------------------------|--|-----------------------------------|-----------------------------------|
| Engineering Mechanics   | Environmental Engineering                  | Engineering Hydrology             | Hydraulics                        |
| Fluid Mechanics         | Water and Wastewater Treatment Engineering | Environmental Impact Assessment   | Dynamics                          |
| Desalination            | Water Resources Engineering                | GIS in Civil Engineering          | Introduction to Civil Engineering |
| Sustainable Development | Solid Waste Management                     | Fluid Mechanics and Hydraulic Lab | Sanitary Lab.                     |
| Pavement Design         | Statistics                                 |                                   |                                   |

## 8. Language skills, mark 1 (worst) to 5 (best) for competence

| Language | Reading       | Speaking | Writing |
|----------|---------------|----------|---------|
| Arabic   | Mother tongue |          |         |

|         |   |   |   |
|---------|---|---|---|
| English | 5 | 5 | 5 |
| German  | 3 | 3 | 3 |

|   |  |
|---|--|
| 9. Membership of professional bodies:           | <ul style="list-style-type: none"> <li>➤ Member of <b>Jordan Engineers Association</b> - Civil Engineering/ Water, Sewage, and Environmental Engineering.</li> <li>➤ Alumni DAAD, 2012-now</li> <li>➤ German Jordan Association 2016</li> </ul>  |
| 10. Other skills (e.g. Computer literacy etc.): | MS Office, MS Project, Origin pro (graphing, statistical and analytical data software), CS5 Illustrator, SPSS, ArcGIS, EPANET, LEAP, WaterCAD,   |
| 11. Present position:                           | 1- <b>Dean</b> , Faculty of Engineering, Ajloun National University<br>2- <b>Director of Water and Environmental Research Center</b> , Ajloun National University/ Jordan<br>3- <b>Associate Professor, Faculty of Engineering, Civil Engineering Dept.</b> - Ajloun National University/ Jordan |
| 12. Years within the firm:                      | 4.5 years  |

### 13. Specific country experience:

| Country | Date from - Date to |
|---------|---------------------|
| Jordan  | 2016-Now            |
| Germany | 2011-2016           |
| Jordan  | 2006-2011           |

### 14. Professional experience record (projects):

|             |                                     |
|-------------|-------------------------------------|
| Date        | 10/2023-Now                         |
| Location    | Ajloun, Jordan                      |
| Company     | Ajloun National University          |
| Position    | <b>Dean, Faculty of Engineering</b> |
| Description |                                     |

|             |  |
|-------------|--|
| Date        | 12/2022-Now  |
| Location    | Ajloun, Jordan   |
| Company     | Ajloun National University   |
| Position    | <b>Director and founder, Water and Environmental Research Center</b>   |
| Description | <ul style="list-style-type: none"> <li>• Develop medium and long-term research strategies and identify research priorities and fields</li> <li>• Developed and designed center activities, including annual work plan, performance indicators, level of effort, detailed tasks, approaches used, issues, and mitigations.</li> <li>• Set roles and instructions for the newly established research center</li> <li>• Perform workshops and training in the field of water and environmental engineering</li> <li>• Develop research proposals and strengthen research collaboration</li> <li>• Prepared and led the preparation of technical and progress reports and deliverables.</li> <li>• Represent ANU to beneficiaries and its partners to foster and maintain positive relationships within the center scope of work</li> <li>• Form the center steering committee and initiate research groups</li> <li>• Design a wastewater treatment plant for the campus</li> </ul> |

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|----------|----------------------------|
| Date     | 1/2021-12/2022             |
| Location | Jordan                     |
| Company  | Ajloun National University |

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|-------------|--|
| Position    | <b>Dean, Faculty of Engineering   Associate Professor</b>  |
| Description | <ul style="list-style-type: none"> <li>• Lead Undergraduate Engineering programs and Managing Engineering projects at the University</li> <li>• Lead engineering processes and ensure the commitment to HSE Leadership and IFC standards</li> <li>• Design, audit, and assessment of existing solar energy project</li> <li>• Develop RFPs and tender documents for several tenders and projects</li> <li>• Assessing the existing buildings, facilities, and equipment at several parts/locations in the university.</li> <li>• Lead Several Research projects: <ul style="list-style-type: none"> <li>➢ Analyzing the quality and quantity of wastewater drainage during the COVID-19 Period</li> <li>➢ Performing screening for technical alternatives for water treatment, drainage, and supply systems.</li> <li>➢ Perform research projects in wastewater quality and treatment, water supply systems, IoT in leak detection for water supply networks, Health and Environment, and water resources management.</li> <li>➢ Perform water, Energy, and environmental research projects e.g. rainwater harvesting system, solar energy project, impact/risk assessment of projects, water quality data analysis, Innovation in water treatment and management (smart water metering system, control cold water wastage from HHs taps), EIA for projects (EIA for olive oil mill plants), HSE requirements for drainage systems.</li> </ul> </li> <li>• Performing consultations e.g. Socio-economic and financial assessment for projects (water consumption during the pandemic), MEAL for projects, Accountability, Technology updates for water treatment</li> <li>• Lead the international accreditation processes for the faculty programs based on pre-identified indicators (e.g. ABET)</li> <li>• Lead the e-learning program in the faculty.</li> </ul> |

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|-------------|--|
| Date        | 4/2020-4/2021  |
| Location    | Jordan   |
| Company     | Ajloun National University   |
| Position    | <b>Project Manager, PV solar project</b>   |
| Description | <ul style="list-style-type: none"> <li>• Design a 250 KWh of solar energy project which is the largest PV project in the governorate.</li> <li>• Prepare tender documents and all associated contracts with the project. Manage all processes associated with the pre-delivery stage.</li> <li>• Design all facilities that are necessary for the project including but not limited to the converter room, monitoring system, emergency plan, training staff, and sustainability plan.</li> <li>• Supervise the project implementation processes and perform QA/QC and monitor the system efficiency.</li> <li>• Perform research associated with auto and self-PV cleaning systems and perform payback analysis.</li> </ul> |

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|-------------|--|
| Date        | 3/2021-5/2021  |
| Location    | Jordan   |
| Company     | OXFAM GB. Amman, Jordan  |
| Position    | <b>Consultant</b>  |
| Description | <ul style="list-style-type: none"> <li>• Review and assess the policies procedures and Governance.</li> <li>• Review existing systems and perform a gap analysis.</li> <li>• Assessing the need for improving distribution mechanisms, selection processes, and tracking systems.</li> <li>• QA/QC assessment.</li> <li>• Develop a list of recommendations.</li> <li>• Develop, review and assess the project draft reports.</li> <li>• Develop questioners.</li> </ul> |

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|--|--|
|  | <ul style="list-style-type: none"> <li>• Perform Meetings with different stockholders (service providers and beneficiaries).</li> <li>• Field survey and feedback analysis.</li> <li>• Facilitate meetings.</li> </ul> |
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|-------------|---|
| Date        | 10/2017-2/2018  |
| Location    | Jordan  |
| Company     | OXFAM GB. Amman, Jordan   |
| Position    | <b>Consultant</b>   |
| Description | <ul style="list-style-type: none"> <li>• Proposal Writing-Technical and Financial,</li> <li>• Organize and follow data collection and processing,</li> <li>• Review and assess published works e.g. articles, reports, free sources...etc.</li> <li>• Develop Questionnaires,</li> <li>• Data cleaning, analysis and reporting,</li> <li>• Field survey and feedback analysis,</li> <li>• Develop and review project draft reports,</li> <li>• Facilitate meetings and interviews with officials, NGOs, Customers, Supervisors, and Managers.</li> <li>• QA/QC assessment,</li> <li>• Develop a list of recommendations,</li> <li>• Facilitate workshops for presenting key findings, challenges, and recommendations.</li> </ul> |

|             |   |
|-------------|---|
| Date        | 3/2019-1/2021   |
| Location    | Jordan  |
| Company     | Ajloun National University  |
| Position    | <b>Chair-Civil Engineering Dept.</b>  |
| Description | <ul style="list-style-type: none"> <li>• Lead a project in water demand management and water supply change during emergencies</li> <li>• Teaching Water and Environmental Engineering Courses</li> <li>• Lead projects in the sustainable use of effluent water in concrete production</li> <li>• Perform training in Root Cause Analysis-effluent Drainage systems</li> <li>• Perform Training in contract management in HSE requirements and performance monitoring for drainage operation and maintenance contracts type</li> <li>• Lead a research project for estimating GHG emissions from wastewater treatment plants</li> <li>• Develop Academic Engineering programs, e.g M.Sc. in Project Management</li> <li>• Grant Writing and research project supervision</li> </ul> |

|             |   |
|-------------|---|
| Date        | 1/2016-4/2016   |
| Location    | Germany   |
| Company     | Technology center Worth, Daimler, <b>Mercedes Benz</b>  |
| Position    | <b>Intern, Storm Water Protection, Environmental Management and Certification Unit</b>  |
| Description | <ul style="list-style-type: none"> <li>• Monitor and improve the quality of rainwater</li> <li>• Identify possible contaminant sources to the stormwater within the industrial area</li> <li>• Creating a rainwater risk map</li> <li>• Identifying and evaluating risks, taking into account the local circumstances, and determining the required actions to reduce risks</li> <li>• Identifying sources of rainwater contamination in industrial areas, taking into account other relevant factors such as open spaces, surface water, parking areas, machinery sites, outdoor storage spaces, fuel depots, filling stations, areas for collecting waste, rainwater sampling areas, industrial wastewater treatment plant, storage facilities for hazardous substances.</li> </ul> |

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|----------|---------------------------|
| Date     | 1/2012-3/2016             |
| Location | Germany                   |
| Company  | Koblenz.Landau University |

|             |   |
|-------------|---|
| Position    | <b>PhD candidate and senior project assistant</b>   |
| Description | <ul style="list-style-type: none"> <li>• Performing projects in water management and climate change</li> <li>• Lead projects for assessing the impact of wastewater treatment plants on GHG emission rates</li> <li>• Performing analysis for water samples and assessing the water quality and wastewater characteristics</li> <li>• Developing Smart techniques for measuring GHG emissions from surface waters</li> <li>• Proposal writing and publishing scientific articles</li> </ul>   |
| Date        | 1/2006-12/2012  |
| Location    | Jordan  |
| Company     | Ministry of Water and Irrigation  |
| Position    | <b>Desalination, water, and wastewater treatment Specialist</b>   |
| Description | <ul style="list-style-type: none"> <li>• Operation and maintenance of water and wastewater treatment plants of different treatment technologies at many locations in Jordan.</li> <li>• Operation and maintenance of desalination plants at different locations in Jordan.</li> <li>• Routine monitoring and control of the plants.</li> <li>• Brine water management, design evaporation ponds for inland desalination plants</li> <li>• Regular water quality monitoring.</li> <li>• Operating the disinfection units.</li> <li>• Carrying regular maintenance for water pumping stations.</li> <li>• Operate, monitor, and maintenance of water supply systems.</li> <li>• Perform in-situ water quality analysis and monitor water quality during operation.</li> </ul> |

## 15. Publications

### In Journals

- Zeyad Alshboul, Buthaina Awais, Mohammad Malkawi, Mahmoud Al-Rousan, **Lowering The Economic And Environmental Impacts Of The Single Use Personal Protective Materials**, 2023, Environmental Engineering and Management Journal.
- Zeyad Alshboul, Mohammad Malkawi, Kamel Alzboon, **IoT Enabled Model for Improving Responses of Water, Sanitation, and Hygiene Programs to Urgent Community Needs During Covid-19**, 2023, JJEES.
- Z. Alshboul, Kamel Alzboon, Ali Alzoubi, **Temporary and Permanent Impacts of COVID-19 on Water Consumption Patterns and Solid Waste Generation**, 2022, International Journal of Engineering Applications.
- Zeyad A. Alshboul , **Water Accountability Model under Emergency Cases and for Areas Gained New Access to Water Services**, 2022, Information Sciences Letters.
- M. Malkawi, Ziad AlGhzawi, Zeyad Alshboul, Abdulrahman Al-Yamani, Umaiya Murad, **Internet Of Things Based Monitoring System Of Leaks In Water Supply Networks Using Pressure-Based Model**, Information Sciences Letters, 2022.
- Zeyad A. Alshboul, Husein A. Alzgool, Hadeel Alzgool, **Sustainable Use of Brine Water in Concrete, Cement Mixes Alter Compression-Bending Strengths** 2021, **International Review in Civil Engineering**
- Husein A. Alzgool, Zeyad Alshboul, Ahmad S. Alfraihat and Hadeel Alzgool, **The Effect of using Olive Oil Mill Wastewater on Bending and Compression Properties of Cement Mortar** 2021, **International Journal on Emerging Technologies**

- **Alshboul, Z., and A. Lorke. 2015.** Carbon Dioxide Emissions from Reservoirs in the Lower Jordan Watershed. PLoS One 10: e0143381. (Published in **Plos One**).
- **Alshboul, Zeyad, Fernández, Jorge, Hofmann, Hilmar, Lorke, Andreas,** Export of dissolved methane and carbon dioxide with effluents from municipal wastewater treatment plants, *Environmental science and technology*, **2015**. (Published in *Journal of Environmental Science and Technology*).
- Lorke, A., Bodmer, P., Noss, C., **Alshboul, Z.**, Koschorreck, M., Somlai, C., Bastviken, D., Flury, S., McGinnis, D. F., Maeck, A., Müller, D., and Premke, K.: Technical Note: Drifting vs. anchored flux chambers for measuring greenhouse gas emissions from running waters, *Biogeosciences Discuss.*, 12, 14619-14645, doi:10.5194/bgd-12-14619-2015, **2015**. (Published in *Journal of Biogeosciences*).
- Jeremy Wilkinson, Andreas Maeck, **Zeyad Alshboul**, and Andreas Lorke, Continuous Seasonal River Ebullition Measurements Linked to Sediment Methane Formation, *Environmental Science & Technology*, DOI: 10.1021/acs.est.5b01525. (Published in *Environmental Science and Technology*).
- Azzaya Tumendelger, **Zeyad Alshboul**, Andreas Lorke; **Emission of greenhouse gases (N<sub>2</sub>O and CH<sub>4</sub>) from municipal wastewater treatment plants in Southwest Germany: Revealing N<sub>2</sub>O sources using stable isotopic approach; plos one 2018.**

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#### In Conferences and Workshops

- **Launching the guide for rainwater harvesting in the housing and buildings of the governorates, USAID funded program, Ajloun, Jordan, 2023**
- **Sustainability of Water Harvesting Systems and the Most Important Considerations in Designing Systems, Potential water saving and System Optimization, Ajloun, Jordan, 2023**
- **Z. Alshboul, K. Al-Shukri, B. Awais, M. Alrousan Sustainable use of personal protective materials against COVID-19 will lower economic and environmental impacts, ICED 2022, Athens, Greece.**
- **Alshboul, Z; Celia Somlai; Christoph Bors; Lorke, A; Methane ebullition from small streams affected by the effluent of municipal wastewater treatment plants, Symposium for European Freshwater Sciences 2015, 5-10 July; Geneva, Switzerland.**
- **Alshboul, Z; Lorke, A; Carbon dioxide and methane exported to streams from municipal wastewater treatment plants, ASLO 2015, 22-27 Feb., Granada, Spain.**
- **Alshboul, Z; Noss, C; Lorke, A; Drifting versus static chambers for measuring air-water gas fluxes in running waters, 18<sup>th</sup> workshop on physical processes in natural waters (PPNW 2015), 2015, 24-28 Aug., Landau, Germany.**
- **Zeyad Alshboul; Anthropogenic methane ebullition and continuous flux measurement, EGU, 2017.**

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#### **17. Supervision and External Examiner**

- **M.Sc. of Desalination Engineering and Water Management:** Tuqa R. Al Nawafleh; “ Assessment of water quality and management of Household storage tanks in Jordan; Jun. 2023, Al Balqa Technical University, Salt, Jordan.
- **M.Sc. of Desalination Engineering and Water Management:** Abdelaziz Q. Bashabsheh; “ Impact of Climate Change on Water Resources of Yarmouk River Basin; Dec. 2022, Al Balqa Technical University, Salt, Jordan.
- **M.Sc. of Desalination Engineering and Water Management:** Yazan S. Alrabadi; “ Evaluation of the Impact of Wastewater Treatment Plants on Water Resources and the Environment Using GIS and Multi-Criteria Decision Analysis; Sep. 2022, Al Balqa Technical University, Salt, Jordan.
- **B.Sc. of Civil Engineering, Graduation Projects** in the following topics: Rainwater Harvesting Systems, Flood Management, Sustainable use of olive oil mill wastewater in concrete mixes, Drainage system design, Smart cleaning systems for PV fields, Greywater management, IoT in water Leak detection for water networks, Sustainable use of PPE, Water accountability system.

18. **Trainer, Consultant and Examiner**

- **Data analysis and decision-making models**, Jordan Engineers Association, Ajloun, Jordan.
- **Existing water leaks detection systems**, Innovation Arabic Center for Training and Consulting, Amman, Jordan, Nov. 2022
- **Water accountability and Utility Management**, Innovation Arabic Center for Training and Consulting, Amman, Jordan, Jan. 2023
- **Decision analysis for operation & maintenance - Drainage**, Innovation Arabic Center for Training and Consulting, Amman, Jordan, Sept. 2022
- **Root Cause Analysis RCA) Drainage Knowledge of Smart City Programs**, Innovation Arabic Center for Training and Consulting, Amman, Jordan, Oct. 2022
- **Contract Management in HSE requirements and performance monitoring for drainage operation and maintenance**, Innovation Arabic Center for Training and Consulting, Amman, Jordan, Dec. 2022
- **A Review Study of Accountability Systems between Water Users and Governance Bodies in Zarqa and Balqa Municipalities**, OXFAM, Amman, Jordan, 2019.
- **A Review Study of the performance of COVID-19 Related Responses under the WASH Program in General, and OCHA WASH in Mafraq in Particular**, OXFAM, Amman, Jordan, 3/2021

19. **Training**

- **Grant Writing and Management**, DAAD, Amman, Jordan, 2023
- **International Universities Classifications**, Amman, Jordan, 2022
- **The National Forum for Education and Higher Education**, Amman, Jordan 2023
- **Physical limnology** - University of Heidelberg, 2014, Germany
- **Natural water systems and physical processes**- Berlin, 2014 Germany
- **Research project management** - Sodankylä research center, 2013, Finland
- **Research fellowship: sustainable water management**, TU-Braunschweig, 2012, Germany
- **International negotiation and cross-sector coordination for good water governance in the MENA region**, GIZ and ACWUA, 2011, Jordan
- **Expert seminar on sustainable flood risk analysis and management** - Bahir Dar University, funded by DAAD, 2011, Ethiopia
- **Organization development for water Sector**-Amman, funded by GIZ, 2011, Jordan, 2011, Jordan
- **Sector governance in urban sanitation system** - Amman, funded by GIZ, 2011, Jordan
- **Water and wastewater treatment technologies** - Marmara Research Center, 2010, Turkey
- **Hydro-environment science modeling**, Water and Environmental Research Center - Al al-Bayt University, 2010, Jordan
- **Water pump station and water treatment plants maintenance** - vocational training cooperation - Ministry of Labor, 2006, Jordan
- **International computer-driven license (ICDL)** - International SARA center, 2008, Jordan
- **Mathematica (5)**, mathematical software and modeling - University of Science and Technology - USAID, 2006, Jordan

20. **Honors and Awards**

- A. PhD. Scholarship Award, DAAD, Germany, 2012, University of Koblenz Landau, 2012-2016
- B. Research Fund, Applied Science University, Jordan, 2018, Greywater Management
- C. Research Fund, UNICEF, 2020, IoT for Water leak detection

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**References**  
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Available Upon Request