MEDYAF H. AL ROUSAN

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OBJECTIVE

Motivated Water Resources and Environmental Engineer with a strong foundation in Civil Engineering, seeking to apply expertise in water quality, environmental sustainability, and resource management. Experienced in metal adsorption, hydroponics, aquaponics, and agrivoltaics, with proficiency in environmental modeling, water contamination assessment, and infrastructure design. Currently working at Howard university as a civil engineer lab coordinator

EDUCATION

Master of Science, Civil Engineering **Fall 2023 – Spring 2025**

Water Resources & Environmental Engineering | GPA: 4.0/4.0

University of the District of Columbia, Washington, DC

Bachelor of Science, Civil Engineering **Fall 2015 – Fall 2019**

Yarmouk University, Jordan | GPA: 3.37/4.0

CERTIFICATIONS AND TRAINING

- Engineer-in-Training (EIT) / Fundamentals of Engineering (FE) – In Progress (September 2025).
- Certified in AutoCAD & Building Information Modeling (BIM).
- Advanced Training in Seismic Analysis & Load Calculations.

EXPERIENCE

Civil Engineer Lab Coordinator

Howard University, Washington DC **June 2025 – Present**

- Coordinate and manage daily operations of civil engineering teaching laboratories including soil mechanics, fluid mechanics, and mechanics of materials.
- Supervise and train student workers and teaching assistants on lab procedures, safety protocols, and equipment use.
- Support faculty in lab-based instruction, setup, and maintenance of experimental apparatus.
- Develop and implement Standard Operating Procedures (SOPs) for lab experiments and ensure compliance with university safety.
- Maintain inventory of materials and instruments; troubleshoot equipment issues to minimize downtime.
- Facilitate student learning through hands-on support and technical guidance during lab sessions.
- Collaborate with the College of Engineering and Architecture to improve lab instruction and align lab activities with ABET accreditation standards.

Graduate Research and Teaching Assistance – Water Quality & Sustainability

Agrivoltaics & Life Cycle Sustainability Assessment of Hydroponics & Aquaponics, UDC **May 2023 – May 2025**

- Conduct research on metal adsorption in water treatment and system optimization.
- Analyzed water quality and contamination using BIOWIN for wastewater modeling.
- Support experimental farm surveys, environmental impact assessments, and agrivoltaics irrigation strategies.
- Assist undergraduate students in the Hydrology Lab with hands-on experiments and fluid mechanics applications.

Structural & Supervisor Engineer

AL Rousan Complex, Jordan **Feb 2020 – Jan 2022**

- Participated in the structural design of reinforced concrete and steel systems
- Prepared technical drawings, site reports, and construction documentation.

Civil Engineering Intern – Structural Design

Greater Irbid Municipality & Engineering Works Department, Jordan **Jul. – Sep. 2020**

- Prepared structural markups, back-checks, and detailed engineering reports
- Conducted site visits and structural evaluations for municipal infrastructure.

Structural Engineering Intern

AL Rayah Project – Amman, Jordan **May-Jul. 2020**

- Designed reinforced concrete and steel structural elements for a commercial building
- Assisted in site structural inspections and construction verification processes.

RELATED COURSEWORK

Water Supply Engineering	GIS Application in Civil & Environmental Engineering	Water Resources Engineering
Water & Wastewater Treatment	Environmental Engineering & Science	Energy & Environment
Advanced Engineering Mathematics	Water, Energy, Food, and Climate Nexus	Environmental Engineering IV

COMPLETED AND ONGOING ENVIRONMENTAL RESEARCH PROJECTS

- Nutrient and Metal Adsorption Capacity of Various Media in Soilless Cultivation
- Assessment of Water Quality and Heavy Metal Contamination in Urban Agriculture Systems
- Sustainable Land Use and Water Management in Agrivoltaics Systems
- Comparative Growth Performance of Lettuce in Hydroponics and Aquaponics Systems Using Different Growing Media

PENDING PUBLICATIONS

- Al Rousan, M., Rischmiller, F., Yadav, S., Azam, H., & Millner, P. D. (n.d.). *Nutrient and metal adsorption capacity of different growing media in soilless agriculture*.
- Al Rousan, M., Rischmiller, F., Yadav, S., Azam, H., & Millner, P. D. (n.d.). *Comparative growth performance of Outredgeous lettuce in four different commercial seedling and plant growth media in NFT channels in aquaponics and hydroponics systems*.
- Lee, J., Al Rousan, M., & Azam, H. (n.d.). *Optimizing regenerative aquaponics systems for long-duration space missions: A review of adsorptive materials for nutrient balance and contaminant removal.*

SOFTWARE SKILLS

ArcGIS	Paver	AutoCAD
SimaPro	MATLAB	BioWin
Safe	SIDRA Intersection	OriginPro
ETABS	SAP2000	Revit
Civil 3D	Microsoft Office Suite (Excel, PowerPoint)	Data Analysis

EXTRACURRICULAR ACTIVITIES

- Treasurer, University of the District of Columbia, Water Environment Federation (UDC-WEF) Student Chapter.
- Team Member, Sustainable Building (Water-Energy-Food) Design, WEF Student Design Competition, 2024.
- Member, American Society of Civil Engineers (ASCE).
- Member, Water Environment Federation (WEF).
- Member, Jordan Engineers Association (JEA).

REFERENCES

Hossain M Azam, Ph.D., P.E.
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