

Mo'ayyad Shawaqfah, Ph.D.

Water Resources and Environmental Engineering Division
Department of Civil Engineering
Al al-Bayt University
Mafrqa- JORDAN
Phone: (O) 00962-26297000 ext. 2772
Mobile: 00962-79-6666277
E-mail: mshawaqfah@aabu.edu.jo or msss72@yahoo.com



Personal:

Date of Birth : Feb. 27, 1972
Place of Birth : Kitm, Jordan
Nationality : Jordanian
Marital Status: Married (Four children)

EDUCATIONAL BACKGROUND:

Ph.D. (Philosophy Doctorate) Civil Engineering/Environmental Engineering Option, June 2002, Washington State University, Pullman, U.S.A

Thesis title: Numerical Investigation of the Role of Muck layer in Contaminant Migration at Stream/Aquifer Interface.

M.Sc. (Masters of Science) Civil Engineering/Water Resources and Environmental Eng. Option, March. 1997, Jordan University of Science and Technology, Irbid, Jordan.

Thesis title: Decision Making Analysis to Evaluate Recharging an unconfined Aquifer in Jordan.

B.Sc. (Bachelors of Science) Civil Engineering/ Water Resources and Environmental Eng. option, June 1994, Jordan University of Science and Technology, Irbid, Jordan.

Graduation Project title: Evaluation and redesign the university wastewater treatment plant (RBC system).

Honors and Awards:

- Second student award, Dept. of Civil Eng., Jordan University of Science and Technology, 1994/1995.
- Scholarship for the M.Sc. degree by Jordan University of Science and Technology, 1994.
- Scholarship for the Ph.D. degree by Mutah University, 1999.
- Scholarship, Washington State University (Pullman, WA, USA). Department of Civil Engineering. (Jan. 2000- May 2002).

- Honorary Certificate for outstanding student, Jordan University of Science and Technology. Irbid, Jordan (Jan. 1995)
- Honorary Certificate for outstanding student, Jordan University of Science and Technology. Irbid, Jordan (May 1995).

- Honorary Certificate for outstanding student, Jordan University of Science and Technology. Irbid, Jordan (Jan. 1996).
- Honorary Certificate for outstanding student, Jordan University of Science and Technology. Irbid, Jordan. (Jan. 1993).

Summary of Qualifications:

Excellent skills acquired in Civil Engineering supported by a B.Sc., M.Sc. and Ph.D. in Water Resources and Environmental Engineering. Experienced in design, analysis, and teaching and research in the field of Water and Environment with a strong background in Environmental system modeling. Published/submitted more than 30 papers in international peer reviewed journals and conference proceedings. Worked extensively with well-known computer software packages.

Statement of Teaching and Research

I enjoy transferring knowledge, know-how, and skills to my students. I do also utilize technology to promote their active participation in the learning process. I have developed a teaching philosophy that focuses on achieving the intended learning outcomes. I like to adapt to different students levels and learning capabilities by posing questions and building scenarios and activities. Hence, I like to motivate my students' independent and critical thinking and improve their problem-solving and soft skills. Over the years, I found that hands-on through project- and problem-based teaching offer students the best way to learn and strengthen their confidence in their capabilities. In the senior-level and graduate courses, I emphasize on the importance of team work and soft skills through group projects, term papers, documentation, technical and progress reports, and presentations.

I have been conducting research in groundwater and contaminant transport modeling which involves developing computational models for groundwater/surface water interactions. Specifically, I developed numerical models capable of accurately simulating wastewater and freshwater migration through variably saturated soils during groundwater recharge events.. I am deeply interested in floodwave movement in ephemeral systems (wadis or arroyos). I am a strong advocate of multi-disciplinary research. In the area of water resources and environmental engineering, I have been involved in many fields including groundwater and contaminant transport modeling, wastewater treatment modeling, and flash flood mitigation.

Administrative Experience:

- (1) Director of International Relationships, , *Al al-Bayt University, June, 2021– Present.*
- (2) Dean, Engineering Faculty, *Al al-Bayt University, February, 2015 – January, 2019.*
- (3) Vice Dean, Engineering Faculty, *Al al-Bayt University, September, 2013- January, 2015.*
- (4) *Department Head, Civil Engineering Department, Al al-Bayt University, September, 2013- January, 2015.*

Academic Experience:

- (1) *Director of International Relationships , AABU, July, 2021- present.*
- (2) *Associate Professor, Civil Engineering Department, Jordan University of Science and Technology, September, 2019- September, 2020. (Sabbatical Leave)*
- (3) *Associate Professor, Civil Engineering Department, Al al-Bayt University, October, 2014- present.*
- (4) *Assistant Professor, Civil Engineering Department, Al al-Bayt University, September 2011- September, 2014.*
- (5) *Assistant Professor, Civil and Environmental Engineering Department, Mutah University, September. 2002- September, 2011.*
- (6) *Research Assistant, Albrook Hydraulics Laboratory, WSU, Pullman, USA, September, 2001-August, 2002*
- (7) *Teaching Assistant, Washington State University, Pullman, USA, January, 2000 - August, 2001.*
- (8) *Research Assistant, Water and Environmental Research Study Center, University of Jordan, Amman, Jordan, May, 1998- July,1999.*
- (9) *Teaching Assistant, Jordan University of Science and Technology, Jordan. September, 1994 - January, 1997.*

Academic and Administrative Committees:

1. Founder of Disaster Management, Modeling and Simulation Center (DMMSC) at Al al-Bayt University, Sept., 2016.
2. Committee member for the Energy Sciences, the Water and Environment Sector in the Directorate of the Scientific Research and Innovation Support Fund / Ministry of Higher Education and Scientific Research, November, 2019 to November, 2020.
3. Member of National Platform for Disaster risk reduction in Jordan, Jan., 2017- Present.
4. Member of the Sectoral Committee on Water and Environment for determination the scientific research priorities in Jordan, Higher Council for Science and Technology, August 2009 to Sep. 2010.

5. Member of Jordan National Commission for Education, Culture and Science, Sep., 2017-2019.
6. Member of the Jordanian Committee of the International Hydrological Program (IHP-UNESCO), Jan., 2016- Jan., 2019.
7. Deans Council, Member / Al al-Bayt University. (Feb. 2015 to Jan. 2019).
8. Water, Environmental and Arid lands Research and Study Center, Advisory Committee, Member / Al al-Bayt University. (Feb. 2015 to Jan. 2019).
9. Faculty Development Center, Advisory Committee, Member / Al al-Bayt University. (Oct. 2017 to Jan. 2019).
10. University Scientific Research Council, Member / Al al-Bayt University. (Sep. 2015 to Jan. 2019).
11. Chairperson of the Committee supervising the design of the Engineering Faculty building (10,000 m²).
12. Chairperson of the Committee supervising the design of Finance and Business Administration Faculty building (10,000 m²).
13. Chairperson of Civil Engineering Department / Al al-Bayt University. (Sept. 2013 to Jan. 2015).
14. Member of the Faculty Council, Engineering Faculty / Al al-Bayt University. (Sept 2011 to Feb. 2019).
15. Civil Engineering Department Scientific Research Committee, chairperson / Al al-Bayt University. (Sept 2011 to Feb. 2015).
16. Engineering Faculty Scientific Research Committee, member / Al al-Bayt University. (Sept 2011 to August, 2013).
17. Engineering Faculty Scientific Research Committee, chairperson / Al al-Bayt University. (Sept. 2013 to Present).
18. Civil Engineering Department Scientific Research Committee, member / Mutah University. (Sept 2002 to Sept 2011).
19. Prince Faisal Center for Dead Sea, Environmental and Energy Research Advisory Committee, Member / Mutah University. (Sept. 2008 to Sept. 2011).
20. Head and member of many Graduation Project Exam Committees.

21. Head of many student transfer and equivalent courses committees, department of Civil Engineering.
22. University Scientific Research Council, Member / Al al-Bayt University. (Sep. 2020 to present).

Teaching Experience:

Graduate Level

1. Groundwater Flow and Contaminant Transport.
2. Modelling in Water Resources and Environmental Engineering.
3. Chemistry and Microbiology for Environmental Engineering.
4. Solid Waste Management.
5. Water Treatment Plant Design.
6. Computational Methods in Water Resources and Environmental Engineering.
7. Advance Surface Hydrology.
8. Advance Engineering Mathematics.

Undergraduate Level

1. Engineering Mechanics (Statics).
2. Numerical Methods.
3. Engineering Economy.
4. Fluid Mechanics
5. Hydraulic Engineering
6. Hydraulic Engineering Lab
7. Applied Hydraulic.
8. Sanitary Engineering.
9. Sanitary Engineering Laboratory. (Water Quality Lab)
10. Environmental Engineering.
11. Environmental Engineering Lab.
12. Groundwater Engineering
13. Water Resources Engineering.
14. Special Topics for Environmental Engineering.
15. Project Design for Environmental Engineering.
16. Hydrology.
17. Engineering Drawing
18. Technical Writing.
19. Communication Skills.

SKILLS:

Running and developing environmental models

Experience in groundwater flow and contaminant transport modeling using the following software's (GIS, PMWIN, GMS, HUDRUS 3D, FEFLOW and VISUAL MODFLOW).

Experience in watershed modeling using (WMS, and HEC-HMS)

Experience in HEC's group software (HEC-RAS, HEC-ResSim, HEC-DSS, etc.)

Experience in wastewater treatment plant simulation modeling using GPS-X 6.0.

Conferences:

1. Member of the Organizing and Scientific Committee of the National Research and Creative Conference for Undergraduate Students in Jordanian Universities, Al al-Bayt University, 2014.
2. Member of the Organizing and Scientific Committee of 1st Irbid International Engineering Conference, Irbid, Jordan, 14-16 November, 2014.
3. Member of the Scientific Committee of the International Conference "Coordinating Engineering for Sustainability and Resilience" CESARE'17, MOVENPICK, Dead Sea, Jordan 4-7 May 2017.
4. Member of the Scientific Committee of International Conference on Water Management in Arid and Semi-Arid Lands (WMAL2017), MOVENPICK, Dead Sea, Jordan, October 7-11, 2017.
5. Member of the Scientific Committee of 2nd Irbid International Engineering Conference, Irbid, Jordan, November 14-16, 2017.
6. Member of the Scientific Committee of the 1st Jordanian international Conference Geospatial Information Management -Mapping the Future, Amman / Jordan, September 12-14, 2017.
7. Member of the Technical Committee of the second European Conference on Modeling, Design and Optimization (ECDMO 2017), Paris, France, February 15-17, 2017.
8. Member of the Technical Committee of the second European Conference on Modeling, Design and Optimization (ECDMO 2018), Krakow/ Poland, February 10-12, 2018.
9. Chairman of the Organizing and Scientific Committee of the first International Conference on Integrated Natural Disaster Management, Amman, Jordan, March 28th - 30th March, 2018.
10. Member of the Scientific Committee of the 5th IWA International Symposium on "Evolution of Water Resources Technologies", Amman / Jordan, April, 2019.

11. Member of the Scientific Committee of the 6th Global Conference on Renewables and Energy Efficiency for DEsert Regions (GCREEDER-2018) Jordan, Amman 3rd – 5th April, 2018.
12. Member of the Technical Committee of the 11th International Conference on Environmental and Computer Science (ICECS 2018), September 3-5, 2018, Xiamen, China.
13. Member of the Technical Committee of the third European Conference on Modeling, Design and Optimization (ECDMO 2019), Amsterdam/ Netherland, February16-18, 2019.
14. Member of the Scientific Committee of the 15th International Conference on Water Resources and Environment, October 24-28, 2019, Antalya, Turkey.
15. Member of the Scientific Committee of 3rd Irbid International Engineering Conference, Irbid, Jordan, October 20-26, 2021.
16. Member of the Scientific Committee of **the Sustainable Environment and Urban Infrastructure International Conference (SEUIC'2022)** as a Sub-conference of the **Advances in Science and Engineering Technology (ASET) International Conferences, Abu Thabi, Februrry 2022.**

RESEARCH INTERESTS:

Groundwater and contaminant transport Modeling, Groundwater/Surface water interaction Modeling. Water and Wastewater treatment and reuse, Water quality and Waste management, Flash Flood modelling, Application of ANN in Environmental Modeling, Natural Disaster Management Modeling, Advance Oxidation Processes, Solar Energy, Nano-Particles

PUBLICATIONS:

Specialized International Conference Proceedings

Shawaqfah M., Hatamleh R., Alqdah I., and Adaileh A., "Development of Three Dimensional Groundwater Model for Al-Coridoor Well -Field In Jordan". : In Coordinating Engineering for Sustainability and Reclines (CESARE'17), Dead Sea, Jordan, May 3-8, 2017.

Al-Ghazawi, Z., Boving, T., **Shawaqfah, M.**, Al-Rashdan, J., Blanford, W., Saadoun, I., and Ababneh, Q., Schijven, J., "River Bank Filtration for Wastewater Reuse in Irrigation: Adaptation to Climate Change". In: 12th International Conference on Energy, Environment, Ecosystems and Sustainable Development (EEESD '16), Venice, Italy January 29-31, 2016

Blanford, W., Boving, T., Al-Ghazawi, Z., **Shawaqfah, M.**, Al-Rashdan, J., Saadoun, I., Schijven, J., and Ababneh, Q. 2010. "River Bank Filtration for Protection of Jordanian Surface and Groundwater ".World Environmental and Water Resources Congress May 2010, PP. 776-781

Saadoun, I., J. Schijven, **M. Shawaqfah**, Z. Al-Ghazawi, J. AL-Rashdan, W. Blandford, T. Boving, Q. Ababneh and H. van den Berg. 2008. Removal of Fecal Indicator Coliforms and Bacteriophages by Riverbank Filtration (RBF) in Jordan. In: Al-Mattarneh, H., Mohd Sidek, L and Yusoff, M.Z. (eds). Innovations in Water Resources and Environmental Engineering. Proceedings of the International Conference on Construction and Building Technology. Kuala Lumpur, 16-20 June, 2008. Malaysia, pp. 191-198.

Ahmed Bdour, Moshrik Hamdi, and **Moa'yyad Shawaqfah** (2006). Sustainable wastewater treatment technologies and reuse in the urban areas of the Mediterranean region. MEDA WATER International Conference on Sustainable Water Management Rational Water Use, Wastewater Treatment and Reuse, RUWTR 2006.

Bdour A., A. Abulaban, **M. Shawaqfah**, "Potentials and Limitations of Wastewater Reuse in Rural Areas in Jordan: The Reuse Options in the Jordan Valley, 1st international conference in urbanization wastewater reuse, Cypress, 14-16 sep. 2005.

Shawaqfah, M. and M. Barber, "Numerical Investigation of Contaminant Migration in Variably Saturated Region at Stream/Aquifer Interface", AWAR, 2002, p 23-28.

Refereed Indexed Journals

1. Abdullah, F., Shorofat, A., & **Shawaqfah, M.** (2021). *Statistically Downscaling Climate Change Projection of Precipitation and Temperature over the semi-arid Yarmouk Basin-Jordan*. International Journal of Global Warming. 24(3-4) 261-280.
<https://doi.org/10.1504/IJGW.2021.116709>
2. **Shawaqfah, M.**, & Almomani, F. (2021) Forecast of the Outbreak of COVID-19 Using Artificial Neural Network: Case Study Qatar, Spain and Italy. Results in Physics, 27.
<https://doi.org/10.1016/j.rinp.2021.104484>
3. **Shawaqfah, M.**, Almomani, F., & Al-Rousan, T. (2021). Potential Use of Treated Wastewater as Groundwater Recharge Using GIS Techniques and Modeling Tools in Dhuleil-Halabat Well-Field/Jordan. *Water*. 13(11),1581.
<https://doi.org/10.3390/w13111581>

4. Almomani, F., **Shawaqfah**, M., & Alkasrawi, M. (2021). Solar-driven hydrogen production from a water-splitting cycle based on carbon-tio2 nano-tubes. *International Journal of Hydrogen Energy*. <https://doi.org/10.1016/j.ijhydene.2020.12.191>
5. Almomani, F., Bhosale, R., & **Shawaqfah**, M. (2020). Solar oxidation of toluene over Co doped nano-catalyst. *Chemosphere*, 255, 126878. <https://doi.org/10.1016/j.chemosphere.2020.126878>
6. **Shawaqfah**, M., Almomani, F., & Khatatbeh, A. (2020). Mapping flash flood potential and risk level using GIS Techniques and the flash flood potential index (FFPI) in Amman Zarqa basin of Jordan. *JJCEI*, 3(3), 81-90. <https://doi.org/10.48103/jjeci3102020>
7. Al-Smairan, M., **Shawaqfah**, M., & AlMomani, F. (2020). Techno-economic investigation of an integrated boiler–solar water heating/Cooling system: A case study. *Energies*, 14(1), 1. <https://doi.org/10.3390/en14010001>
8. Almomani, F., Bhosale, R., Khraisheh, M., & **Shawaqfah**, M. (2019). Enhancement of biogas production from agricultural wastes via pre-treatment with advanced oxidation processes. *Fuel*, 253, 964-974. <https://doi.org/10.1016/j.fuel.2019.05.057>
9. Hatamleh, R., & **Shawaqfah**, M. (2018). Development of Groundwater Model for the Rijam Aquifer/ Jafer Basin, Jordan. *Jordan Journal of Civil Engineering*, 12(3).
10. Almomani, F., **Shawaqfah**, M., Bhosale, R., Kumar, A., & Khraisheh, M. (2017). Intermediate ozonation to enhance biogas production in batch and continuous systems using animal dung and agricultural waste. *International Biodeterioration & Biodegradation*, 119, 176-187. <https://doi.org/10.1016/j.ibiod.2016.11.008>
11. Almomani, F. A., **Shawaqfah**, M., Bhosale, R. R., & Kumar, A. (2016). Removal of emerging pharmaceuticals from wastewater by ozone-based advanced oxidation processes. *Environmental Progress & Sustainable Energy*, 35(4), 982-995. <https://doi.org/10.1002/ep.12306>
12. **Shawaqfah**, M., Alqdah, I., & Nusier, O. K. (2015). Water resources management using modeling tools in desert regions: The Azraq basin, Jordan. *International Journal of Modeling and Optimization*, 5(1), 55-58. <https://doi.org/10.7763/ijmo.2015.v5.436>
13. **Shawaqfah**, M. (2014). Enhancing the removal of organic matter and nutrient from wastewater by using the packed bed biological reactor. *Journal of Environmental Protection*, 05(04), 232-239. <https://doi.org/10.4236/jep.2014.54027>
14. **Shawaqfah**, M., & Alqdah, I. (2014). Journées de l'hydraulique. *Modeling the Flash Flood and Infiltration in Desert Regions: The Azraq Basin, Jordan*, 36(1), 1-7.

15. Elshorbagy, W., & **Shawaqfah**, M. (2014). Development of an ASM1 dynamic simulation model for an activated sludge process in United Arab Emirates. *Desalination and Water Treatment*, 54(1), 15-27. <https://doi.org/10.1080/19443994.2014.880375>
16. Al-Momani, A., & **Shawaqfah**, M. (2013). The holistic approach to environment. *Assessment and management of flood risks at the city of Tabuk, Saudi Arabia*, 3(1), 15-31.
17. Al Momani, F. A., & **Shawaqfah**, M. (2013). Journal of Environmental Protection. *Agricultural Solids Waste in South of Jordan: Facts and Figures*, 4(4), 309-314. <https://doi.org/10.4236/jep.2013.44036>
18. **Shawaqfah**, M., Al Momani, F. A., & Al-Anber, Z. A. (2012). Afinidad. *Ozone Treatment of Aqueous Solutions Containing Commercial Dyes*, 69(559), 229-234.
- 19.
20. Al Momani, F., **Shawaqfah**, M., Shawaqfah, A., & Al-Shannag, M. (2008). Impact of Fenton and ozone on oxidation of wastewater containing nitroaromatic compounds. *Journal of Environmental Sciences*, 20(6), 675-682. [https://doi.org/10.1016/s1001-0742\(08\)62112-9](https://doi.org/10.1016/s1001-0742(08)62112-9)
21. Bdour, A. N., Hamdi, M. R., **Shawaqfeh**, M. S., & Al-Hussinat, M. M. (2008). Enhancing public participation in local air pollution assessment: A citizen participation prototype from Zarqa Governorate, Jordan. *Environmental Engineering Science*, 25(4), 451-460. <https://doi.org/10.1089/ees.2007.0066>
22. Saadoun, I., Mohammad, M., Hameed, K., & **Shawaqfah**, M. (2008). Brazilian Journal of Microbiology. *Microbial populations of crude oil spill polluted soils at the Jordan-Iraq desert (the Badia region)*, 39(3), 453-456. <https://doi.org/10.1590/S1517-83822008000300008>
23. **Shawaqfah**, M. S., Damseh, R. A., Chamkha, A. J., Duwairi, H. M., & Zgoul, M. H. (2007). International Journal of Heat and Technology. *Forced convection of blasius flow of "second-grad" visco-elastic fluid*, 25(1), 145-149.
24. Al Momani, F. A., Shawaqfeh, A. T., & **Shawaqfah**, M. S. (2007). Solar wastewater treatment plant for aqueous solution of pesticide. *Solar Energy*, 81(10), 1213-1218. <https://doi.org/10.1016/j.solener.2007.01.007>
25. Al-Sheriadeh, M. S., Barakat, M. S., & **Shawaqfah**, M. S. (1999). Water resources management. *Application of a decision making analysis to evaluate direct recharging of an unconfined aquifer in Jordan*, 13(4), 233-252. <https://doi.org/10.1023/A:1008169525519>

Training Material:

1. Developed the Training course: Groundwater Modeling.
2. Developed the training course: Applied Groundwater Modeling.
3. Developed training course on Artificial Groundwater Recharge.
4. Developed training course on Geochemistry Modeling.
5. Developed training course on Wastewater Treatment Modeling.
6. Developed training course on Pipe Network Design using EPANET and WATERCAD.
7. Developed training course on Sewer System Modeling Using SEWERCAD.
8. Developed training course on WaterShed Modeling Using WMS.

Funded Research Projects:

1. "Evaluation of River Bank Filtration for Protection of Jordanian Surface and Ground Water Resources", funded by NATO-Science Program (US \$ 420,000), Co-PI. (2005-2010)
2. "Hydro-geological and Hydro-chemical Investigation of Al-Mujib Basin Using Experimental, Numerical Modeling and GIS", funded by Mutah University (US \$ 15000), PI. (2009-2010)
3. "Improvement of aerobic biological processes: Increasing organic contaminant removal and decrease the amounts of Sludge", funded by Mutah University (US \$ 15000), Co-PI. (2007-2008)
4. "Treatment of Volatile Organic by Biological Treatment and Advanced Oxidation Technologies", funded by Spanish agency for International cooperation, Bilateral Grant. (US \$90,000) Co-PI. (2009-2010).
5. "Numerical and Experimental Investigation of The Environmental Impact of the Dead Sea level fluctuation on the Eastern Part of Dead Sea (fresh/salt water interface migration, Sinkholes Formation and Red Sea-Dead Sea Canal effects)", funded by Ministry of Higher Education and Scientific Research, Jordan.(\$ 240,000). PI. (2009-2012)
6. "Development of a Biogas Plant as an Alternative Source of Energy", funded by Ministry of Higher Education and Scientific Research, Jordan. (\$ 50,000). Co-PI. (2009-2011)
7. "Piloting and Strengthening Adaptation Capacity to Climate Change in the Zarqa River Basin", funded by UNDP, Jordan. (\$ 135,000). Co-PI, (2010-2012)
8. "Flood wave Propagation and Infiltration in Desert Regions: The Azraq Basin, Jordan", funded by USAID (PEER Program). (\$ 93,350). PI. (2012-2014).
9. "Reclaimed Wastewater as Groundwater Recharge" funded by Al al-Bayt University.(\$ 80,000). PI. (2014-2015).

10. "Development of Environmental Engineering and injection of climate change concept for Undergraduate curriculum: EU experience for Jordan and Syria - (Egreen)". Funded by Erasmus +. (\$1,000,000) Co-PI. (2016-2019).
11. "Optimized Performance of wastewater Treatment Plants in Jordan using ASM Modeling and respirometry Techniques ", funded by Ministry of Higher Education and Scientific Research, Jordan. (\$ 100,000). PI. (2017-2019).
12. "Solar Air Heating for Governments School in Warming Time ". Funded by Al al-Bayt University. (\$ 37,000). Co-PI. (2017-2019).
13. " Flood early warning system: design, implementation and computational modules in Mujib basin/Jordan , funded by Ministry of Higher Education and Scientific Research, Jordan. (\$ 120,000). PI. (Pending).
14. " GCRF_NF100 PPE & Refugees: dealing with a crisis by building livelihoods", funded by EPSRC. (\$1,093,325) Co-PI (2020-2022).

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

- Jordanian Engineers Association (JEA)
- Jordan Environment Society (JES)
- Arab Healthy Water Association (AHWA)

M.Sc. THESES SUPERVISED :

1. 1. " Groundwater resources management in Al-Jafer basin using modeling tools ", by Saif Shawawreh, Civil and Environmental Engineering Department, Mutah University, August 2007.
2. "Reclaimed Wastewater as: Groundwater Recharge (Experimental and Model Analysis ", by Mohammad Makawi, Civil and Environmental Engineering Department, Mutah University, January 2008.
3. "Paper recycling in Jordanian University ", by Jafer Al-Btoush, Civil and Environmental Engineering Department, Mutah University, August 2008.
4. "Development of three dimensional groundwater modle for Al-Coridoor well field/Amman–Zarqa basin ", by Amjad Al-Adaileh. Civil and Environmental Engineering Department, Mutah University, December, 2008.

5. "Improving the work and maintenance procedures using the Key Performance Indicators (KPI's): Field study on the management of operation and maintenance of the Region Tabuk –General Directorate of Water" by Abdulaziz Rashed Alharbi. Civil and Environmental Engineering Department, Mutah University, June, 2011.
6. "Assessment of Groundwater Pollution for Heavy Metal at Alakidr area Within Yarmouk Basin, Northwest Jordan", by Tareqa Naeem, Water Resources and Environment Division, Institute of Earth and Environment, Al al-Bayt University, June, 2016.
7. "Assessment of Groundwater Pollution with Heavy Metals in Al-zaatari area, North Jordan", by Bayan Zboun, Water Resources and Environment Division, Institute of Earth and Environment, Al al-Bayt University, April 2018.
8. "Industrial Wastewater Treatment Using Constructed Wetlands "by Yasmeeen Olimat, Water Resources and Environment Division, Institute of Earth and Environment, Al al-Bayt University, Ongoing.
9. "Sinkhole Formation Assessment in Ghor Al-Haditha / Jordan" by Tima Al-zboun, Water Resources and Environment Division, Institute of Earth and Environment, Al al-Bayt University, August, 2020.

M.Sc. Theses Examining Committee Member:

1. "The Use of Modflow to Study the Possibilities of Artificial Ground Water Recharge to Mujib Watershed". By Tamer Assa'ad, Civil Engineering Department, Jordan University of Science and Technology. April 2004.
2. "Image-Based ANN Modeling of the Performance of Wastewater Treatment Plants", by Rami Alawneh, Civil Engineering Department, Jordan University of Science and Technology, 2005
3. "Impacts of Hospital Liquid Waste on Domestic Wastewater Treatment Plants", by Sumaiah Fraiwan, Civil Engineering Department, Jordan University of Science and Technology, 2006.
4. "Water and Sediment yield for Wala Dam Catchment area ", by Esra Al-Tarawneh. Civil and Environmental Engineering Department, Mutah University, December 2007.
5. "Evaluation of Car Emission as One the Main Contributors to Air Pollution", by Nagam Al-Soub. Civil and Environmental Engineering Department, Mutah University, December 2007.
6. "Simulation of Groundwater Recharge from Wala Dam Reservoir", by Hamed Al-Nouaimat. Civil and Environmental Engineering Department, Mutah University, December 2007.
7. "A Geo-hydrological Study of Groundwater Artificial Recharge in Madoneh Area", by Basam Al-Qaisi. Civil and Environmental Engineering Department, Mutah University, April 2008.

8. "Fate and Transport of Nitrate in the Costal Aquifer of Gaza Strip and the Feasible Management Options". Civil Engineering Department, Jordan University of Science and Technology. April 2008.
9. "Development of Design Criteria for the Construction of Four Retention Dams in Wadi Modeneh/Jordan", by Mohammad Al-Bustanji. Civil and Environmental Engineering Department, Mutah University, May 2008.
10. "Environmental Impact Assessment of the Jordanian oil shale retort water", by Mohammad Al-Jaradeen. Civil and Environmental Engineering Department, Mutah University, August 2008.
11. "The Environmental Impact Assessment of Scrap Tires Combustion in Jordan", by Emad Al-Soud. Civil and Environmental Engineering Department, Mutah University, January, 2009.
12. "Evaluation Soil Collapsibility due to presence of Salt using Ultra Sound technique", by Odeh Abu Odeh, Civil Engineering Department, Hashmite University, July, 2011.
13. "Xeriscaping in Amman: A sustainable Water Conservation Approach", by Hana Hani Badad, IWRM Program, Jordan University, January, 2013.
14. "Climate change impacts on the water balance- analyzing approach for a hydrologic multi-model ensemble. A case study from Chiba watershed, Tunisia", by Iberle, Claudia, IWRM Program, Jordan University, January, 2013.
15. "Pretreatment of Thermal Desalination Feed Using Forward Osmosis", By Mshael Thabit. Environmental Engineering Program, Qatar University, Jan., 2019.
16. "Impact of Climate Change on Water Resources of Mujib Basin, Jordan "by Mohammad Talafha, Department of Civil Engineering, Jordan University of Science and Technology, January, 2019.
15. "Engineering A Fertilizing Draw Solution For Irrigation Using Forward Osmosis / Reverse Osmosis Hybrid System", By Mhd Ammar Nabil Hafiz, Civil Engineering Department, Qatar University, April, 2019.
16. "The use of Modeling and Simulation for Evaluating Performance and Reliability of Wastewater Treatment Plant Systems Under Different Scenarios" by Saif-Allah Farahat, Department of Civil Engineering, Jordan University of Science and Technology, July, 2019.
17. "Flash Floods Modeling in Jordan using Geographic Information System (GIS) and HEC-HMS Software" by Yazan Ababneh, Department of Civil Engineering, Jordan University of Science and Technology, June, 2020.
18. "Factors influencing the demand for Bottled water" by Bassam Sameer Abdulkhaleq, Civil and Environmental Engineering Department, German Jordanian University, August, 2020.

19. "Lead Removal from Aqueous Solution Using Nanoparticles" by Aseel Abdalla, Water Resource and Environmental Engineering Department, Al-Balqa Applied University. August, 2020.
20. "Modeling Electric Vehicle Ownership and Utilization" by Amin Salman Mustafa, Civil and Environmental Engineering, German Jordanian University, December, 2020.
21. " The Optimal Location of Charging Stations for Electric Vehicles in Jordan (Case Study: Amman) " by Dima Kabtawi, Civil and Environmental Engineering, German Jordanian University, December, 2020.

Technical Consultation:

- ✓ April- May 2005, "Design a wastewater treatment plant in Al-Ghor". IDRC, Canada.
- ✓ June-August 2006, "Best Management Practices to Improve On-Farm Water and Chemical Use Efficiency ". Al- Anbat Farms, Jordan.
- ✓ June-August 2007, "Realizing Economic Value from Industrial Waste Streams". Al-Kilani Paints Factory, Jordan.
- ✓ June-August 2008, "Refrigeration Using Solar Energy". Jarash Modern Ice Factory, Jordan.
- ✓ June-August 2009, "Design an Industrial Wastewater Treatment Plant". Rum Paints Factory, Jordan.
- ✓ June 2009–June 2010, "Activated Sludge modelling using ASM1". AL-Ain University, UAE.
- ✓ June-August 2010, "Food Processing Industrial Wastewater Treatment Plant". Alfa Beta Factory, Jordan.

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