

RESUME

ABBAS AL- OMARI



PERSONAL INFORMATION

Name: Abbas Al-Omari

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KEY QUALIFICATIONS

Dr. Al – Omari is currently an adjunct professor of Water Resources and Environmental Engineering at the Civil Engineering and Construction Management at the University of Texas at Tyler. Dr. Al-Omari received a Ph.D. degree from Washington State University in May of 1999 in Civil and Environmental Engineering. His Ph.D. dissertation is in inverse chlorine modeling in municipal water supplies. He earned his master's degree in 1994 in Civil and Environmental Engineering from the Middle East Technical University in Ankara-Turkey. His master's thesis is about evaluating different sludge drying alternatives on the bases of their performance and cost. Dr. Al -Omari's research interests are in drinking water quality modeling in water distribution systems such as modeling the propagation and the decay of constituents found in drinking water supplies i.e. chlorine and tri-halomethanes, river basin modeling (flow and quality), water, energy, food nexus, water energy nexus, water allocation, Non-Revenue Water, Climate Change causes, mitigation and adaptation, and water resources management.

EDUCATION

Ph.D. Civil and Environmental Engineering, Washington State University, May, 1999.

M.Sc. Civil and Environmental Engineering, Middle East Technical University, Ankara-Turkey, Jan. 1994.

B.Sc. Civil Engineering, Yarmouk University, Jordan, June, 1985.

Courses earned towards master's degree

- ☒ Advanced Water and Wastewater Treatment,
- ☒ Anaerobic Treatment of Wastes,
- ☒ Water Quality Management,
- ☒ Industrial Wastewater Treatment.
- ☒ Hydraulic System Design 1,
- ☒ Open Channel Hydraulics, and
- ☒ Water Resources System Engineering 1 (optimization techniques: linear programming, dynamic programming, integer programming)

Title of master's thesis

Development of a Methodology for Evaluating Sludge Drying Alternatives

Courses earned towards Ph.D. degree

- ☒ Environmental Engineering Processes,
- ☒ Advanced Hydraulic Engineering (Water Quality Modeling),
- ☒ Principles of Environmental Engineering,
- ☒ Unsteady Closed Conduit Flow,
- ☒ Fluid Mechanics,
- ☒ Applied Mathematics 1,
- ☒ Graduate Seminar, and
- ☒ Numerical Modeling in Fluid Mechanics

Title of Ph. D. dissertation

Unsteady State Inverse Chlorine Modeling in Pipe Networks

SELECTED RELEVANT EXPERIENCE

Aug. 2023 – Now: Adjunct Professor of water Resources and Environmental Engineering, Civil Engineering and Construction Management Department, University of Texas at Tyler,

April 2014 – Aug. 2023: Senior researcher/Full professor, Water, Energy and Environment Center, the University of Jordan.

Fall of 2018: Professor of Water Resources and Environmental Engineering at Al Albait University (Part time).

Aug. 2016 - June 2017: Visiting Fulbright scholar at Texas A&M University working on water, energy food nexus,

Aug. 2015 - Aug. 2016: Professor of Civil Engineering at Prince Mohammad bin Fahad University, Al Khobar, Saudi Arabia,

February 2012 till Aug. 2015: Director Assistant, Water, Energy and Environment Center, the University of Jordan.

March 2007 – April 2014: Associate researcher/Associate professor, Water, Energy and Environment Center, University of Jordan.

September 2007 – August 2008: Visiting professor at Washington State University working on optimum design of water distribution systems,

Summer 2005 and summer 2006: Visiting professor at Washington State University,

1999 – March 2007: Assistant Researcher/Assistant professor, Water and Environment Research and Study Center, University of Jordan.

1995: Research Assistant, Water and Environment Research and Study Center, University of Jordan.

Feb. 1988 – Jan. 1992: Civil Engineer in road construction projects in Saudi Arabia.

TEACHING

Undergraduate courses

- ✓ Senior Design project,
- ✓ Fluid mechanics,
- ✓ Hydraulic Engineering,
- ✓ Water and Wastewater Treatment,
- ✓ Water Resources Engineering,
- ✓ Materials in Civil Engineering, and
- ✓ Statics.

Graduate courses

Dr. Al-Omari has participated in teaching the following courses in the Integrated Water Resources Management Program (IWRM) which is a graduate program taught jointly with Cologne University for Applied Sciences in Germany.

- ✓ Sanitation and Public Health,
- ✓ Water Science (hydrology and water quality), and
- ✓ Water Supply (hydraulics and quality of water distribution systems).

SHORT COURSES

Dr. Al-Omari has also taught the following short courses which are directed to practicing engineers:

- ✓ Drinking Water Supply Systems (Jordan)
- ✓ Wastewater Treatment and Reuse (Jordan)
- ✓ Management of Wastewater Treatment Plants (Jordan)
- ✓ Drinking Water Supply II (USA)
- ✓ Low-scale, Low-cost, Wastewater Treatment for Reuse in Jordan (Jordan)
- ✓ Computer Simulation of Water Networks (Egypt)
- ✓ Operation of wastewater treatment plants (Jordan).

FUNDED RESEARCH PROJECTS

Dr. Al-Omari has effectively participated in more than thirteen research projects, most of which are internationally funded, some are locally funded. These projects ranged from research, to training and development of master's programs that address different topics such as Integrated Water Resources Management; climate change, water and food security. Dr. Al-Omari served as the University of Jordan coordinator for the following projects:

Internationally funded projects:

1. Jordan Water Skills Enhancement and Information to Decision – Makers project.

The project was funded by the US Agency for International Development (USAID). The lead institute for the project was Washington State University. Purdue University was a subcontractor from the US. Three universities from Jordan participated in the project, which are University of Jordan as the main contactor in Jordan, Jordan University of Science and Technology and Hashemite University. The original duration of the project was two years (March, 2000 – July, 2002). The project was extended until July, 2004.

This project aimed at improving the skills of the Ministry of Water and Irrigation engineers via training. Engineers from other key ministries in Jordan were targeted too, which are the ministry of Environment and the Ministry of Agriculture. The project consisted of about thirty five, water related, training courses. Most of the courses were held in Jordan, However, some courses were held at Washington State University (WSU) and/or Purdue University. In addition to the training courses the project included three research activities, which are: Water allocation action training, Reservoir Management action training, and Zara Ma'in Spring's Study.

In this project, I coordinated the project activities (training and research) among the partners in the United States and Jordan. In addition to coordinating the activities with the involved ministries in Jordan; the Ministry of Water and Irrigation, the Ministry of Environment and the Ministry of Agriculture. I further participated in obtaining the fund for the second stage. In addition to preparing technical intermediate and final reports including budget.

Research activities within this project are:

- Water allocation action training: The objective of this activity is the development of a model that determines the optimum use of available water subject to certain constraints. By the end of the project, MWI engineers were trained on the use of the developed model.
- Reservoir Management action training: The objective of this activity is the development of operational rules for a series of reservoirs based on optimizing the net profit of these reservoirs subject to certain constraints. MWI engineers were trained on the use of the final product.
- Zara And Zarqa Ma'in Spring's Study. The objective of this study is the evaluation of the quality and quantity of the water of springs at Zara and Mai'n in order to be used for drinking purposes. The study was completed in July, 2001.

2. **Mediterranean Development of Innovative Technologies for integrated water management (MEDITATE).**

This project was funded by the EU under the sixth framework program FP6-2002-INCO-MPC-1. The project started on May 1st 2004 and lasts till October 31 2007. The lead institute for this project is Bureau de Recherches Geologiques et Minieres (BRGM) which is a research institute in France. Other partners in the project are Center for National de la Recherche Scientifique (CNRS) in France, Cranfield University in Britain, Hacettepe University in Turkey, the Water Energy and Environment Center (WEEC), Ministry of energy and water in Lebanon, Atomic energy commission in Syria, and Provectos E Instalaciones de Desalacion sa (PRIDESA), which is a private company in Spain. The project aimed at the development of Water Management Support Systems (WMSS) for four basins in Lebanon, Syria, Turkey, and Jordan.

In this project, I coordinated the project activities, including reporting and budget, where Jordan is involved, with the other partners. In addition, I led work package four, which is the development of the WMSS for the four case studies.

3. **International master program “Integrated Water Resources Management” for German and Arab young professionals**

This project is a joint master’s program between WEEC of the University of Jordan and the University of Applied Sciences at Cologne (UASC) in Germany. The focus of the program is Integrated Water Resources Management (IWRM). Target group of the program is young water professionals from Germany and the Arab World (Jordan, Palestine, Iraq, Syria, morocco, Tunisia, Yemen, Sudan, Egypt). This project was funded by Deutscher Akademischer Austauschdienst (DAAD). The program lasted between 2006 and 2016. In this project, I participated in coordinating the work with the lead institute in Germany, and faculty members in Jordan, which included designing the program at the proposal writing and beginning of the program stages, students’ selection, teaching, thesis selection and defence, and reporting including budget. In addition to following up some administrative issues with the University of Jordan administration.

4. **Sustainable Water Management in Developing Countries (SWINDON)**

This project is part of the Higher Education **Excellence in Developing Cooperation (EXCEED)** program funded by the German Academic Exchange Service (DAAD). The strategic goal of EXCEED II is to contribute to the shaping of future subjects and scenarios through active cooperation between developing and industrialized countries. The lead institute of the project is Technische Universitat Braunschweig in Germany. The three phases of the project lasted between 2010 and 2022. The project consists of partners from four regions which are; Middle East and North Africa, South East Asia, Latin America and Sub-Saharan Africa. The Middle East and North Africa region includes partners from Turkey (Akdeniz University, Yildiz Technical University, Necmettin Arbakan University, Tubitak Marmara Research Center), Egypt (Ain Shams University, Al Mansoura University) and Jordan (the University of Jordan and Mutah University). The project activities included workshops, conferences, joint research projects, faculty exchange and student exchange. The second phase of the project started in January 2015 and lasted for five years; the third phase lasted between 2020 and 2022. In this project, I coordinated the project activities, for the second and third phases, with the different partners which included (workshops organization, faculty and student exchange, conferences organization, and joint research).

Dr. Al-Omari was the PI for the following locally funded projects:

1. Micro-plastics in bottled water in Jordan

Concerns about the wide spread of MPs in the environment have grown rapidly over the past decade, MPs have been detected in the marine environment, surface and ground waters, wastewater, finished drinking water and bottled water. The first media reports on MPs in drinking water were published in 2017, which was followed by several publications in 2018 and 2019. In terms of geographic distribution, MPs have been detected in fresh waters in Europe, North America and Aisa. There is also evidence that MPs have been detected in biota of marine waters, and in sea food too. Furthermore, MPs have also been detected in other human consumed products, such as beer and sea salt.

In Jordan MPs have been detected in King Abdulla Canal the source water to Zai Water Treatment Plant and in Zai influent and effluent. It worths mentioning that these two studies are the only studies so far about MPs in Jordan's waters; these two studies have been funded by the Dean of Scientific Research of the University of Jordan.

Many consumers rely on bottled water for drinking around the world, Jordan is no exception. For this reason, many researchers have investigated the presence of MPs in bottled water. In Jordan, many commercial brands of bottled water are available in the market. Due to the extensive reliance of consumers on bottled drinking water, it is important to investigate the presence of MPs in the commercially available bottled drinking waters and to quantify them as well.

The objective of this project is to investigate the presence of MPs in selected brands of bottled drinking water in Jordan and to quantify them as well. Impact of storage conditions, i.e. storage temperature and duration on MPs in bottled water will be investigated too. This project is funded by the Deanship of Scientific Research of the University of Jordan. The project is ongoing and is scheduled to last until September of 2027.

2. Micro-plastics in drinking water in Jordan

MPs have been detected in surface and ground waters, in addition to finished drinking water and bottled water as well, in many places around the world. Though the negative health impacts of MPs have not yet been identified, it is important to investigate their presence in water courses and finished drinking water in Jordan. This study is a first attempt in this direction. This project aims at identifying and quantifying micro-plastics in King Abdulla Canal which is the source of drinking water to West Amman. Micro-plastics removal efficiency by the different treatment units in Zai Water Treatment plant will be evaluated. This project is funded by the Deanship of Scientific Research of the University of Jordan. The project was concluded in December of 2023.

3. Decision support system for the management of Zarqa River

This project is funded by the Scientific Research Support Fund at the Ministry of Higher Education in Jordan. The project aims at developing a GIS data base of pollutants to the river. The GIS data base will include information about the polluter, the pollutant, and the concentration. The data base will include both point and non-point sources. The project will also develop a water quality model for the river for temperature, Electrical Conductivity (EC) and Chemical Oxygen Demand (COD). The project also aims at assessing the health impacts of the river. The project started on May 5th 2011 and will last for 30 months.

4. **Fate of Disinfectants and Disinfectant by Products in Drinking Water Networks.**

This project aimed at modeling chlorine decay in water supplies as well as studying the formation of chlorine by products such as trihalomethanes in part of Amman water supply. The project was funded by the Higher Council for Science and Technology which is a Jordanian council that supports scientific research. The duration of the project is two years (Nov., 2000 – Nov., 2002). The project was extended for one year.

Dr. Al-Omari participated as a researcher in the following projects:

1. **Nature Based Solutions for Domestic Water Reuse in Mediterranean Countries (NAWAMED)**

NAWAMED aims at changing the urban water management practices by means of innovative, sustainable, and low-cost treatment technologies, applicable in a decentralized way, to replace the use of high quality potable water for purposes such as irrigation and toilet flushing by non-conventional water resources such as treated wastewater. The two nature-based technologies that will be implemented in this project are constructed wet land and greywater treatment and reuse. The project is funded by the European Union and will last from October 2019 until October 2022. The lead institute is Province of Latina from Italy, the partners are: IRIDRA which is an engineering firm from Italy, SVI.MED. EuroMediterranean Center for the Sustainable Development from Italy, Centre for Water Research and Technologies from Tunisia, University of Jordan, Energy and Water Agency from Malta, and American University of Beirut from Lebanon. Associate partners are municipality of Tunis, municipality of Jerash from Jordan, municipality of Ferla from Italy and Politecnico di Torino from Italy.

2. **Innovations in Water Education Programs: Enhancing Water Security and Socio-economic development in Eastern Mediterranean Under Climate Change (WaSec)**

The project aims at the development of a curriculum for a master's program that meets the market needs and satisfies the enterprises needs in Jordan and Palestine. The goal is to improve water resources management by improving water use efficiency taking into consideration climate change. The project is funded by the ERASMUS+ Program of the European Union. It lasts for three years from Nov. 2019 until November 2022. Palestine Technical University – Kadoorie (PTUK) is the lead institute. Partners are: Jordan University of Science and Technology, Technologiko Ekpedefitiko Idrima Anatolikis Makedonias kai Thrakis (EMaTTech), the Amsterdam Centre for World Food Studies (ACWFS), Al Quds University (AQU), the University of Jordan, Open University of Cyprus, Universidad Politécnica de Madrid (UPM), Princess Sumaya University for Technology (PSUT), Palestinian Water Authority – (PWA), Applied Scientific Research Fund (ASRF) in Jordan, Creative Thinking Development in Athens, and Hydro-Engineering Consultancy (HEC) in Palestine.

3. **Development of an MSc. Program in Climate Change, Sustainable Agriculture and Food Security (CCSAFS)**

The project is a European Commission ERASMUS plus that aims at capacity building in partner institutions by designing and implementing a multi-disciplinary master's program in Climate Change, Sustainable Agriculture and Food Security in accordance with Bologna process. The lead institute of the project is the University of Crete. Other EU partners are University of Padova, Italy and Regional Centre of Expertise on Education for Sustainable Development, Crete. The project includes five partners

from Egypt which are: Aswan University, Al Azhar University, Heliopolis University, Suez Canal University, and SEKEM/RCE Cairo, in addition to four partner universities from Jordan which are: Jerash University, Jordan University, Mutah University, and Jordan University of Science & Technology. The project started in early 2017 and will last until end of 2019.

4. **Capacity building in Water and Renewable Energy Sectors**

This project includes two training courses, one in water supply and one in renewable energy resources. It is funded by the United Nations Educational Scientific and Cultural Organization (UNESCO).

5. **Total Maximum Daily Load (TMDL) for Little Spokane River (LSR) in Washington State.**

This project aimed at the determination of the TMDL for LSR for total Phosphorus, total Nitrogen, temperature and coliform count based on the current levels of these parameters as well as loads received from LSR tributaries. Dr. Al-Omari participated in this project for a short period while visiting Washington State University in the summer of 2006.

6. **A System Approach to Wastewater Biotreatment for the Protection of Mediterranean Coastal Areas (BIOWATSYST):**

The project aimed at determining the performance of constructed wetlands, as a low cost technology for treating domestic wastewater for subsequent reuse in irrigation. The project was funded by the European Union (EU) through the Avicenne Initiative. The duration of the project was four years (1997 – 2001).

PUBLICATIONS IN REFEREED JOURNALS BOOKS

1. Al-Omari, A. (2026). *Energy and carbon footprints for the planned Aqaba Amman Water Desalination and Conveyance Project (AAWDGP): Hydropower opportunities*. ***Journal of Water and Climate Change***. <https://doi.org/10.2166/wcc.2026.056>.
2. Al Omari, A., Fraihat, S., Jiries, A., Al Hamra, M. (2024). Micro plastics removal by Zai water treatment plant, Amman Jordan. ***Journal of Water Process Engineering***, 64,105602. <https://doi.org/10.1016/j.jwpe.2024.105602>.
3. Jiries, A., Al-Omari, A., Fraihat, S., Al Hamra, M. (2024). Abundance and distribution of microplastics in irrigation canal water in Jordan. ***Desalination and Water Treatment***, 318, 100409. <https://doi.org/10.1016/j.dwt.2024.100409>.
4. Muhammetoglu, A., Al-Omari, A, Al-Houri, Z., Topkaya, B., Tumbul, T., Muhammetoglu, H. (2023). Assessment of energy performance and GHG emissions for the urban water cycle toward sustainability. ***Journal of Water and Climate Change***, 14(1): 223-238. doi: <https://doi.org/10.2166/wcc.2022.267>.
5. Al-Omari, A., Al-Houri, Z., Muhammetoglu, H., Muhammetoglu, A., Topkaya, B. (2022). Energy and carbon footprints for the urban water cycle in Amman, Jordan. ***International Journal of Environmental Research***, 16(5): 1-12.

6. Al-Houri, Z. and Al-Omari, A. Assessment of rooftop rainwater harvesting in Ajloun, Jordan (2022). *Water Reuse*, 12(1): 22-32. <https://doi.org/10.2166/wrd.2021.064>.
7. Al-Omari, A., Al-Houri, Z. (2021). Impact of greywater recycle on black water quality. *Desalination and Water Treatment*, 218: 240-251. doi: 10.5004/dwt.2021.26973.
8. Al-Omari, A. and Mohtar, R. (2020). Optimum water allocation for the agricultural sector in South Central Texas. *Fresenius Environmental Bulletin*, 29(9A):8168-8176.
9. Al-Omari, A., Farhan, I., Kandakji, T., Jibril, F. (2019). Zarqa River pollution: Impact on its quality. *Environmental Monitoring and Assessment* 191: 166. <https://doi.org/10.1007/s10661-019-7283-9>.
10. Al-Omari, A., Al-Bakri, J., Hindiyeh, M., Al-Houri, Z., Farhan, I. and Jibril, F. (2018). Integrated Hydrologic and Quality Model for Zarqa River Basin in Jordan. *Fresenius Environmental Bulletin*, 27(7): 4637-4647.
11. Al-Weshah, R., Saidan, M., Al-Omari, A. (2016). "Environmental Ethics as a Tool for Sustainable Water Resources Management". *Journal of American Water Works Association*, 108(3): E175-E181.
12. Al-Omari, A., Al-Karablieh, E., Al-Houri, Z., Salman, A., Al-Weshah, R. (2015). "Irrigation water management in the Jordan Valley under water scarcity, *Fresenius Environmental Bulletin*, 24(4):1176-1188.
13. Al-Omari, A., Muhammetoglu, A., Karadirek, E., Jiries, A., Batarseh, M., Topkaya, B., and Soyupak, S. (2014). "A review on formation and decay kinetics of trihalomethanes in waters of different qualities". *CLEAN- Air, Soil, Water*, 42(12): 1687–1700.
14. Al-Omari, A., Salman, A., Al-Karablieh, E. (2014). "The red dead canal project: an adaptation option to climate change in Jordan". *Desalination and Water Treatment*, 52: 2833–2840. DOI: 10.1080/19443994.2013.819168.
15. Al-Houri, Z., Al-Omari, A., Saleh, O. (2014). "Frequency analysis of annual one-day maximum rainfall at Amman Zarqa basin, Jordan.", *Civil and Environmental Research*, 6(3):44-58.
16. Al-Omari, A. (2013). "A methodology for the Breakdown of NRW into Physical and Administrative losses". *Water Resources Management*, 27: 1913-1930, DOI 10.1007/s11269-013-0262-y.
17. Al-Omari, A., Al-Houri, Z., Al-Weshah, R. (2013). "Impact of the As Samra wastewater treatment plant upgrade on the water quality (COD, Electrical Conductivity, TP, TN) of the Zarqa River". *Water Science and Technology*, 67(7): 1455-1464.
18. Al-Karablieh, E., Salman, A., Al-Omari, A., Peter, Wolf, H., Al-Assa'd, T., Hunaiti, A., Subah, A. (2012). "Estimation of the Economic Value of Irrigation Water in Jordan". *Journal of Agricultural Science and Technology*, B 2: 487-497.
19. Sawajneh, Z., Al-Omari, A., and Halalsheh, M. (2010). "Anaerobic Treatment of Strong Sewage by Two Stage Systems of AF and UASB Reactors". *Water Science and Technology*. 61(9):2399-2406.

20. Al-Omari, A., Al-Quraan, S., Al-Salihi, A., and Abdulla, F. (2009). "A water management support system for AZB in Jordan". *Water Resources Management*. 23: 3165-3189.
21. Al-Omari, A. and Abdulla, F. (2009). "A model for the determination of residential water demand by the use of tracers". *Advances in Engineering Software*, 40(2):85-94.
22. Al-Omari, A. Fayyad, M., and Jamrah, A. (2008). "Drinking water quality in roof storage tanks in the city of Amman, Jordan". *Water International*, 33(2):189-201.
23. Barber, M. E., Loge, F., Al-Omari, A., and Fayyad, M. (2008). "Water Quality and Quantity in Jordan's Dead Sea Wadis". *Water International*, 33(3):369-379.
24. Abdulla, F. and Al-Omari, A. (2008). "Impact of climate change on the monthly runoff of a semi-arid catchment: Case study Zarqa-River Basin (Jordan). *Journal of Applied Biological Sciences*, 2(1): 43-50.
25. Jamrah, A., Al-Omari A., Al-Qasem, L., and Abdel Ghani, N. (2006). "Assessment of availability and characteristics of grey water in Amman". *Water International*, 31(2): 210-220.
26. Jamrah, A. I., Al-Omari, A. S. and Sharabi, R. (2006). "Evaluation of traffic noise pollution in the city of Amman, Jordan". *Journal of Environmental Monitoring and Assessment*, 120: 499-525.
27. Abdel Qader, A., Al-Omari, A., and Fayyad, M. (2006). "Mathematical modeling of the different trihalomethane species for Zai Water Treatment Plant". *Dirasat I*, 33 (1), 103-114.
28. Al-Omari A. and Jamrah A. (2005). "Calibration of Hazen Williams' coefficient in pipe networks using tracers". *Journal of Water Supply: Research and Technology-AQUA*, 54(5),293-311.
29. Al-Omari, A., Fayyad, M. and Abed Abdel Qader. (2005). "Modeling trihalomethane formation for Jabal Amman water supply in Jordan". *Journal of Environmental Modeling and Assessment*, 9(4), 245-252.
30. Al-Omari, A., Fayyad, M. and Al – Nimer, A. (2004). "Modeling chlorine residuals at Jabal Amman water supply". *Journal of Water Supply: Research and Technology-AQUA*, 53(5), 351-358.
31. Al-Omari, A. & Fayyad, M. (2003). "Treatment of Domestic Wastewater by Sub-Surface Flow Constructed Wetland In Jordan". *Desalination*. 155, 27-39.
32. Al-Omari, A. S. and Chaudhry, M. H. (2001). "Unsteady-state inverse chlorine modeling in pipe networks", *Journal of Hydraulic Engineering*, ASCE, 127(8), 669-677.

PUBLICATIONS IN REFEREED CONFERENCES

1. Hamaideh, A., Al-Omari, A., Sturm, M. (2013). "Integrated Water Management for Lafarge Cement-Jordan" World Academy of Science, Engineering and Technology, International Conference on Civil, Environmental and Structural Engineering, 82:316-319, October, 14-15, Barcelona, Spain.
2. Al-Omari, A. and Al-Houri, Z. (2012). "Response of King Abdulla Canal Water to the upgrade of As Samra WWTP", *World Academy of Science, Engineering and Technology, International Conference on*

Environmental, Biological and Ecological Sciences, and Engineering, 71:25-33, Nov. 14-16, Venice, Italy.

3. Al-Houri, Z. and Al-Omari, A. (2012). "Evaluation of drainage conditions in selected roadways in Amman, Jordan", *World Academy of Science, Engineering and Technology, International Conference on Environmental, Biological and Ecological Sciences, and Engineering*, 71:940-945, Nov. 14-16, Venice, Italy.
4. Al-Karablieh, E., Salman, A, and Al-Omari, A., Wolff, H., Al-Assa'd, T., Subah, A. "Estimation of the economic value of irrigation water in Jordan". *Proceedings of the first Water and Environment International Conference*, 26-29, October, 2011, Marrakech, Morocco.
5. Salman, A., Al-Karablieh, E., Al-Omari, A., Hussein, I., and Al-Assad, T. "Water Allocation Model". *Proceedings of the first Water and Environment International Conference*, 26-29, October, 2011, Marrakech, Morocco.
6. Al-Houri, Z., Al-Omari, A. Ramadan, K., Shakaa. "Quality of Highway Runoff at Two Locations in Amman City: A Preliminary Investigation", *Proceedings of 2011 International Conference on Environment and Bioscience (CCEA 2011)*, Cairo, Egypt, 21-23 October 2011.
7. Al-Omari, A. and Huber, M. "The Red Sea Dead Sea project: a solution to the water crisis in Jordan". *Proceedings of the International Sustainable Water and Wastewater Management Symposium (USAYS)*. Konya, Turkey 26-28, 10, 2010.
8. M. Barber, C. Pannkuk, M. Fayyad, A. Al-Omari, "Capacity Building within the Ministry of Water and Irrigation in Amman, Jordan: Successes, Failures, and Lessons Learned," Building Capacity for Future Challenges poster session, World Water Week, Stockholm, Sweden, August 2007.
9. Al-Omari, A., Abu-Zant, M. and Fayyad, M. (2006). "Re-use of treated wastewater for irrigation". *Proceedings of the Regional EMWater Project Conference on Efficient Management of Wastewater Treatment and Re-Use in the Mediterranean Countries*, Amman-Jordan, October 30 to Nov. 1, 2006, p. 41.
10. Emad Al-Karablieh, Amer Salman, and Abbas Al-Omari (2006). "The Residential Water Demand Function in Amman-Zarka Basin in Jordan". *Proceedings of the Third International Conference on Water Resources in Mediterranean Basin*, Tripoli, Lebanon, November 1st to November 3rd, p. 227.
11. Al-Omari, A., Courtois, N., Lanini, S., Al-Fares, W., Al-Charideh, A., Salman, A., Al-Karablieh, E., Ekmekci, M., and Levant, T (2006). "Development of Water Management Support Systems for Mediterranean Countries". *Proceedings of the Third International Conference on Water Resources in Mediterranean Basin*, Tripoli, Lebanon, November 1st to November 3rd, p. 59.
12. Emad Al-Karablieh, Amer Salman , Abbas Al-Omari, Mohammad Osman & Khaled Al-Zubaidi (2006). "Thematic: Water Allocation Model in Ghor Al-Safi in Jordan". *Proceedings of the Third International Conference on Water Resources in Mediterranean Basin*, Tripoli, Lebanon, November 1st to November 3rd, p. 160.
13. Halasheh, M., Sawajneh, Z., Salihi, A., Al-Omari, A., and Fayyad, M., (2004). "AF/UASB and UASB/AF systems for strong sewage treatment". *Proceedings of the 10th world congress on anaerobic digestion*, Aug. 29 – Sep. 2nd, Montreal, Canada.

14. Al-Omari, A. S., & Chaudhry, M. H. (1998). "Inverse Chlorine Modeling in Pipe Networks". *Proceedings of the Annual Water Resources Planning and Management Conference, Water Resources and the Urban Environment* 1998, p 253-259.

BOOKS and BOOK CHAPTERS

1. Noguchi, K., Wheeler, K., Al-Omari, A. (2025). Cost–Benefit Analysis of Subsidization of Water-Efficient On-Farm Irrigation Systems in the Northern Jordan Valley, Jordan. In: Bahadir, M., Haarstrick, A., Güneş, K., Topkaya, B., Al-Omari, A. (eds) *Agricultural Water Management. Water and Wastewater Management*. Springer, Cham. https://doi.org/10.1007/978-3-031-96134-2_17.
2. Bahadir, M., Haarstrick, A., Güneş, K., Topkaya, B., Al-Omari, A. (2025). *Agricultural Water Management. Water and Wastewater Management*. Springer, Cham. https://doi.org/10.1007/978-3-031-96134-2_17.

REVIEWER

Dr. Al-Omari is a reviewer for the following international journals:

1. Water Supply Research and Technology, AQUA,
2. Journal of the American Water Works Association (JAWWA),
3. International Journal of Hydrology Science and Technology (IJHST),
4. Journal of Environmental Monitoring and Assessment,
5. Water Science and Technology: Water Supply
6. Water resources management, and
7. Journal of Environmental Management.

GRADUATE STUDENTS

Dr. Al-Omari supervised the following graduate students:

1. Application of Hydro Turbines in Water Supply Systems for Energy Recovery in Jordan; A Case Study of Aqaba Water Supply System, by Abdalla Khair, 2013,
2. Analyzing of water loss reduction strategy in Amman, Jordan, towards a pro-poor approach, by Maika Muller, January 2012,
3. Non-Revenue Water reduction by involving the private sector, case study of Madaba, Jordan, by Hani Al-Koli, January 2012,
4. Hydrological balance of the Jeita spring catchment, by Philip Schuler, January 2012,
5. Optimum water allocation in Azraq basin using WEAP system by Ali Al-Hayajneh, January 2011,

6. Non-Revenue water management in Sana'a water distribution system by Taha Al-Washali, January 2011,
7. Towards the prevention of water pollution from industrial activities in the Nahr El-Kalb watershed by Christine bastch, January 2001,
8. The potential of rooftop rainwater harvesting for Sana'a, Yemen, by Musaed Aklan, January 2001,
9. Water demand management as an instrument to reduce the negative water balance in the Damascus basin, Syria by Christian Glaser. January 2011.
10. Modeling sea water intrusion into Rosetta branch, Nile River Delta, Egypt by Mustafa El-Morshdy, January 2011,
11. Integrated water management for Lafarge Cement Jordan by Azzam Hamaideh, January 2010.
12. Adsorption of selected nutrients from wastewater effluents onto Zeolite modified soil by Mohammad Karabsheh, Jan., 2004,
13. Anaerobic treatment of strong sewage by applying combined systems of AF and UASB by Zoulina F. Sawajneh, Aug., 2004.
14. Chlorine decay rate and chlorination efficiency studies for drinking water in Jordan by Aseel A. Al-Nimer, June, 2002,
15. The effect of bromide ion on trihalomethane formation in King Abdulla Canal and Zai water treatment plant by Abed Y. Abdelqader, July, 2002,

FACULTY TRAINING

I attended the following training workshops which aim at updating the different skills of faculty members to enhance their capacity in both teaching and training:

1. Training workshop on ***Patent Registration***, November 2019,
2. Training workshop on ***Cyber Security***, Feb. 2020,
3. Training workshop on ***Camtasia Studio***, March 2020,
4. Training workshop on ***Teaching Methodologies***, this workshop was held within the Climate Change, Sustainable Agriculture, and Food Security master program, 29th July to 1st Aug., 2018, Jordan,
5. Training workshop on ***Practicing Methodologies for the Inclusion of Sustainable Development Goals (SDGs)*** in course curriculum, this workshop was held within in the Climate Change, Sustainable Agriculture, and Food Security master program, (21-24) February, Jordan.

CONFERENCES AND WORKSHOPS

1. ASCE Region 6 Student Symposium 2024. April 10-13, San Anjelo, Texas.
2. The 12th International Symposium of the Inter-Islamic Network on Water Resources Development and Management (INWRDAM): WEF Nexus for Human Security in the Post Pandemic Era "Building Bridges Towards Human Security", Amman-Jordan, 26th, Sept., 2021.
3. World Hydropower Congress, virtual conference, (7 – 24) Sept., 2021.
4. The Second National Conference on Water Energy Nexus: JO: NEXUS 2021, the Dead Sea, Jordan, (15-16) Sept. 2021.

5. International webinar on Plastic/Micro-plastic Pollution and Management”, June 2nd, 2021, organized by the EXCEED/SWINDON network.
6. **Water Security and Climate Change** conference (WSCC 2021), virtual conference, broadcasted from Cologne, Germany, 1st to 4th of March, 2021.
7. **International Renewable and Sustainable Energy Conference (IRSEC’20)**, virtually via video conferencing, broadcasted from Tetouan-Morocco, 25th to 28th, November 2020.
8. Webinar on Water, Energy Nexus in the MENA region, October 15 and 21, 2020. Organized by EXCEED/SWINDON project.
9. Regional workshop on: Water Resources and Climate Change: Impacts, Mitigation and Adaptation, 03-07, November, 2019, Amman, Jordan.
10. The fifth IWA international symposium on Water and Wastewater Technologies in Ancient Civilizations: Evolution of Technologies from Pre-History to Modern Times, September 11-13, 2019, Dead Sea, Jordan.
11. SWINDON conference 2019: The Future of Water Resources, October 13-18, 2019, Merida, Mexico.
12. COSIMENA water cluster workshop on Water Resource Management, 24 July, 2019, Amman-Jordan.
13. International conference on Water Security and Climate Change conference. Organized by EXCEED network, (03-06)/12/2018, Nairobi, Kenya.
14. Regional workshop on: Water-Energy-Food Nexus in MEANA region, 11-17, November, 2018, Aswan, Egypt.
15. Regional workshop on: Water Scarcity: Risks and Solutions, 24-27, April, 2018, Sousse, Tunis.
16. The German-Arab Knowledge Transfer Colloquium on Water-Energy-Food Nexus. (26/11 – 8/12), 2017, Duisburg-Germany.
17. Regional workshop on Water Use in MENA countries 2017, (3-8)/11/2017, Marrakech, Morocco.
18. Water, Energy Food Nexus Workshop on Integrated Science, Engineering and Policy: A Multi Stakeholder Dialogue, January 26 - 27, 2017, College Station, TX, United States.
19. 2016 Fulbright visiting scholar enrichment seminar. Democracy at the local level: the role of civil society in making change, December 11-14, 2016, San Diego, California,
20. Franco-Jordanian Forum on Water Sustainability. 18-20, Nov. 2014, Amman-Jordan,
21. Groundwater governance in the Arab World: Taking stock and addressing the challenges, October 29th, 2014, Amman-Jordan.
22. International conference on Social Studies in the MENA region. Sep. 28-29, 2014, Amman-Jordan.
Scientific and organizing committee member,

23. Exceed regional workshop on Urban Water Management and Demand Management. May 16-19, 2014, Antalya-Turkey,
24. International Conference on Water Resources and Environmental Management. May 13-15, 2014, Antalya-Turkey.
25. Water in the Arab World: Status, Challenges and Opportunities. February, 25-27, 2014, Amman-Jordan. ***Chair of the organizing committee.***
26. Exceed regional workshop, Sustainable Management of Hydrological Systems in Arid and Semi-Arid Regions. May 11-15, 2013, Amman-Jordan. ***Organizing committee member.***
27. International Conference on Civil, Environmental and Structural Engineering, October, 14-15, 2013, Barcelona, Spain.
28. International Conference on Environmental, Biological and Ecological Sciences, and Engineering, Nov. 14-16, 2012, Venice, Italy,
29. Exceed Regional Expert Workshop on Water Losses Management in Water Supply Systems, September 25-29, 2012, Antalya, Turkey,
30. Second WEAP Regional Conference: Applying a Decision Support System as a tool for Integrated Water Resources Management and Climate Change Adaptation. May, 3-5, 2011, Amman, Jordan.
31. The first Water and Environment International Conference, 26-29, October, 2011, Marrakech, Morocco.
32. International Sustainable Water and Wastewater Management Symposium, May 26-28, 2010, Konya, Turkey.
33. Regional Conference: Applying WEAP as a Decision Support System for IWRM, May 25 – 27, 2009, Damascus, Syria.
34. The Third International Conference on Water Resources in Mediterranean Basin, November 1st to November 3rd, 2006, Tripoli, Lebanon.
35. The Regional EMWater Project Conference on Efficient Management of Wastewater Treatment and Re-Use in the Mediterranean Countries, October 30 to Nov. 1, 2006, Amman-Jordan.
36. The INCO-MED Water Conference, 14-15 June, 2004, Amman-Jordan.
37. The second international conference on Wadi Hydrology, July 1-4, 2003, Amman-Jordan.
38. The Annual Water Resources Planning and Management Conference, Water Resources and the Urban Environment, June 7-10, 1998, Chicago, IL.

AWARDS

1. Fulbright grant for the academic year 2016/2017 to Texas A&M University,
2. USAID full Ph. D. grant through the University of Jordan between 1995-1999,

3. Full scholarship from the Jordan Armed Forces for B.SC. degree in Civil Engineering between 1980-1985,

GOOGLE SCHOLAR ADDRESS

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

RESEARCH GATE ADDRESS

https://www.researchgate.net/profile/Abbas_Al-Omari

LANGUAGES

Arabic – Native language, and
English – Fluent in speaking and writing.

PROGRAMMING LANGUAGES

Professional FORTRAN 90 programmer, and
Familiar with Visual Basic

SOFTWARE

Basic computer skills (Word, Excel, Power point, internet, etc.).

WaterCad: A software developed by Haestad methods which mainly simulates flows, pressures and different water quality parameters in water supplies.

EPANET: A software that simulates the behavior of water supplies, quantity and quality.

EPA_SWMM: Familiar with the Environmental Protection Agency Storm Water Management Model.

HEC_HMS: Familiar with the Hydrologic Modeling System developed by the US Army Corps of Engineers, Hydrologic Engineering Center.

QUAL2K: A software that simulates surface water quality for different selected parameters.

Water Evaluation And Planning system (WEAP): A software developed by the Stockholm Environment Institute. WEAP is an Integrated Water Resources Management software that incorporates hydrologic, water quality and water allocation into one tool.

General Algebraic Modeling System (GAMS): A software that solves different types of constrained optimization problems, linear, dynamic, integer and mixed linear and integer.

Mini Tab: Statistical analysis software.

Arc GIS: Familiar with Arc GIS.