AMMAR A. ALBALASMEH

Professor, Environmental Soil Physics

Department of Natural Resources and Environment
Faculty of Agriculture
Jordan University of Science and Technology

aalbalasmeh@just.edu.jo
Office: +962-2-7201000 Ext. 22050
Mobile: +962-7-97599144

EDUCATION

Ph.D.	Environmental Soil Physics	University of California, Merced	2009-2013
M.Sc.	Natural Resources & Environment	Jordan University of Science and Technology	2005-2008
B.Sc.	Soil, Water & Environment	Jordan University of Science and Technology	2001-2005

PROFESSIONAL POSITIONS

Deputy Director	Water Diplomacy Center/JUST	01/2025- present
Professor	Jordan University of Science and Technology	08/2024- present
Research Lead	Water Diplomacy Center/JUST	08/2024- present
Associate Professor	Jordan University of Science and Technology	08/2020- 08/2024
Vice Dean	Jordan University of Science and Technology	09/2022- 09/2024
Department Chairman	Jordan University of Science and Technology	09/2018- 09/2021
Assistant Dean	Jordan University of Science and Technology	09/2015- 09/2018
Assistant Professor	Jordan University of Science and Technology	02/2014- 08/2020
Teaching and Research Assistant	University of California, Merced	08/2009-08/2013
Information point officer	Higher Council for Science and Technology	04/2008-07/2009
Teaching Assistant	Jordan University of Science and Technology	02/2006-01/2008

PEER-REVIEWED PUBLICATIONS

Published Papers

45. **Albalasmeh, A.A.**, A.K. Almakhadmeh, I.M. Makhadmeh, O. Mohawesh and M. Al Meselmani. **2025**. Silicon Extends the Shelf Life of Hydroponically Grown Lettuce. *Scientific Reports* https://doi.org/10.1038/s41598-025-08489-y **Q1**.

44. Abu-Agolah, T.K., S. Rabab'ah, **A.A. Albalasmeh**, O. Al Hattamleh. A.A. Sharo and T.J. AlGaragreh. **2025**. Hydro-mechanical Properties of Micro-silica-treated Soil Using the Unified Effective Stress Equation. *Geotech Geol Eng* 43:158 https://doi.org/10.1007/s10706-025-03123-0 **Q1**.

43. Gharaibeh, M.A., **A.A. Albalasmeh**, and M. Obeidat. **2024**. Assessment of Water Quality of Key Dams in Jordan for Irrigation Purposes with Insights on Parameter Thresholds. *Water* 16:1726 https://doi.org/10.3390/w16121726 **Q1**.

42. Zeadeh, D., **A.A. Albalasmeh**, O.E. Mohawesh, and K. Unami. **2024**. Shading for Sustainability: Assessing the Impact of Different Colors and Intensities on Water Evaporation, *Applied Water Science* 14:97 https://doi.org/10.1007/s13201-024-02155-w **Q1**.

41. **Albalasmeh, A.A.**, M.Z. Quzaih, M.A. Gharaibeh, M. Rusan, O.E. Mohawesh, S.R. Rababah, A. Alqudah, A. Alghamdi, A. Naserin. **2024**. Significance of Pyrolytic Temperature, Application Rate and Incubation Period of Biochar in Improving Hydro-Physical Properties of Calcareous Sandy Loam Soil. *Scientific Reports* 14:7012
https://doi.org/10.1038/s41598-024-57755-y **Q1**.

40. Gharaibeh, M.A., **A.A. Albalasmeh**, N. Moos, O. Mohawesh, C. Pratt, and A. Elhanandeh. **2024**. A comparative analysis to forecast salinity and sodicity distributions using empirical Bayesian and disjunctive kriging in irrigated soils of the Jordan Valley. *Environmental Earth Sciences* 83:238
https://doi.org/10.1007/s12665-024-11537-x **Q2**.

39. **Albalasmeh, A.A.**, O.E. Mohawesh, M.A. Gharaibeh and T. Ghezzehei. **2024**. A novel approach for determining soil carbohydrates using UV spectrophotometry, *Journal of the Saudi Society of Agricultural Sciences*
https://doi.org/10.1016/j.jssas.2024.01.004 **Q1**.

38. Al-Ajlouni, Z., H. Sleit, M. Al-Gharaibeh, A. Al-Ghzawi, **A.A. Albalasmeh**, Y. Bani Khalaf, and A. Al-Abdallat. **2024**. Evaluating the Impact of Pre-Anthesis Water Deficit on Yield and Yield Components in Triticale (X Triticosecale wittmak) Genotypes under Controlled Environmental Conditions, *Journal of Ecological Engineering* 25:96–106
https://doi.org/10.12911/22998993/178344 **Q2**.

37. **Albalasmeh, A.A.** and H. Piri. **2024**. Mitigating Water Stress Effects on Roselle Production: Effects of Conocarpus Biochar and Nitrogen Fertilizer on Soil Nutrients and Yield, *Plant and Soil*
https://doi.org/10.1007/s11104-023-06459-9 **Q1**.

36. **Albalasmeh, A.A.**, O.E. Mohawesh, A. Alqudah, K. Unami, Z. Al-Ajlouni and A. Klaib. **2023**. The Potential of Biochar Application to Enhance Soil Quality, Yield, and Growth of Wheat and Barley under Rainfed Conditions, Water, Air, & Soil Pollution 234:463
https://doi.org/10.1007/s11270-023-06493-4 **Q2**.

35. **Albalasmeh, A.A.**, O.E. Mohawesh, D. Zeadeh and K. Unami. **2023**. Robust optimization of shading types to control the performance of water reservoirs, *Journal of Cleaner Production*, 415:137730
https://doi.org/10.1016/j.jclepro.2023.137730 **Q1**.

34. **Albalasmeh, A.A.** and O.E. Mohawesh. **2023**. Effects of olive mill wastewater on soil physical and hydraulic properties: a review, *Water, Air, Soil Pollution* 234:42
https://doi.org/10.1007/s11270-022-06055-0 **Q2**.

33. Piri, H., A. Naserin, and **A.A. Albalasmeh**. **2023**. Interactive effects of deficit irrigation and vermicompost on yield, yield components, quality and IWUE of Cucumber, *Journal of Arid Land* 14:1274–1292
https://doi.org/10.1007/s40333-022-0035-7 **Q2**.

32. Makhadmeh, I., K. Abu Rashed, and **A.A. Albalasmeh**. **2023**. Treated wastewater as a partial nutrient source for Lily grown in a soilless system in presence of Arbuscular Mycorrhizal Fungi. *International Journal of Recycling of Organic Waste in Agriculture*, 12: 269-278
10.30486/IJROWA.2022.1950291.1405 **Q1**.

31. **Albalasmeh, A.A.**, O. Mohawesh, M.A. Gharaibeh, S. Deb, L. Slaughter and A. El Hanandeh. **2022**. Artificial neural network optimization to predict saturated hydraulic conductivity in arid and semi-arid regions *Catena*, 217:106459
https://doi.org/10.1016/j.catena.2022.106459 **Q1**.

30. Makhadmeh, I.M., **A.A. Albalasmeh**, M. Ali, S.G. Thabet, W. Darabseh, S. Jaradat, and A.M. Alqudah. **2022**. Molecular characterization of tomato (Solanum lycopersicum L.) landraces under drought stress, *Horticulturae*, 8:600
https://doi.org/10.3390/horticulturae8070600 **Q1**.

29. **Albalasmeh, A.A.**, M.Z. Alghzawi, M.A. Gharaibeh and O. Mohawesh. **2022**. Assessment of the Effect of Irrigation with Treated Wastewater on Soil Properties and on the Performance of Infiltration Models, *Water*, 14:1520
https://doi.org/10.3390/w14091520 **Q1**.

28. **Albalasmeh, A.A.**, O. Mohawesh, M.A. Gharaibeh, A.G. Alghamdi, M. Ajluni and A. M. Alqudah. **2022**. Effect of Hydrogel on Corn Growth, Water Use Efficiency, and Soil Properties in a Semi-Arid Region, *Journal of the Saudi Society of Agricultural Sciences*, 21: 518-524
https://doi.org/10.1016/j.jssas.2022.03.001 **Q1**.

27. Mohawesh, O., **A.A. Albalasmeh**, S. Deb, S. Singh, C. Simpson, N. Alkafaween, and A. Mahadeen. **2022**. Effect of Colored Shading Nets on the Growth and Water Use Efficiency of Sweet Pepper Grown under Semiarid Conditions. *HortTechnology*, 32:21-27
https://doi.org/10.21273/HORTTECH04895-21 **Q2**.

26. Makhadmeh, I.M., S.G. Thabet, M. Ali, B. Alabbadi, **A.A. Albalasmeh**, and A.M. Alqudah. **2022**. Exploring genetic variation among Jordanian Solanum lycopersicon L. landraces and their performance under salt stress using SSR markers, *Journal of Genetic Engineering and Biotechnology*, 20:45
https://doi.org/10.1186/s43141-022-00327-2 **Q2**.

25. Gharaibeh, M.A., **A.A. Albalasmeh** and H. Abu Abbas. **2022**. Characterization of olive mill wastewater in north Jordan: spatial and multivariate analyses. *International journal of recycling organic waste in agriculture*, 11: 213-228.
https://doi.org/10.30486/IJROWA.2021.1910881.1143 **Q1**

24. Mohawesh, O., **A.A. Albalasmeh**, M.A. Gharaibeh, S. Deb, C. Simpson, S. Singh, B. Al-Soub, and A. El Hanandeh. **2021**. Potential use of biochar as an amendment to improve soil fertility and plant growth performance under arid conditions. *Journal of Soil Science and Plant Nutrition*, 21:2946-2956
https://doi.org/10.1007/s42729-021-00580-3 **Q1**.

23. Makhadmeh, I., S. Gharaiebeh, and **A.A. Albalasmeh**. **2021**. Impact of Irrigation with Treated Domestic Wastewater on Squash (Cucurbita pepo L.) Fruit and Seed under Semi-Arid Conditions. *Horticulturae*, 7:226
https://doi.org/10.3390/horticulturae7080226 **Q1**.

22. El Hanandeh, A., **A.A. Albalasmeh** and M.A. Gharaibeh. **2021**. Effect of pyrolysis temperature and biomass particle size on the heating value of biochar and optimization using Response Surface

Methodology. *Biomass and Bioenergy*, 151:106163.
https://doi.org/10.1016/j.biombioe.2021.106163 **Q1**.

21. Gharaibeh, M.A., **A.A. Albalasmeh**, C. Pratt, and A. El Hanandeh. **2021**. Estimation of exchangeable sodium percentage from sodium adsorption ratio of salt-affected soils using traditional and dilution extracts, saturation percentage, electrical conductivity, and generalized regression neural networks. *Catena*, 205: 105466.
https://doi.org/10.1016/j.catena.2021.105466 **Q1**.

20. Gharaibeh, M.A., **A.A. Albalasmeh** and A. El Hanandeh. **2021**. Estimation of saturated paste electrical conductivity using three modelling approaches: traditional dilution extracts; saturation percentage and artificial neural networks. *Catena*, 200: 105141.
https://doi.org/10.1016/j.catena.2020.105141 **Q1**.

19. **Albalasmeh, A.A.**, E. Hamdan and M.A. Gharaibeh. **2021**. Improving aggregate stability and hydraulic properties of Sandy loam soil by applying polyacrylamide polymer. *Soil & tillage Research*, 206:104821.
https://doi.org/10.1016/j.still.2020.104821 **Q1**.

18. El Hanandeh, A., **A.A. Albalasmeh**, M.A. Gharaibeh, and M. Ajlouni. **2021**. Modification of biochar prepared from olive oil processing waste to enhance phenol removal from synthetic and olive mill wastewater. *Separation Science and Technology* 56:10, 1659-1671
https://doi.org/10.1080/01496395.2020.1794897 **Q2**.

17. **Albalasmeh, A.A.**, M.A. Gharaibeh, O. Mohawesh, M. Ajlouni, M. Quzaih, M. Masaad and A. El Hanandeh. **2020**. Characterization and Artificial Neural Networks Modelling of methylene adsorption of biochar derived from agricultural residues: effect of biomass type, pyrolysis temperature, particle size. *Journal of Saudi Chemical Society* 24: 811-823.
https://doi.org/10.1016/j.jscs.2020.07.005 **Q1**.

16. Mohawesh, O., **A.A. Albalasmeh**, H. Al-Hamaiedeh, S. Qaraleh, O. Maaitah, A. Bawalize and D. Almajali. **2020**. Controlled land application of Olive Mill Wastewater (OMW): enhance soil indices and barley growth performance in Arid Environments. *Water, Air, & Soil Pollution*, 231:214.
https://doi.org/10.1007/s11270-020-04612-z. **Q2**.

15. **Albalasmeh, A.A.**, M.A. Gharaibeh, M.Z. Alghzawi, R. Morbidelli, C. Saltalippi, T. Ghezzehei and A. Flammini. **2020**. Using wastewater in irrigation: the effects on infiltration process in a clayey soil. *Water*, 12(4), 968,
https://doi.org/10.3390/w12040968 **Q1**.

14. **Albalasmeh, A.A.**, M.A. Alajlouni, M.A. Gharaibeh, M.J. Rusan. **2019**. Short-Term Effects of Olive Mill Wastewater Land Spreading on Soil Physical and Hydraulic Properties. *Water, Air, & Soil Pollution*, 230:208.
https://doi.org/10.1007/s11270-019-4243-5. **Q2**.

13. Mohawesh, O., H. Al-Hamaiedeh, **A.A. Albalasmeh**, S. Qaraleh, and M. Haddadin. **2019**. Effect of Olive Mill Wastewater (OMW) Application on Soil Properties and Wheat Growth Performance Under Rain-Fed Conditions. *Water, Air, & Soil Pollution*,230:160.
https://doi.org/10.1007/s11270-019-4208-8. **Q2**.

12. Rahmati et al., [including **A.A. Albalasmeh**].**2018**. Development and Analysis of Soil Water Infiltration Global Database. *Earth System Science Data*, 10: 1237-1263. https://doi.org/10.5194/essd-10-1237-2018 **Q1**.

11. El Hanandeh, A., M.A. Gharaibeh and **A.A. Albalasmeh**. **2018**. Phosphorus removal efficiency from wastewater under different loading conditions using sand biofilters augmented with biochar. *International Journal Of Environmental Science And Technology*, 51:927-934. https://doi.org/10.1007/s13762-017-1474-0 **Q2**.

10. El Hanandeh, A., **A.A. Albalasmeh** and M.A. Gharaibeh. **2017**. Phosphorus Removal from Wastewater in Biofiltrs with Biochar Augmented Geomedium: Effect of Biochar Particle Size. *CLEAN Soil Air Water*, 45: 1600123. https://doi.org/10.1002/clen.201600123 **Q2**.

9. Gharaibeh, M.A., T.A. Ghezzehei, **A.A. Albalasmeh** and M.Z. Alghzawi. **2016**. Alteration of Physical and Chemical Characteristics of Clayey Soils by Irrigation with Treated Waste Water. *Geoderma*, 276: 33-40. https://doi.org/10.1016/j.geoderma.2016.04.011 **Q1**.

8. Rusan, M.J., **A.A. Albalasmeh** and H.I. Malkawi. **2016**. Olive mill wastewater treated by different technologies: soil quality and plant growth. *Water, Air, & Soil Pollution*, 227:135. https://doi.org/10.1007/s11270-016-2837-8. **Q2**.

7. Gharaibeh, M.A., **A.A. Albalasmeh**, B. Marschner and Y. Sleem. **2016**. Cadmium uptake and translocation of tomato in response to simulated irrigation water containing elevated concentrations of cadmium and zinc in clayey soil. *Water, Air, Soil Pollution*, 227:133. https://doi.org/10.1007/s11270-016-2829-8. **Q2**.

6. Rusan, M.J., **A.A. Albalasmeh**, S. Zuraiqi, and M. Bashabsheh. **2015**. Evaluation of Phytotoxicity effect of olive mill wastewater treated by different techniques on seed germination of Barley (*Hordeum vulgare L.*). *Environmental Science and Pollution Research*, 22: 9127-9135. https://doi.org/10.1007/s11356-014-4004-3 **Q2**.

5. Ghezzehei, T.A. and **A.A. Albalasmeh**. **2015**. Spatial distribution of exudates provides built-in water potential gradient for root uptake. *Ecological Modelling*, 298: 53-63. https://doi.org/10.1016/j.ecolmodel.2014.10.028 **Q1**.

4. **Albalasmeh, A.A.** and T.A. Ghezzehei. **2014**. Interplay Between Soil Drying and Root Exudation in Rhizosheath Development. *Plant and Soil*, 374:739-751. https://doi.org/10.1007/s11104-013-1910-y **Q1**.

3. **Albalasmeh, A.A.**, AA Berhe and T.A. Ghezzehei.**2013**. A new method for rapid determination of carbohydrate and total carbon concentrations using UV spectrophotometry. *Carbohydrate Polymers*, 97(2): 253-261. https://doi.org/10.1016/j.carbpol.2013.04.072 **Q1**.

2. **Albalasmeh, A.A.**, M Berli, DS Shafer and T.A. Ghezzehei. **2013**. Degradation of moist soil aggregates by rapid temperature rise under low intensity fire. *Plant and Soil*, 362:335-344. https://doi.org/10.1007/s11104-012-1408-z **Q1**.

1. Gharaibeh, M.A, N.I. Eltaif, **A.A. Albalasmeh**. **2011**. Reclamation of highly calcareous saline sodic soils using Atriplex halimus and by-product gypsum. *International Journal of Phytoremediation*, 13:873-883.
https://doi.org/10.1080/15226514.2011.573821 **Q2**.

Manuscripts in Review

1. **Albalasmeh, A.A.**, A. Ashour, M. Gharaibeh, M. Al-Gharaibeh, O. Mohawesh, A. El Hanandeh, and M. Ahmed. Salvia spinosa L. (lamiaceae) Seed Mucilage: A Promising Soil Conditioner for Improved Aggregation and Water Retention. *Pedosphere* **Q1**.

2. **Albalasmeh, A.A.**, A. Ghadi, M. Gharaibeh, O. Mohawesh, A. El Hanandeh. Moringa Seed Coagulant: An Eco-Friendly Solution for Olive Mill Wastewater Pretreatment. *International Journal of Environmental Science and Technology* **Q1**.

3. **Albalasmeh, A.A.**, A. Alshanayneh, M. Gharaibeh, O. Mohawesh, A. Alqudah, A. El Hanandeh. Biochar-Assisted Reclamation of Saline-sodic Soil: Impact on Soil Properties, Barley Growth and Yield. *Pedosphere* **Q1**.

4. Al-Hanandeh, R., **Albalasmeh, A.A.**, A. Al-Nabulsi, M. Al-Harahsheh, O. Mohawesh, M. Gharaibeh, A. El Hanandeh. Ceramic filters with AgNPs embedded via in-situ thermal reduction using biochar as carbon source: E. coli removal efficiency. *Journal of Water Process Engineering* **Q1**.

5. **Albalasmeh, A.A.**, O. Mohawesh, M. Alzoubi, I.M. Makhadmeh, K. Unami. Influence of partial root drying (PRD) and deficit irrigation (DI) on plant growth performance and water use efficiency of Jalapeño pepper in arid and semiarid regions. *Irrigation Science* **Q1**.

HONORS AND AWARDS

2024 Granted an early track promotion to full professor at Jordan University of Science and Technology (4 years).
2023 Best scientific paper in the field of water resources and the environment, Jordanian Agricultural Engineers Association (JAEA).
2016 Established Scientist's Travel Award, European Geophysical Union (EGU).
2013 ES Graduate Program Fellowship Award, University of California, Merced.
2012 Spring 2012 Graduate Division Fellowship, University of California, Merced.
2012 Graduate Student Summer Fellowship, University of California, Merced.
2012 Introduction to Data Management at National Center for Ecological Analysis and Synthesis (NCEAS), Santa Barbara, CA.
2011 Environmental Systems Graduate Bobcat Fellowship, University of California, Merced.
2009 Doctoral Fellowship, University of California, Merced.

PROFESSIONAL AFFILIATIONS AND SERVICES

European Geophysical Union (EGU)	Member since 2013
American Geophysical Union (AGU)	Member since 2012
Soil Science Society of America (SSSA)	Member since 2010

Jordanian Agricultural Engineers Association (JAEA) Member since 2005

Manuscript reviewer

African Journal of Environmental Science and Technology
Agriculture
Agronomy
Annals of Agricultural Science
Applied Water Science
Arabian Journal of Geosciences
Arid Land Research and Management
Chemosphere
Desalination and Water Treatment
Elementa: Science of the Anthropocene
Environmental Science and Pollution Research
Forests
Frontiers in Water
Geoderma
Hydrology
Industrial Crops & Products
International Journal of Agronomy
International Journal of Recycling of Organic Waste in Agriculture
Irrigation and Drainage
Jordan Journal of Agricultural Sciences
Jordan Journal of Earth and Environmental Sciences
Journal of Agricultural Sciences
Journal of Hydrology
Journal of the Saudi Society of Agricultural Sciences
Land Degradation and Development
Natural and Applied Sciences Series
Plant and Soil Journal
Soil Science Society of America Journal
Soil Systems
Vadoze Zone Journal
Waste and Biomass Valorization
Water
Water Science and Technology
Reviewer for papers submitted to The 6th International Conference on Water Resource and Environment (WRE 2020)

University Service

University Council member
Faculty of Agriculture Council member
Faculty Adviser, Soil and Irrigation students

Faculty of Graduate Studies Council member
ERASMUS PLUS committees for student selection
In charge of Hydroponic project at the Faculty of Agriculture
Steering Committee for Alumni Affairs Office at the university level
Curriculum Committee at the Faculty of Agriculture
Graduate Studies Committee at the Faculty of Agriculture
Academic quality committee at the Faculty of Agriculture
Student affairs committee at the Faculty of Agriculture
Curriculum evaluation and improvement committee at the Faculty of Agriculture
Academic quality committee at the Department of Natural Resources and Environment
Curriculum Committee at the Department of Natural Resources and Environment
Graduate Studies Committee at the Department of Natural Resources and Environment
Scientific research committee at the Department of Natural Resources and Environment
Laboratory Safety Committee at the Department of Natural Resources and Environment
Transfer of equivalent course committee at the Department of Natural Resources and Environment
Natural resources and human (NR 200) Course Committee
Earth: problems and solutions (NR 207) Course Committee

TEACHING AND STUDENT ADVISING

Courses

- **NR 202**: Ppinciples of Soil Science
- **NR 207**: Plant Earth Problems & Solutions
- **NR 301**: Soil Physics
- **NR 306**: Soil Plant Water Relations
- **NR 340**: Principles of Hydraulics
- **NR 413**: Soil Chemistry and Fertility Analyses
- **NR 446**: Water Resources
- **NR 399**: Summer training
- **NR 491**: Undergraduate Seminar
- **NR 701**: Advanced Soil Physics (MS Course)
- **NR 702**: Soil and Soil Moisture Management (MS Course)
- **NR 791**: Graduate Seminar (MS Course)

Graduate Students (Co-)Advising

31. **Mohammad Jarah**: Master student in the Department of Natural Resources and Environment.

30. **Badr Alomari**: Master student in the Department of Natural Resources and Environment.

29. **Tahani Shloul**: Master student in the Department of Natural Resources and Environment. Conduct thesis research on *Effect of activated biochar on the soil properties and cereal crop yields under the rain-fed agriculture*.

28. **Ahmad Telfah**: Master student in the Department of Plant Production. Conduct thesis research on *Internet of things based mushroom production in a controlled environment*.

27. **Sabreen Alkhateeb**: Master student in the department of Chemical Engineering. Conduct thesis research on *Assessing the Efficacy of Moringa Seeds and Silver-Augmented Seeds for Safe Drinking Water Treatment*.

26. **Batool Mayyas**: Master student in the Department of Natural Resources and Environment. Conduct thesis research on *Effect of colored shading nets and intensities on the growth and water use efficiency of Jalapeno Pepper grown under arid and semi-arid conditions*.

25. **Haneen Sheyab**: Master student in the Department of Natural Resources and Environment. Conducted thesis research on *Maize yield optimization through biochar and deficit irrigation*.

24. **Taymaa Kenani**: Master student in the Department of Natural Resources and Environment. Conducted thesis research on *Spatial and seasonal variation in King Abdullah Canal's Water: a water quality index approach*.

23. **Mohammad Obeidat**: Master student in the Department of Natural Resources and Environment. Conducted thesis research on *Assessment of water quality of selected dams in Jordan for irrigation purposes*.

22. **Raghad El Hanandeh**: Master student in the department of Chemical Engineering.Conducted thesis research on *Developing an effective, low-cost water purification system at the household level and emergency situations*.

21. **Ibrahim Bani Hani**: Master student in the Department of Natural Resources and Environment. Conducted thesis research on *Determination of exchangeable sodium and cation exchange capacity of saline calcareous soils from the Jordan Valley: A comparison between traditional and modified method*.

20. **Bnan Shuqirat**: Master student in the Department of Natural Resources and Environment. Conducted thesis research on *Effectiveness of silver-doped carbon-coated sand in removing pathogens from drinking water*.

19. **Majed Alzu'bi**: Master student in the Department of Natural Resources and Environment. Conducted thesis research on *Effect of Partial Root Drying (PRD) and Deficit Irrigation (DI) on Water Use Efficiency, Growth and Yield of Jalapeno Pepper in Arid and Semi-arid Area*.

18. **Alaa Shanayneh**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Reclamation of Saline-sodic Soil by Using Biochar and Evaluating its Effect on Plant Growth Performance*. **2023**

17. **Alqasem Makhadmeh**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Evaluation of the effect of silicon on improving the growth of lettuce in a floating hydroponic system*. **2023**

16. **Amani Kulaep**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Effect of biochar as a soil amendment on soil properties and plant growth performance under rainfed condition*. **2023**

15. **Doha Zeadeh**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Impact of Different Shading Colors and Intensities on Evaporation Suppression Efficiency from Water Surfaces*. **2022**

14. **Taqwa Qaraqrah**: Graduated with MSc in Civil Engineering, conducted thesis research on *Effect of different stabilizers on soil-water characteristic curve of soil*. **2022**

13. **Doaa Omari**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Potential use of biochar for reclamation of saline-sodic soils*. **2020**

12. **Hanady Abu Abbas**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Spatial and temporal evaluation of olive mill wastewater characteristics*. **2020**

11. **Areen Ashour**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Effect of Salvia spinosa L. seeds extract on the physical and hydraulic properties of sandy soil*. **2018**

10. **Ayat Ghadi**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Olive mill wastewater treatment produced from olive mills using moringa seeds as a natural coagulant*. **2018**

9. **Abdullah AbuAli**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Evaluation of two vallerani micro-catchment rainwater harvesting systems in the badia of jJrdan for soil moisture and fodder shrub production*. **2017**

8. **Arwa Belteben**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Grazing effects on soil physical and chemical properties*. **2017**

7. **Amin Eldoumi**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Evaluation of soil conservation and water harvesting methods in yarmouk basin (Ajloun and Al-Houson)*. **2017**

6. **Mohammad Quzaih**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Effect of biochar addition on the soil physico-chemical properties of sandy loam soil*. **2017**

5. **Mohammad Alajlouni**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Effect of olive mill wastewater on soil physical and hydraulic properties*. **2017**

4. **Israa Kharabsheh**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Evaluation of water quality in King Abdullah Canal.* **2017**

3. **Enas Hamdan**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Effect of polyacrylamide on soil physical and hydraulic properties.* **2016**

2. **Yasmeen A. Saleem**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *tomato uptake and responses to simulated irrigation water containing elevated concentrations of cadmium and zinc.* **2014**

1. **Ma'in Z. Alghzawi**: Graduated with MSc in Natural Resources and Environment, conducted thesis research on *Modeling water infiltration in soil irrigated with treated wastewater.* **2014**

Graduate Study Committee Membership

26. **Farady Bangana**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2025**

25. **Anupriya Asok Kumar Sreekala**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2025**

24. **Adil Zia**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2025**

23. **Baig Abdullah Al Shoumik**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2025**

22. **Neysa Marelin Mamani Zenteno**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2025**

21. **Wudu Abiye Abebaw**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2025**

20. **Maryam Bataineh** : Graduated with MSc in Plant Production from Jordan University of Science and Technology. **2025**

19. **Priyanka Joshi**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2024**

18. **Paul John Pangilinan**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2024**

17. **Desmond Kwayela Sama**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2024**

16. **Anjana Krishnan**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2024**

15. **Ahmed Bin Abdus Salam**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2024**

14. **Christian Dave Alonzo**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2023**

13. **Axel Cerón González**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2023**

12. **Ulrich Gaetan Funga Tchounkwe**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2023**

11. **Razia Sultana Shaky**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2023**

10. **Haroon Ilahi**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2023**

9. **Mukkaram Ejaz**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2023**

8. **Maria Camila Herrera Coy**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2023**

7. **Tamara Meizoso Regueira**: Graduated with MSc in Soil Science & Plant Nutrition from Ondokuz Mayis University, Türkiye. **2023**

6. **Hana Sleit** : Graduated with MSc in Plant Production from Jordan University of Science and Technology. **2023**

5. **Ruba Al-Shehab** : Graduated with MSc in Natural Resources and Environment from Jordan University of Science and Technology. **2023**

4. **Farah Na'oum**: Graduated with MSc in Natural Resources and Environment from Jordan University of Science and Technology. **2023**

3. **Ayat Al masri**: Graduated with MSc in Natural Resources and Environment from Jordan University of Science and Technology. **2020**

2. **Lima Mrayyan**: Graduated with MSc in Natural Resources and Environment from Jordan University of Science and Technology. **2019**

1. **Shadi Alshawabkah**: Graduated with MSc in Natural Resources and Environment from Jordan University of Science and Technology. **2018**

Research grants

Awarded: *External funding*

2024 Biochar as a soil amendment to enhance plant and land production for combating climate change and soil degradation
O. Mohawesh, **A.A. Albalasmeh (CoPI)** and E. Tarawneh
$38000 from **National Center for Research and Development (NCRD)**

2023 Building Livelihoods with Refugees and Host Communities
A.A. Albalasmeh (PI)
$16000 from **University of Sheffield**

2020 Bioaccumulation Potential of Persistent Organic Pollutants (POPs) in human around the Refinery region in Zarka governorate
M. Masaad, **A.A. Albalasmeh (CoPI)**, M. Alawi, S. Awaydeh and S. Harahsheh
$66000 from **Scientific Research Fund**

2019 ERASMUS MUNDUS MASTER PROGRAMME IN SOIL SCIENCE - emiSS
A.A. Albalasmeh (CoPI)
$3700000 from **European Union**

Awarded: *Internal funding from Jordan University of Science and Technology*

2025 Effects of Salicylic Acid Application on Lettuce Growth Under Floating Basin Conditions
A.A. Albalasmeh (PI) $13200

2024 Evaluating Moringa seeds and Silver-Enhanced Moringa Seeds in Potable Water Purification
A.A. Albalasmeh (PI) $13100

2024 Maize Yield Optimization through Biochar and Deficit Irrigation
A.A. Albalasmeh (PI), O. Mohawesh and H. Alsheyab **$8100**

2023 Evaluation the effect of Nickel on improving the growth of lettuce in a floating hydroponic system
A.A. Albalasmeh (PI) $12400

2023 Effectiveness of silver-doped carbon-coated sand in removing pathogens from drinking water
A.A. Albalasmeh (PI), A. El Hanandeh and B. Shuqirat **$7600**

2022 Evaluation of the effect of silicon on improving the growth of lettuce in a floating hydroponic system
A.A. Albalasmeh (PI), I. Makhadmeh and Q. Makhadmeh **$7700**

2022 Developing an effective, low-cost water purification system at the household level and emergency situations.
A.A. Albalasmeh (PI), A. El Hanandeh and R. El Hanandeh **$6800**

2022 Reclamation of Saline-sodic Soil by Using Biochar and Evaluating its Effect on Plant Growth Performance
A.A. Albalasmeh (PI), M. Gharaibeh and A. Shanayneh **$7700**

2022 Effect of Colored Shading Nets and Intensities on the Growth and Water Use Efficiency of Jalapeno Pepper Grown under Arid and Semi-Arid Conditions
A.A. Albalasmeh (PI), O. Mohawesh and B. Mayyas **$7500**

2022 Impact of Different Shading Colors and Intensities on Evaporation Suppression Efficiency from Water Surfaces
A.A. Albalasmeh (PI), O. Mohawesh and D. Zeadeh **$7700**

2022 Effect of Partial Root Drying (PRD) and Deficit Irrigation (DI) on Water Use Efficiency, Growth and Yield of Jalapeno Pepper in Arid and Semi-arid Area
A.A. Albalasmeh (PI), O. Mohawesh and M. Alzu'bi **$7700**

2022 Effect of biochar as a soil amendment on soil properties and plant growth performance under rainfed condition
A.A. Albalasmeh (PI), O. Mohawesh and A. Kulaep **$7700**

2018 Establishing a training unit for hydroponics and post-harvest processes at the Jordan University of Science and Technology
A.A. Albalasmeh (PI), **$42000**

2017 Olive mill wastewater treatment produced from olive mills using Moringa seeds as a natural coagulant
A.A. Albalasmeh (PI), M.A. Gharaibeh and A. Ghadi **$9400**

2016 Modification and use of biochar derived from Jordanian olive waste for domestic and industrial wastewater treatment
M.A. Gharaibeh, **A.A. Albalasmeh (Co-PI)** and A. ElHanandeh **$11300**

2016 Exploring the applicability of cation structural stability (CROSS) in soils with varying cation concentrations
M.A. Gharaibeh, and **A.A. Albalasmeh (Co-PI) $12000**

2016 Grazing Effects on Soil Physical and Chemical Properties
M.A. Gharaibeh, **A.A. Albalasmeh (Co-PI)** and A.A. Belteben **$3700**

2016 Evaluation of two Vallerani micro-catchment rainwater harvesting systems in the Badia of Jordan for soil moisture and fodder shrub production
M.A. Gharaibeh, **A.A. Albalasmeh (Co-PI)** and A.A. AbuAli **$3400**

2016 Evaluation of soil conservation and water harvesting methods in Yarmouk Basin (Ajloun and Al-Houson)
M.A. Gharaibeh, **A.A. Albalasmeh (Co-PI)** and A.F. Eldoumi **$3100**

2015 Effects of temperature and particle size on biochar yield from pyrolysis of agricultural residues
A.A. Albalasmeh (PI) and M.A. Gharaibeh **$15200**

2015 Measuring total carbohydrate in soil using Sulfuric Acid-UV method
A.A. Albalasmeh (PI) and M.A. Gharaibeh **$16600**

2015 Effect of biochar on hydro-physical properties in sandy soils
A.A. Albalasmeh (PI), M.A. Gharaibeh and M.Z. Quzaih **$10100**

2015 Effect of olive mill wastewater on hydro-physical properties in two contrasting soils
A.A. Albalasmeh (PI), M.A. Gharaibeh and M.A. Ajlouni **$11000**

2015 Effect of Polyacrylamide on Soil Physical and Hydraulic Properties
A.A. Albalasmeh (PI), M.A. Gharaibeh and E.H. Hamdan **$11300**

2015 Soil Aggregate formation and Stabilization by Plant Roots and Microorganisms Exudates during Multiple Wetting and Drying Cycles
A.A. Albalasmeh (PI) $35200

2014 Modeling Water Infiltration in Soil Irrigated with Treated Wastewater
M.A. Gharaibeh, **A.A. Albalasmeh (Co-PI)** and M.Z. Alghzawi **$2800**

2014 Tomato uptake and responses to simulated irrigation water containing elevated concentrations of Cadmium and Zinc
M.A. Gharaibeh, **A.A. Albalasmeh (Co-PI)** and Y.A. Saleem **$5600**

Workshops & Training Courses

Delivered Workshops & Training Courses

1. Organizing and lecturing at the training workshop "Hydroponic: Introduction and Concepts" at Jordan University of Science and Technology, Irbid, May 2022.
2. Organizing and lecturing at the training workshop "Hydroponic: Introduction and Concepts" at Jordan University of Science and Technology, Irbid, February 2022.
3. Organizing and lecturing at the training workshop "Hydroponic: Introduction and Concepts" at Jordan University of Science and Technology, Irbid, December 2021.
4. Organizing and lecturing at the training workshop "Nutrient Solution in Soilless culture (Hydroponic)" at Agricultural Engineers Association, Irbid, October 2021.
5. Organizing and lecturing at the training workshop "Nutrient Solution in Soilless culture (Hydroponic)" at Agricultural Engineers Association, Irbid, October 2021.
6. Organizing and lecturing at the training workshop "Soilless culture (Hydroponic)" at Al Bayt University, Mafraq, September 2021.
7. Organizing and lecturing at the training workshop "Soilless culture (Hydroponic)" Zaatari Refugee Camp, Mafraq, August 2021.
8. Organizing and lecturing at the training workshop "Soilless culture (Hydroponic)" at Agricultural Engineers Association, Amman, January 2021.
9. Organizing and lecturing at the training workshop "Soilless culture (Hydroponic)" at Islamic Center Association, Ramtha, January 2021.
10. Organizing and lecturing at the training workshop "Nutrient Solution in Soilless culture (Hydroponic)" at Agricultural Engineers Association, Irbid, January 2020.
11. Organizing and lecturing at the training workshop "Soilless culture (Hydroponic)" at Agricultural Engineers Association, Irbid, January 2020.
12. Organizing and lecturing at the training workshop "Nutrient Solution in Soilless culture (Hydroponic)" at Arab Potash Company (APC), Irbid, September 2019.

13. Organizing and lecturing at the training workshop “Soilless culture (Hydroponic)” at the Ministry of Agriculture, Irbid, April 2019.

14. Organizing and lecturing at the training workshop “Irrigation Management in Soilless culture (Hydroponic)” at National Agricultural Research Centre (NARC) , Amman, July 2018.

15. Organizing and lecturing at the training workshop “Soilless culture (Hydroponic)” at Agricultural Engineers Association, Ramtha, April 2018.

16. Organizing and lecturing at the training workshop “Soilless culture (Hydroponic)” at Agricultural Engineers Association, Irbid, April 2018.

17. Organizing and lecturing at the training workshop “Water Quality in Soilless culture (Hydroponic)” at Jordan University of Science and Technology, Irbid, March 2017.

18. Coaching during the 3rd Hackathon at Jordan University of Science and Technology, Irbid, May 2022.

19. Coaching during the 2nd Hackathon at Jordan University of Science and Technology, Irbid, February 2022.

20. Coaching during the 1st Hackathon at Jordan University of Science and Technology, Irbid, October 2021.

Attending Workshops & Training Courses

1. ISO 21001:2018 Appreciation and Interpretation Workshop at Jordan University of Science and technology, Irbid, October 2022.

2. TOT on Cultivation of Strawberries and IPM in Hydroponic Systems, Crop Steering and Crop Change at Jordan University of Science and technology, Irbid, February 2022.

3. TOT on Cultivation of Pepper, Calculation of Nutrient Solution and Foliar Fertilization, Harvest Management and Marketing at Jordan University of Science and technology, Irbid, November 2021.

4. TOT on Basics of Chemical Control in Hydroponic Systems: Pesticides Application, Cultivation Strawberry and Lettuce on Water, Recalculation Water Analysis at Jordan University of Science and technology, Irbid, October 2021.

5. Basic Principles in the Manufacture of Organic Fertilizer at Jordan University of Science and technology, Irbid, September 2021.

6. TOT on Water Quality, Cultivation of Cucumbers and IPM in Hydroponic Systems at Jordan University of Science and technology, Irbid, August 2021.

7. Making Blended Training Work at iCRA Building Trust, Netherlands, May-July 2021.

8. TOT on Plant Physiology, Plant Propagation, Cultivation of Tomatoes and IPM in Hydroponic Systems at Jordan University of Science and technology, Irbid, July 2021.

9. TOT on Basics of Protected Horticulture and Climatic Control: Plant Steering, Nutrient Solutions and Plant Training at Jordan University of Science and technology, Irbid, June 2021.

10. Biogas and Biomass Applications at Jordan University of Science and technology, Irbid, July 2020.
11. Course Planning and Curriculum Development at Jordan University of Science and technology, Irbid, July 2017.
12. Hydroponic Farming Training Course at Jordan University of Science and technology, Irbid, March 2017.
13. Applied Statistics for Life and Social Sciences using R at Jordan University of Science and technology, Irbid, February 2016.
14. AInnovation Teaching in Higher Education at Jordan University of Science and technology, Irbid, January 2015.
15. Statistical Analysis using SPSS at Jordan University of Science and technology, Irbid, August 2018.

Conference Abstracts

1. **A.A. Albalasmeh**. Priorities in research projects development and implementation. The 1st Climate Change and Health in the Arab Region: Advancing Regional Interdisciplinary Collaborations (CCHAR), Amman, Jordan, 7-8 July 2025.
2. **A.A. Albalasmeh**. The 1992 UN Water Convention: Transforming Transboundary Water Management and Climate Adaptation in the Arab Region. 5th Baghdad International Water Conference, Baghdad, Iraq, 24-26 May 2025.
3. Gharaibeh, M., **A.A. Albalasmeh** and I. Okleh. Ethanol Pre-Washing: Insights on Sodium Exchange Analysis in Diverse Soil Textures. 44th ISTANBUL International Congress on "Science, Engineering Technology" (IICSET-24), Istanbul, Turkey, 18-20 November 2024.
4. Gharaibeh, M. and **A.A. Albalasmeh**. Heteroscedasticity affects the conversion factor between electrical conductivity of extracts. MedGU, Istanbul, Turkey, 27-30 November 2023.
5. Mohawesh, O., **A.A. Albalasmeh** and A. Klaib. Effect of biochar application on soil properties and plant growth perfor-mance under rainfed conditions. MedGU, Istanbul, Turkey, 27-30 November 2023.
6. **A.A. Albalasmeh** and I. Makhadmeh. Catalysing Sustainable Development Using Unconventional Water Projects: Regional Scientific Evidence for Policy Advice. Morroco, 25th January 2023.
7. Gharaibeh, M.A., **A.A. Albalasmeh**. Predicting salinity (ECe) and sodicity (SARe) of saturated paste from Soil-Water Extracts. EGU general assembly, Vienna, Austria, 7-12 April 2019.
8. **Albalasmeh, A.A.**, M.A. Gharaibeh and E.H. Hamdan. Effect of polyacrylamide on soil physical and hydraulic properties. EGU general assembly, Vienna, Austria, 23-28 April 2017.
9. Gharaibeh, M.A., **A.A. Albalasmeh**. Field evaluation of support practice (P-factor) for stone walls to control soil erosion in an arid area (Northern Jordan). EGU general assembly, Vienna, Austria, 23-28 April 2017.

10. Ghezzehei and **A.A. Albalasmeh**. Transient structure of the rhizosphere: it formation and function. GSA, Denver, Colorado, USA, 25-28 September 2016.

11. **Albalasmeh, A.A.**, M.A. Gharaibeh and T.A. Ghezzehei. Field measurement and model prediction of infiltration in treated wastewater irrigated clayey soil. EGU general assembly, Vienna, Austria, 17-22 April 2016.

12. Ghezzehei, T.A., N Bogie and **A.A. Albalasmeh**. Role of mucilage on uptake and release of water by plant roots. GSA, Baltimore, USA, 1-4 November 2015.

13. Ghezzehei, T.A., N Bogie and **A.A. Albalasmeh**. Plant roots can actively regulate hydraulic redistribution by modifying the hydraulic properties of the rhizosphere using exudates. EGU general assembly, Vienna, Austria, 12-17 April 2015.

14. Gharaibeh, M.A., **A.A. Albalasmeh** and M Alghzawi. Modeling Water Infiltration in Soil Irrigated with Treated Wastewater. EGU general assembly, Vienna, Austria, 12-17 April 2015.

15. Ghezzehei, T.A. and **A.A. Albalasmeh**. Radial reduction profile of root exudates facilitates water uptake. American Geophysical Union (AGU), San Francisco, California, 9-13 December 2013.

16. **Albalasmeh, A.A.** and T.A. Ghezzehei. Implications of radial distribution of organic matter in the rhizosphere to root water uptake. ASA-CSSA-SSSA 77th Annual Meeting, Tampa, Florida, 3-6 November 2013.

17. **Albalasmeh, A.A.** and T.A. Ghezzehei. Soil aggregate formation: the role of wetting-drying cycles in the genesis of interparticle bonding. EGU general assembly, Vienna, Austria, 7-12 April 2013.

18. **Albalasmeh, A.A.** and T.A. Ghezzehei. Rhizosphere water dynamics: role of exudates in mediating water retention and flow characteristics. EGU general assembly, Vienna, Austria, 7-12 April 2013.

19. **Albalasmeh, A.A.**, A.A. Berhe and T.A. Ghezzehei. Association mechanisms of sand with anionic extracellular polysaccharides (EPS). EGU general assembly, Vienna, Austria, 7-12 April 2013.

20. **Albalasmeh, A.A.**, J. Sweet, T. Gebrenegus, T.A. Ghezzehei. Root exudate as major player on soil-water retention dynamics. American Geophysical Union (AGU), San Francisco, California, 3-7 December 2012.

21. **Albalasmeh, A.A.**, T.A. Ghezzehei. Conceptual modeling of the influence of wetting and drying cycles on soil aggregation and stabilization. American Geophysical Union (AGU), San Francisco, California, 5-9 December 2011.

22. **Albalasmeh, A.A.**, M. Berli, D. S. Shafer and T. A. Ghezzehei. Effects of low temperature fire on soil aggregate stability. ASA-CSSA-SSSA 75th Annual Meeting, San Antonio, Texas, 16-19 October 2011.

23. **Albalasmeh, A.A.** and T.A. Ghezzehei. Role of wetting and drying in soil aggregate formation. ASA-CSSA-SSSA 74th Annual Meeting, Long Beach, California, 31 Oct.-4 Nov. 2010.