



CURRICULUM VITAE

PERSONAL INFORMATION

Name: Dr. Mohammed Al-Qinna
Title: Assistant Professor
Position: Assistant Dean
Marital status: Married
Nationality: Jordanian
General Specialization: Environmental Soil Physics
Precise Specialization: Contaminant & Energy Transport
Address: Dept. of Land Management & Env.
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EDUCATION

- PhD. In Environmental Soil Physics. 2003. Department of Crop, Soil, & Environmental Sciences, Faculty of Agriculture, University of Arkansas, Arkansas, USA.
 - Dissertation title: *“Measuring & Modeling Soil Water & Solute Transport with Emphasis on Physical Mechanisms in Karst Topography”*.
 - Advisor: Prof. Don H. Scott
- M.S. In Soil & Irrigation. 1997. Department of Soil & Irrigation, Faculty of Agriculture, University of Jordan, Amman, Jordan.
 - Thesis Title: *“Infiltration and Soil Water Storage as Affected by Irrigation Methods in Al-Muwaqqar Region”*.
 - Advisor: Prof. Ahmad Abu-Awwad
- B.S. In Soil & Irrigation. 1994. Department of Soil & Irrigation, Faculty of Agriculture, University of Jordan, Amman, Jordan.

PROFESSIONAL EXPERIENCE

- 2008 – Now Assistant Dean, Faculty of Natural Resource & Environment, The Hashemite University, Zarqa, Jordan.
- 2006 – 2008 Assistant Professor, Department of Land Management & Environment, Faculty of Natural Resource & Environment, The Hashemite University, Zarqa, Jordan.
- 2005 – 2006 Department Chairperson, Department of Land Management & Environment, Faculty of Natural Resource & Environment, The Hashemite University, Zarqa, Jordan.
- 2003 – 2005 Assistant Professor, Department of Land Management & Environment, Faculty of Natural Resource & Environment, The Hashemite University, Zarqa, Jordan.
- 2000 – 2003 Graduate Assistant, Department of Crop, Soil, & Environmental Sciences, Faculty of Agriculture, University of Arkansas, Arkansas, USA.
- 1998 – 1999 Research and Teaching Assistant, Department of Land Management, Institute of Land, Water and Environment, The Hashemite University, Zarqa, Jordan.
- 1997 – 1998 Research Assistant, Jordan Arid Zone Productivity Project, Faculty of Agriculture, University of Jordan, Amman, Jordan.
- 1994 – 1997 Teaching Assistant, Dept. of Soil Science & Irrigation, Faculty of Agriculture, University of Jordan, Amman, Jordan.

PROFESSIONAL SOCIETY MEMBERSHIP

- Soil Science Society of America.
- Sigma Xi (The Scientific Research Society).
- Gamma Sigma Delta (The Honor Society of Agriculture).
- Jordanian Association of Agricultural Engineers.
- Society of Friends of Scientific Research at Public Universities in Jordan.
- Jordanian Environmental Society.
- Soil and Water Conservation Society.

AREAS OF SPECIALIZATION

- Contaminant solute transport in heterogeneous soil systems.
- Modeling of energy and gas flow in soils.
- Preferential flow modeling, prediction, testing and tracing.
- Soil-water-plant relationships.
- Soil-water engineering properties.
- EIA of soil and water pollutions.
- Data mining, mathematical modeling, statistical inferencing, temporal and geospatial applications in relation to soil science.
- Modeling, monitoring and management of soil and groundwater pollution.
- Energy and mass transport in Karst landscapes.
- Irrigation design, evaluation and management with respect to environmental resources and conditions.
- Remote sensing and GIS applications in soil physics and environmental pollution assessments.

TEACHING ACHIEVEMENTS (COURSES TAUGHT)

- Advanced Soil Physics (0634714), Department of Land, Water and Environment, Faculty of Agriculture, University of Jordan, Amman, Jordan.
- Environmental Soil Physics (1202312) and Soil Physics (0802312), Department of Land Management and Environment, The Hashemite University, Zarqa, Jordan.
- Soil Physics (CSES 52203), Department of Crop, Soil, & Environmental Sciences, Faculty of Agriculture, University of Arkansas, Arkansas, USA.
- Soil Physics (0604341), Dept. of Natural Resources and the Environment, Faculty of Agriculture, Jordan University of Science and Technology (JUST), Irbid, Jordan.
- Engineering Properties of Soil (0802411), Department of Land Management and Environment, Faculty of Natural Resources & Environment, The Hashemite University, Zarqa, Jordan.
- Environmental Math Modeling (1202478), Department of Land Management and Environment, Faculty of Natural Resources & Environment, The Hashemite University, Zarqa, Jordan.
- Geostatistics (0801762), Department of Earth Sciences, Institute of Land, Water & Environment, The Hashemite University, Zarqa, Jordan.
- Principles of Irrigation (1202322), Department of Land Management and Environment, Faculty of Natural Resources & Environment, The Hashemite University, Zarqa, Jordan.
- Soil Survey and Land Use (802451), Department of Land Management and Environment, Faculty of Natural Resources & Environment, The Hashemite University, Zarqa, Jordan.

- Spatial Soil Variability (1202471), Department of Land Management and Environment, Faculty of Natural Resources & Environment, The Hashemite University, Zarqa, Jordan.
- Fundamentals of Soil Science (0802411), Department of Land Management and Environment, Faculty of Natural Resources & Environment, The Hashemite University, Zarqa, Jordan.
- Fertilizers and Soil Fertility (0604331), Department of Soil & Irrigation, Faculty of Agriculture, University of Jordan, Amman, Jordan.

COMMUNITY SERVICES ACHIEVEMENTS

- Member of the Private Accreditation Council for Land, Water and Environment Program, Ministry of Higher Education and Scientific Research.
- Member of the Academic Quality Assurance Council, Academic Quality Assurance at the Hashemite University, Zarqa, Jordan.
- Environmental Club Counselor at the Hashemite University, Zarqa, Jordan.
- Council head of the Student Training Program at the Faculty of Natural Resources & Environment. The Hashemite University, Zarqa, Jordan.
- Within the Faculty at the Hashemite University:
 - Assistant dean for students' affairs.
 - Member, Faculty of Natural Resources & Environment Council
 - Member, Land Management and Environment Department Council
 - Member, Committee of Postgraduate Programs
 - Member, Scientific Research Committee
 - Member, Undergraduate Programs Committee
 - Member, Scientific Journals and Text Books Committee
 - Member, Examination Committee
 - Member, Technical Scientific Laboratories Equipment Committee
 - Member, Workshops and Seminars Committee
 - Member, Association Council
- Head of Jordanian Environmental Competitions at Undergraduate level (First was held at the Hashemite University and between six different Jordanian Universities at 5th of May).

CONSULTANCY ACHIEVEMENTS

- A.M. Abu-Awwad, D. Badarneh, I. Gawi, and M. Qinna. *Impact Assessment of Past Irrigation Practices on Soil Properties*. University of Jordan Center for Consultation, Technical Services and Studies. 385 p, 1st December 1998 to 31st March 2000. Cooperation between University of Jordan, GTZ and the Jordan Valley Authority, Amman, Jordan.
- Mohammed I. AL-Qinna, Kholoud Mashal, and Fakhher Aukour. 2006. Wastewater Plant Upgrade and performance of Hamoudeh Dairy Farm.

COAUTHOR OF BOOKS

- Abu-Awwad and Mohammed Al-Qinna. 2001. *Soil and Irrigation Laboratory Manual*. High School Textbook for Agriculture Sector. Ministry of Education, Amman, Jordan.

PUBLICATIONS & PRESENTATIONS

• Refereed Dissertation

Mohammed I. Al-Qinna, 2003, *Measuring and Modeling Soil Water and Solute Transport with Emphasis on Physical Mechanisms in Karst Topography*, S594.A57 Main, Special Collections, University of Arkansas, Fayetteville, AR, USA.

• Refereed Papers

- 1- Mohammed I. Al-Qinna, Mohammed A. Salahat, and Ziad N. Shatnawi. Effect of Carbonates and Gravel Contents on Hydraulic Properties in Gravely-Calcareous Soils.
- 2- Fakher J. Aukour and M.I. Al-Qinna, 2008. *Marble Production and Environmental Constrains: Case Study from Zarqa Governate in Jordan*. Jordan Journal of Earth and Environmental Sciences (JJEES), The Hashemite University, Zarqa, Jordan.
- 3- Kholoud Mashal, Mohammed Al-Qinna, and Yehya Ali. 2007. *Spatial Distribution of lead and zinc in urban soils and street dusts samples in Al-Hashimeyeh municipality: controlling factors and environmental implications*. Proceedings of the Third International Conference on Thermal Engineering: Theory and Applications, May 21-23, 2007, Amman, Jordan.
- 4- Mohammed I. Al-Qinna. 2005. *Potential of Groundwater Contamination of Karstic Aquifers*. Proceeding of the workshop of Aquifer Vulnerability & Risk in Jordan, UNESCO, The Hashemite University, Zarqa, Jordan.
- 5- Brahana, J.V., Tiong Ee Ting, Mohammed Al-Qinna, John F. Murdoch, Ralph K. Davis, Jozef Laincz, Jonathan J. Killingbeck, Eva Szilvagy, Margaret Doheny-Skubic, Indrajeet Chaubey, P.D. Hays, and Gregg Thoma. 2005. *Quantification of Hydrologic Budget Parameters for the Vadose Zone and Epikarst in Mantled Karst*. U.S. Geological Survey Karst Interest Group Proceeding, Rapid City, South Dakota, USA.
- 6- Mohammed Qinna and A.M. Abu-Awwad. 2001. *Wetting Patterns under Trickle Source in Arid Soils with Surface Crust*. J of Agriculture Engineering Research. 80(3):301-305.
- 7- Mohammed Qinna and A.M. Abu-Awwad. 1998. *Soil Water Storage and Surface Runoff as Affected by Irrigation Methods in Arid Soils with Surface Crust*. Agricultural Water Management Journal, 37:189-203.
- 8- Mohammed Qinna and A.M. Abu-Awwad. 1998. *Infiltration Rate Measurements in Arid Soils with Surface Crust*. Irrigation Science. 18:83-89.

- **Abstracts**

Brahana, J.V., Davis, R.K., Sauer, T.J., Ting, Tiong Ee, Al-Rashidy, Said, Whitsett, Kelly, and Al-Qinna, Mohammed, 2002, *Recurring, multicomponent ground-water tracing experiments at a well characterized basin in mantled karst--Lessons from the Savoy Experimental Watershed*. Geological Society of America, Abstracts with Programs, v. 34, no. 6, p. 158-159.

- **Conferences and Workshops**

1. M. Al-Qinna. 2008. *Soil Physical Characterization for Irrigation Design*. Fertigation and Irrigation Technology Workshop, International Plant Nutrition Institute, Irbid, Jordan
2. M. Al-Qinna. 2008. *Estimation of Plant Water Consumptive Requirements*. Fertigation and Irrigation Technology Workshop, International Plant Nutrition Institute, Irbid, Jordan
3. M. Al-Qinna. 2008. *Monitoring of Soil Water Plant System*. Fertigation and Irrigation Technology Workshop, International Plant Nutrition Institute, Irbid, Jordan
4. M. Al-Qinna. 2008. *Irrigation Systems Efficiencies Control*. Fertigation and Irrigation Technology Workshop, International Plant Nutrition Institute, Irbid, Jordan
5. M. Al-Qinna. 2005. *Trickle Irrigation, Design, Scheduling and Evaluation*. Fertigation Workshop, International Potash Institute, Amman, Jordan
6. M. Al-Qinna, H.D. Scott and V. Brahana, 2005. *Characterization of Solute Transport in Pedons within Mantled Karst Landscape*. The 5th Agricultural Scientific Conference (Towards Sustainable Agriculture in the Arabic World), 9-12 May 2005, The Faculty of Agricultural Technology, Al-Balqa' Applied University, Salt, Jordan.
7. M. Al-Qinna, A. Mauromoustakos, and H.D. Scott. 2002. *Use of JMP Version 5 for Teaching and Research of Applied Stat/Math Methods in Life Sciences*. Annual Meetings Abstracts. ASA-CSSA-SSSA. Indianapolis, USA.

- **On-Going Papers**

- 1- Mohammed I. Al-Qinna, and Ziad N. Shatnawi. Modeling and Dye tracing of solute transport in gravely calcareous soils.
- 2- Mohammed I. Al-Qinna. Long Term Drought Assessment in Jordan Using GCM's and Vegetation indices.
- 3- Mustafa Al Kuisi and Mohammed I. Al-Qinna. Assessment of salinity and nitrate pollution in Amman Zarqa Basin using spatial and GIS modeling techniques: a case study.
- 4- M. Al-Qinna, H.D. Scott, and J.V. Brahana. Surface Geophysical Investigations for Subsurface Fracture Detection across Shallow-Mantled Karst Aquifer.
- 5- M. Al-Qinna, H.D. Scott, K. Brye, and J.V. Brahana. Effects of Variations in Stone Content on Soil Physical Properties within Mantled Karst Landscapes.

- 6- M. Al-Qinna, H.D. Scott, A. Mauromoustakos, and J.V. Brahana. Characterization of Solute Transport in Pedons within Mantled Karst Landscapes.
- 7- M. Al-Qinna, H.D. Scott, A. Mauromoustakos, and J.V. Brahana. Spatial Distribution of a Plane-Source, Conservative Contaminant in Stony Soils Associated with Preferential Flow Paths.
- 8- M. Al-Qinna, H.D. Scott, K. Brye, and J.V. Brahana. Verification of Macropore Flow Process by Monitoring Water, Dye and Temperature Movement in Soils Associated with High Chert Content.
- 9- M. Al-Qinna, H.D. Scott, and J.V. Brahana. Mathematical Modeling Comparison of Solute Transport in a Mantled Karst Landscape.

- **Dissertation Committees**

- 1- Abeer Sh. Salman. May 2005. Ore Reserve Calculations of Clays and Diatomite in Azraq Area. The Hashemite University, Zarqa, Jordan.
- 2- Zeinah Waleed Al-Haj Baddar. January, 2007. Studying of Soil Spatial Variability from Soil Data and Remotely Sensed Data. University of Jordan, Amman, Jordan.
- 3- Nivin Al-Dahodia. April, 2007. Removal of Heavy Metals from Industrial Wastewater by Using Zeolite. The Hashemite University, Zarqa, Jordan.
- 4- Nesreen Ameen Abu-Aisheh. May 2008. Effect of Sludge Type and Application Rate on the Physical Properties of Dry Soils. University of Jordan, Amman, Jordan.
- 5- Ala'a Hamad Homaidan. May 2008. Estimating Grass Reference Evapotranspiration Using a Soil Water Dynamic Model and Soil Moisture Measurements. University of Jordan, Amman, Jordan.
- 6- Mohammed Issam Barakat. May 2008. An Integrated Approach to Groundwater Exploration in Khan Ez Zabib Area Using Remote Sensing and Geographic Information System. The Hashemite University, Zarqa, Jordan.

• **Conferences and Workshops Organizing Committees**

1. Preparatory Committee Member of the Environmental Week, 3-6 May 2004, Faculty of Natural Resources and Environment, The Hashemite University, Zarqa, Jordan.
2. Preparatory Committee Member of the 5th Agricultural Scientific Conference, (12 – 15) May 2005, Under the theme: "Towards Sustainable Agriculture in the Arabic World", The Faculty of Agricultural Technology, At Al-Balqa' Applied University, Al-Salt, Jordan.
3. Preparatory Committee Member of the Workshop "The Energy in Jordan, Current and Future", 1 November 2005, Faculty of Natural Resources and Environment, The Hashemite University, Zarqa, Jordan.
4. Preparatory Committee Member of the Workshop "The Role of Environmental Geological Sciences in Sustaining the Economy of Jordan", 3-5 December 2006, The Hashemite University, Zarqa, Jordan.
5. Preparatory Committee Member of the Workshop "Environment and Sustainable Development", May 24th 2006, Faculty of Natural Resources and Environment, The Hashemite University, Zarqa, Jordan.
6. Preparatory Committee Member of the Workshop "The 6th Agricultural Scientific Conference, 9-12 April 2007, Faculty of Agricultural, University of Jordan, Amman, Jordan.
7. Preparatory Committee Member of the Workshop "Renewable energy in Jordan", 8-12 May 2007, Faculty of Natural Resources and Environment, The Hashemite University, Zarqa, Jordan.
8. Preparatory Committee Member of the Workshop "The GIS Role in Planning Cities and Landuse", 11-13 December 2007, Faculty of Natural Resources and Environment, The Hashemite University, Zarqa, Jordan.
9. Preparatory Committee Member of the Workshop "Sustaining and Developing Water Resources in Jordan", 22 April 2008, Faculty of Natural Resources and Environment, The Hashemite University, Zarqa, Jordan.
10. Preparatory Committee Member of the Workshop "Jojoba Trees-The Golden Green", 26 October 2008, Faculty of Natural Resources and Environment, The Hashemite University, Zarqa, Jordan.