

CURRICULUM VITÆ

KHOLOUD Y. MASHAL, *Ph.D.*

Associate Professor
Soil Chemistry and Environmental Pollution
Department of Land Management and
Environment
Faculty of Prince AlHasan Bin Talal for
Natural Resources and Environment
The Hashemite University
P.O. Box 330137, Zarqa 13133, Jordan
Tel: +962 (5) 3903333 ext. 4748
+962 799501948
Email: kmashal@hu.edu.jo;
kholoudmashal@hotmail.com

EDUCATION

Ph.D. Soil science/Washington State University, Pullman, 2003
M.Sc Soil science/University of Jordan, Jordan, 1994
B.Sc. Soil and irrigation/University of Jordan, Jordan, 1989

ACADEMIC POSITIONS

2017- 2018 Department Chair. Dept. of Land Management and Environment, Hashemite University, Zarqa Jordan.
2014- Present Associate professor, Dept. of Land Management and Environment, Hashemite University, Zarqa Jordan.
2014-2015 Department Chair. Dept. of Land Management and Environment, Hashemite University, Zarqa Jordan.
2004- 2014 Assistant Professor, Dept. of Land Management and Environment, Hashemite University, Zarqa Jordan.
2010-2011 Department Chair. Dept. of Land Management and Environment, Hashemite University, Zarqa Jordan.
2007- 2008 Assistant Dean for Student Affairs. Faculty of Natural Resources and Environment. Hashemite University, Zarqa Jordan.
1999-2003 Research Assistant, Dept. of Crop and Soil Sciences. Washington State University, Pullman
Jan.-Aug.-1999 Research Assistant, Water and Environment research and study center, University of Jordan
1995-1998 Research Assistant, Environmental Unit, Center for Strategic Studies, University of Jordan
1993-1994 Research Assistant, Dept. of Chemistry, University of Jordan
1990-1993 Research and Teaching Assistant, Soil and Irrigation Dept. University of Jordan

AREAS OF INTEREST

- **Research:**
 - **Environmental Soil and Water Chemistry** (Trace metal contamination of soils. Surface chemistry of soil clay minerals; and mineral solubility and colloid formation, mineral transformation, water chemistry)
 - **Environmental Pollution** (industrial waste management, Global Environmental management, Fate of Environmental contaminants; colloid and colloid-facilitated transport in the vadose zone and colloidal interaction with radionuclides in soils and sediments).

- **Teaching:**
 - Undergraduate courses:**
 - Environmental Soil Chemistry
 - Chemistry of Environmental Pollutants
 - Environmental pollution
 - Remediation of Polluted Ecosystem
 - Wastewater treatment
 - Reuse of treated Wastewater
 - Fundamentals of soil Science
 - Fundamentals of Environmental Science
 - Soil fertility and plant nutrition
 - Soil fertility and fertilizers
 - Graduate courses:**
 - Sustainable Environmental management
 - Environmental pollution and remediation
 - Climate change vulnerability and adaptation
 - Reclamation of Degraded Land

CONFERENCES, WORKSHOPS, AND OTHER ACTIVITIES

Conferences:

- Eighth Scientific Agricultural Conference (ESAC-2018) :Agricultural challenges and sustainable development. Faculty of Agriculture, Mutah University Karak – Jordan 15-17 ,October, 2018
- Third International Conference on Thermal Engineering: Theory and Applications May 21-23, 2007. Amman, Jordan
- The 6th agricultural scientific conference 9-12 April, 2007 Jordan University, Amman, Jordan.
- The 5th agricultural scientific conference 9-12 May, 2005 Salt, Jordan.
- The 3rd Jordanian conference on Environment. 14-15 December, 2004, Yarmouk University, Jordan.

Workshops:

- Specialty fertilizers day. Organized by Arab Potash Company. 11/9/2019.
- Environmental situation in Zarqa Governorate: present and future. Ministry of Environment and JICA. March 28/2006.
- National Experts Meeting to discuss the "National Implementation Plan (NIP) for Stockholm Convention on Persistent Organic Pollutants (POPs)." Ministry of Environment. Oct. 16-2005.
- National Experts Meeting to prepare framework of the strategic plan to rehabilitate Seil-AlZarqa. Ministry of Environment. Nov. 2-2005.
- The 11th Scientific Week, Higher Council for Science and Technology, 18-20/9/2005, Amman, Jordan.
- Capacity building and training workshop for integrated environmental evaluation and preparation for state of environmental report EIR, 6/2005, Amman.
- Urban Wastewater Treatment Technologies and Reuse. June 29-30, 2005, Amman, Jordan.
- National Experts Meetings to activate the National Biodiversity Strategy and Action Plan. March 14-2005.
- Hydrocarbon Energy Education and Research Al Sharaka Project. Meeting of University of Oklahoma and Iraqi Universities and GOI Officials. Amman, Jordan, October 8-12-2004.
- Environmental Education. First Arabic Women meeting for Environmental Education. Amman, Jordan, April 2004.
- Towards a Free Environment from Vehicle Emissions. Ministry of environment. Amman, Jordan, June 2004.
- Environmental Impact Assessment Study for Samra Thermal Power Station Project. Royal Scientific Society, Jordan. March 2004.

RUNNING PROJECTS:

- 2013-2020. Evaluation of medicinal use of clay minerals isolated from Jordan's clay soil funded by Scientific research support fund.
- 2009-2010. Demonstration of a Novel High Recovery Desalination Process for Brackish Groundwater funded by NATO.
- 2008-2010. Investigating Factors that Structure Societal Perception of Gender Roles in Jordan, funded by CIDA.
- 2005-2007. Investigation of heavy metals and Polycyclic Aromatic Hydrocarbons (PAHs) contamination in urban soils and street dusts samples in Al-Hashimeyeh municipality by Hashemite University.

ASSOCIATION MEMBERSHIP

- American Society of Agronomy, Crop Science Society of America, Soil Science Society of America (ASA-CSSA-SSSA)
- Jordan Environment Society (JES)

PUBLICATIONS

Refereed Journal Articles

- **Mashal, K.**, Ali, Yahya, Al-Qinna, M., Salahat, M., & Al-Degs, Y. S. 2021. Spatial distribution of sulfur accumulation in urban dust and its societal implications in Al Hashemiya, Jordan. *Environmental Quality Management*. DOI: 10.1002/tqem.21755
- Y. Ali, , M. Mohsen, **K. Mashal**, A. Zawahreh. 2020. Jordanian Attitudes toward the Political Participation of Jordanian Women: An Exploratory Study. *Journal of Social Affairs*, Kuwait university (accepted)
- Jwan H. Ibbini, Mohammed I. Al-Qinna, **Kholoud Y. Mashal**, Jamila Abuidhail, Karem H. Alzoubi and Majed M. Masadeh. 2018. Are Clay Minerals in Jordanian Soils Antibacterial? *Journal of Earth and Environmental Sciences (JJEES)* 9:2,108-115.
- **Kholoud Mashal**, Mohammed Salahat, Mohammed Al-Qinna and Yahya Ali. 2017. Assessment of Heavy Metals in Urban Areas of Al Hashmiyya City of Jordan. *Jordan Journal of Earth and Environmental Sciences (JJEES)* 8:2, 61 – 67.
- Mustafa Al Kuisi, Abdulkader M. Abed, **Kholoud Mashal**, Ghazi Saffarini, Fathi Saqhour. 2015. Hydrogeochemistry of groundwater from karstic limestone aquifer highlighting arsenic contamination: case study from Jordan. *Arab J Geosci* 8:9699–9720.
- Mustafa Al Kuisi, Mohammad Al-Hwaiti, **Kholoud Mashal** and Abdulkader M. Abed. 2015. Spatial Distribution Patterns of Molybdenum (Mo) Concentrations in Potable Groundwater in Northern Jordan. *Environ Monit Assess* 187: 148.
- Y Ali, **K Mashal**, M Mohsen, M Mustafa. 2014. Energy and Environmental Performance: Exploratory Indicators in the Accommodation Sector in Jordan. *International Journal of Applied Engineering Research* 9 (18), 4467-4480.
- M. Salahat & M. Al-Qinna & **K. Mashal** & N. Hammouri. 2014. Identifying Major Factors Controlling Groundwater Quality in Semiarid Area Using Advanced Statistical Techniques. *Water Resour Manage* 28:11, 3829-3841.
- **Kholoud Mashal**, Mohammed Salahat, Mohammed Al-Qinna, Yahya Al-Degs. 2015. Spatial distribution of cadmium concentrations in street dust in an arid environment. *Arabian Journal of Geosciences*. *Arab J Geosci* 8:3171–3182.
- Mustafa Al Kuisi, **Kholoud Mashal**, Mohammed Al-Qinna, Abdallah Abu Hamad, Armin Margana. 2014. Groundwater Vulnerability and Hazard Mapping in an Arid Region: Case Study, Amman-Zarqa Basin (AZB)-Jordan. *Journal of Water Resource and Protection*, 6, 297-318.
- Ayman A. Issa, Yahya S. Al-Degs, **Kholoud Mashal**, Ramia Z. Al Bakain. 2014. Fast activation of natural biomasses by microwave heating. *Journal of Industrial and Engineering Chemistry* 21, 230–238.
- **Kholoud Mashal**, Yahya S. Al-Degs, Mohammed Al-Qinna, Mohammed Salahat. 2014. Elucidation of phosphorous sorption by calcareous soils using principal component analysis. *Chemistry and Ecology*, 30: 2, 133–146.
- M. Al-Qinna, M. Salahat, **K. Mashal**. 2014. Solute transport as affected by surface land characteristics in gravelly. *Arab J Geosci* 7:1965–1972.
- **Ali, Yahya**, Mashal, Kholoud, and Mohsen, Mousa. (2014). Attitudes of men toward women in Jordan. *Journal of Social Affairs*, UAE. Volume 31, Number 122: 183-210. (Arabic).

- **Kholoud Mashal, Mohammed Al-Qinna, Jwan Ibbini.** 2011. Phosphorus-Sorption Characteristics of Calcareous Soils in Arid and Semi Arid Regions. *Int. J. of Sustainable Water and Environmental Systems*, 3:1, 53-58
- **Kholoud Y. Mashal.** Ziya S. Cetiner. 2010. Experimental investigation of cesium mobility in the course of secondary mineral formations in Hanford sediment columns at 50°C. *Environ Monit. Assess.* Volume 169, Numbers 1-4, 249-258.
- **Kholoud Mashal,** Mohammed Al-Qinna, Yahya Ali. 2009. Spatial distribution of lead and zinc in Urban soils and street dusts samples in Al-Hashimeyeh municipality: controlling factors and environmental implications. *Jordan Journal of Mechanical and Industrial Engineering* . Volume 2 No. 2, 141-150 .
- Y. Ali, M. Mustafa, S. Al-Mashaqbah, **K. Mashal,** M. S. Mohsen, 2008. Potential of Energy Savings in the Hotel Sector in Jordan. *Energy Conversion and Management, Volume 49, Issue11,Nov.* 3391-3397
- Ziya S. Cetiner, **Kholoud Mashal,** Markus Flury and James B. Harsh. 2006. Experimental investigation of colloid formation and cesium mobility in Hanford sediment columns. *Chinese Journal of Geochemistry.* Volume 25, supplement 1/2006 march. Pg 85.
- **Mashal, K.,** J.B. Harsh, M. Flury, and A.R. Felmy. 2005. Analysis of precipitates from reactions of hyperalkaline solutions with soluble silica, *Appl. Geochem., Volume 20, Issue 7, July* 1357-1367
- **Mashal, K.,** J. B. Harsh, and M. Flury. 2005. Clay mineralogical transformations over time in Hanford sediments reacted with simulated tank waste. *Soil Sci. Soc. Am. J.*, 69,531-538.
- **Mashal, K.,** J. B. Harsh, M. Flury, A. Felmy, and H. Zhao. 2004. Colloid formation in Hanford sediments reacted with simulated tank waste. *Environ. Sci. Technol.* 38, 5750-5756.
- T. M. Abu-Sharar , **Kh. Y. Mash'al** & M. K. Fayyad. 1997. Cadmium adsorption isotherm onto clay separates of a *Vermic Cambisol* Soil from Central Jordan Valley, *Arid Soil Research and Rehabilitation.* 11:23-34.
- TM Mustafa, A Hatough, S KHATTAR P, **K Masha'al,** A SA'ADEH. 1997. [Pesticide residues in the soil of the Central Jordan Valley.](#) ENVIRONMENTAL BEHAVIOUR OF CROP PROTECTION CHEMICALS, 79-90. Proceedings of an International symposium on the use of nuclear and related techniques for studying environmental behavior of crop protection chemicals jointly organized by IAEA and FAO and held in Vienna, 1-5 July 1996, 79-90 .

Under review:

- Extraction and Fractionation of Organic Matters from Jordanian-Origin Oil Shale Under Different Operational Parameters. 2020.

Other publications: Conference Papers

- J. Ibbini, M Qinna, **K Mashal,** J abu Dhail, K Zoubi and M Masaadeh. 2018, Antimicrobial properties of natural clay minerals: facts or foe?. Poster at the Regional Conference to Promote safe and Secure Science in the Middle East/ North Africa and South/ Southeast Asia.5-9 February, Malaysia.

- Ziya S. Cetiner, **Kholoud Mashal**, Markus Flury, James B. Harsh. Experimental Investigation of Colloid Formation and Cesium Mobility in Hanford Sediment Columns. Accepted at 7th International Symposium on Environmental Geochemistry, which was held from 24 to 27 September, 2006 in Beijing, China.
- **Mashal, K.** 2006. Surface Water Contamination in Zarqa Government: Seil Al-Zarqa. Presented at Environmental situation in Zarqa Governorate: present and future workshop. Ministry of Environment and JICA. March 28/2006.
- **Mashal, Kholoud**; Cetiner, Ziya S.; Flury, Markus; Harsh, James B. Colloid formation and cesium mobility in Hanford sediment columns leached with simulated tank waste. *Geochimica et Cosmochimica Acta Supplement*, Vol. 69, Issue 10, Supplement 1, Goldschmidt Conference Abstracts 2005., p.A816. May /2005.
- **Mashal, K.** Cetiner Z. Flury, M. and Harsh, J. 2005. colloid formation and cesium mobility in Hanford sediment columns leached with simulated tank waste. (abstract) submitted to **the 15th Annual Goldschmidt Conference**, environmental geochemistry/mineralogy. May 22.
- **Mashal, K.** 2005. Molecular-scale techniques in studying clay mineral transformation. (Abstract) submitted to 5th agricultural scientific conference 9-12 May, Salt, Jordan.
- **Mashal, K.** 2004. Risk of lead exposure to small amount among children. (Abstract) submitted to 3rd Jordanian conference on environment, Yarmouk University, Irbid, Jordan, Dec. 14-15, 35.
- H Zhao, JB Harsh, M Flury, **K Mashal**. Alteration of mineralogical and surface properties of Hanford sediments contaminated with tank waste *Geochemistry Division Abstracts*, 222nd ACS National Meeting, ..., 2002
- **Mashal, K.**, Zhao, H., Harsh, J. B. and Flury, M. 2001 Colloid formation in Hanford sites contaminated with tank waste. (Abstract) submitted to 222nd American chemical society national meeting, Chicago, Illinois.
- Zhao, H. J. B. Harsh, M. Flury, and **K. Mashal**. 2001. Alteration of mineralogical and surface properties of Hanford sediments contaminated with tank waste. (Abstract) submitted to 222nd American chemical society national meeting, Chicago, Illinois.
- **Mashal, K.**, Zhao, H., Harsh, J. B. and Flury, M. 2000. Colloid formation in the vadose zone contaminated with Hanford tank waste. (Abstract) submitted to 2000 fall meeting of the American Geophysical Union, San Francisco, California, 81 (48): F405.