

CURRICULUM VITAE

Of

RAGHEB TAHHAN

Personal Information:

Full Name: Ragheb A. Tahhan
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Education:

- Ph. D.** Department of Soil, Water, and Environmental Sciences. University of Arizona. Tucson, AZ, USA. Majored in Environmental Microbiology. Minored in Microbiology. 1998. Dissertation title: Cell Surface Hydrophobicity of *Pseudomonas aeruginosa*: Effects of Monorhamnolipid and Substrate on Fatty Acid and Lipopolysaccharide Content. 1998.
- M. Sc.** Department of Soils and Irrigation. University of Jordan. Amman, Jordan. Majored in Soil Microbiology. 1991. Thesis title: Assessment of Biological Nitrogen Fixation of Lentil by Selected Rhizobial Strains Under Water Stress Conditions. 1991.
- B. Sc.** Department of Soils and Irrigation. University of Jordan. Amman, Jordan. Majored in Soils and Irrigation. 1987.

Professional Experience:

- 2011-present: Associate professor of Environmental Microbiology. Department of Natural Resources and the Environment, College of Agriculture, Jordan University of Science and Technology. Irbid, Jordan.
- 2000-2010: Assistant professor of Environmental Microbiology. Department of Environmental Sciences. College of Sciences and Arts. Jordan University of Science and Technology. Irbid, Jordan.
- 1998-2010: Assistant professor of Environmental Microbiology. Department of Natural Resources and the Environment, College of Agriculture, Jordan University of Science and Technology. Irbid, Jordan.

- 2004-2006: Chairman. Department of Natural Resources and the Environment, College of Agriculture, Jordan University of Science and Technology. Irbid, Jordan.
- 1995-1998: Teaching Associate. Department of Microbiology. University of Arizona. Tucson, AZ, USA.
- 1997-1998: Consultant for the University of Arizona in handling and safety of radioactive materials in research.
- 1994-1995: Teaching Assistant. Department of Microbiology. University of Arizona. Tucson, AZ, USA.
- 1994-1998: Research Assistant. Department of Soil, Water, and Environmental Sciences. University of Arizona. Tucson, AZ, USA.
- 1988-1991: Teaching Assistant. Department of Soils and Irrigation. University of Jordan. Amman, Jordan.

Professional Societies (past and present):

- Jordanian Agricultural Engineers Association.
- Soil Science Society of America.
- American society for Microbiology.
- International Society for Microbial Ecology.

Teaching:

- Introductory microbiology.
- Medical microbiology laboratory.
- Introductory soil science.
- Environmental microbiology.
- Advanced environmental microbiology
- Environmental agricultural management.
- Waste Management.
- Environmental Soil Management.
- Alternative water supply.
- Environmental Soil Management.
- Seminar (graduate and undergraduate).
- Practical training in soil.

Research Interests:

- Soil Health and soil quality indicators.
- Biodegradation and bioremediation of environmental contaminants.
- Behavior and degradation of petroleum hydrocarbons in soil and aquatic systems.
- Production and utilization of biosurfactants (microbially produced surfactants).

- Physiology of hydrocarbons biodegradation.
- Environmental impact of using wastewater in agriculture.
- Environmental Soil Health.
- Biological soil quality

Research Projects:

- Isolation and characterization of petroleum hydrocarbons degrading bacteria from Jordanian soils.
- Production of biosurfactants from bacteria and utilizing biosurfactants in emulsification of petroleum hydrocarbons.
- Bacterial Diversity in the Vicinity of the Jordanian Oil Refinery in Zerka.
- Enhancement of Biodegradation of Oily Sludge Waste from Jordanian Oil Refinery.
- The role of nutrients in bioremediation of hydrocarbons contaminated soils.
- Mobility and biodegradability of NAPL in soil.
- Effect of Hydrocarbon emissions on soil microbial community structure and activity.
- Effect of cropping patterns and soil perturbations on soil microbial community and soil health.
- Occurrence of antibiotic resistant foodborne pathogens in effluents of wastewater treatment plants in Jordan.
- Soil Health as influenced by long term irrigation with treated wastewater in central Jordan Valley.

Graduate Advising (Thesis Titles):

- Bacterial diversity in the vicinity of Jordanian oil refinery in Zarka (Asma Shatnawi)
- Enhancement of the biodegradation of oily-sludge waste from Jordanian oil refinery (Rouba Abu-Atieh)
- Nutritional requirements for the biodegradation of oily-sludge waste from Jordanian oil refinery (Moayad Yacoub)
- Utilization of surfactants for biodegradation of hydrocarbon contaminants in soil (Fadia Tashtoush)
- Effect of hydrocarbon emissions on soil bacterial community structure and activity (Majdoline Al-Khateeb)
- Carbon sequestration evaluation in soil under different management practices using microbial indicators (Jumana Mallahi)
- Phytoremediation of cadmium and zinc contaminated soil using *Thlaspi Caerulescens* (Bayan Rjoub)

Consultations:

- Sources of Water Pollution and their Control. 7-18 January, 2001. WERSC / University of Jordan.
- Sustainable Management of Crops and Soils Irrigated with Brackish and Treated waters. 4-15 November, 2001. WERSC / University of Jordan.
- Law-scale, Low-Cost Wastewater Treatment for Reuse in Jordan. 6-10 January, 2002. WERSC / University of Jordan.
- Water Quality Analysis for Laboratory Technicians, QA/QC. 10–21 February, 2002. WERSC / University of Jordan.
- On site training of Water authority technicians on QA/QC procedures in preparation for accreditation. 2003.
- Alternative Water Supply. A training course for water engineers. USAID. 2004.
- Irrigation Water Quality & QA/QC Procedures. 18–29 Sept. 2005. WERSC / University of Jordan.
- Membership of the permanent committee on water and wastewater regulation for the Jordan Institute for Standards and Measures. 2014 - .

Workshops, Conferences, and Symposia:

- Workshop: Biosolids use in land application workshop. 9-10/3/2015. Amman, Jordan.
- Conference: The fifth conference on scientific research in Jordan. 11/19/2011. Amman, Jordan.
- Workshop: Strategies of biodiversity adaptation to climate change for the protected areas and reservations of Jordan's Rift Valley. 9/10/2011. Amman, Jordan.
- Workshop: Statistical Analysis using SPSS. 14-15/9/2011. JUST. Irbid, Jordan.
- Third International conference on genetically modified food, "Biofuel". 18-19/11/2008. Amman, Jordan.
- Third National Tempus Day (2008)
- Member of the Technical Advisory Committee for the 2008 Dubai International Award, 13-17/10/2008.
- Workshop: Persistent organic pollutants awareness. 3/12/2007. Amman, Jordan.
- Technical Workshop: Accreditation and Technical Assessment Techniques. Accreditation Unit. JISM. 27-29/11/2006.
- Electronic Learning Workshop. JUST. 10-11/9/2007.
- Fourth Arabic Forum for education – Education and the job market needs. 34-25/4/2007. Amman, Jordan.
- Sixth Agricultural Scientific Conference – Safe agriculture for human and environment. 9-12/4/2007. Amman, Jordan.
- Member of the panel of judges for the 6th Intercollegiate Public Speaking Competition. Dubai, UAE, 22/11/2006.

- Technical Workshop: Technical Writing of Assessment Reports. Accreditation Unit, JISM. 11/9/2006.
- Workshop: Policies and Techniques for Accreditation and Reports Formulation. Accreditation Unit, JISM. 15/6/2006. Amman, Jordan.
- 11th International Symposium on Microbial Ecology. Vienna, Austria, 20-25/8/2006.
- Workshop: Accreditation and Technical Assessment Awareness. Accreditation Unit, JISM. 3-4/5/2006.
- Workshop: Biosolids Risk Assessment and Standards Development. 13-19/12/2005.
- Workshop: Teachers Capacity Building Workshop on Ecological Footprints. 27-28/3/2006. Dubai, UAE. (Main speaker).
- Workshop: Middle East Laboratory Biosecurity Workshop. 11-13/4/2006. Amman, Jordan.
- Workshop: First Workshop for the project “MEDAWARE”. 29-30/6/2005. Amman, Jordan.
- Conference: Second Conference on Reuse of Treated Municipal Wastewater. 6-9/6/2005. Amman, Jordan.
- Symposium: National Symposium on Higher Education and Scientific Research. 14/3/2005. Amman, Jordan.
- Workshop: Preparation a memorandum for the technical cooperation program between Jordan and the International Atomic Energy Agency (Country Project Framework). 14-16/2/2005.
- Workshop: Anaerobic sewage treatment, post treatment and agricultural use of treated effluents. 18-23/4/2004. Amman, Jordan.
- Symposium: Potash conference. 5-8/11/2001.

Publications (refereed Journals) :

Ammari, T. G., **Tahhan, R.**, Al Sulebi, N., Tahboub, A., Ta'any, R. A. and Abubaker, S. 2015. Impact of intensive greenhouse production system on soil quality. *Pedosphere*. 25: 282-293.

Ammari T.G., Al-Zu'bi Y., Al-Balawneh A., **Tahhan R.**, Al-Dabbas M., Ta'any R.A., Abu-Harb R. 2014. An evaluation of the re-circulated vertical flow bioreactor to recycle rural greywater for irrigation under arid Mediterranean bioclimate. *Ecological Engineering*. 70: 16-24.

Ammari T.G., **Tahhan R.**, Al-Zu'bi Y., Tahboub A., Ta'any R., Abu-Romman S., Al-Manaseer N., Stietiya M.H. 2013. Soil salinity changes in the Jordan Valley potentially threaten sustainable irrigated agriculture. *Pedosphere*. 23:376-384.

Goussous S.J., Mas'ad I.S., Abu El-Samen F.M., **Tahhan, R.A.** 2013. In vitro inhibitory effects of rosemary and sage extracts on mycelial growth and sclerotial formation and germination of *Sclerotinia sclerotiorum*. *Archives of Phytopathology and Plant Protection*. 46:890-902.

Tahhan, R.A., Yacoub, M.M., Badarneh, D. 2011. Nutritional requirements for the biodegradation of Oily-sludge waste from petrochemical industry. *Jordan Journal of Agricultural Sciences*. 7:244-259.

Tahhan, R.A., Ammari, T.G., Goussous, S.J., Al-Shdaifat, H.I. 2011. Enhancing the biodegradation of total petroleum hydrocarbons in oily sludge by a modified bioaugmentation strategy. *International Biodeterioration and Biodegradation*. 65:130-134.

Al-Tawaha, A. M., M. Turk , K. Hameed, T. Assaf, **R. Tahhan**, A. F. Al-Jamali. 2010. Effects of application of olive mill by-products on lentil yield and their symbiosis with mycorrhizal fungi under arid conditions. *Crop Research*. 40: 66-75.

Goussous, S.J., Abu El-Samen, F.M., **Tahhan, R.A.** 2010. Antifungal activity of several medicinal plants extracts against the early blight pathogen (*Alternaria solani*). *Archives of Phytopathology and Plant Protection*. 43:1746-1758.

Tahhan, R.A., and R. Y. Abu Atieh. 2009. Biodegradation of petroleum industry oily-sludge using Jordanian oil refinery contaminated soil. *International Biodeterioration and Biodegradation*. 63:1054-1060.

Khresat, S., J Al-Bakri, and R Al-**Tahhan**. 2008. Impacts of land use/cover change on soil properties in the Mediterranean region of northwestern Jordan. *Land Degradation and Development*. 19:397-407.

Al-**Tahhan**, R. A., T. R. Sandrin, A. A. Bodour, and R. M. Maier. 2000. Rhamnolipid-induced removal of lipopolysaccharide from *Pseudomonas aeruginosa*: Effect on cell surface properties and interaction with hydrophobic substrates. *Appl. Environ. Microbiol.* 66:3262-3268.

Campos-Garcia, J., A. D. Caro, R. N. Najera, R. M. Miller, R. A. Al-**Tahhan**, and G. S-Chavez. 1998. The *Pseudomonas aeruginosa* rhlG gene encodes an NADPH-dependent α -ketoacyl reductase which is specifically involved in rhamnolipid synthesis. *J. Bacteriol.* 180:4442-4451.