

Rania Mona Alqaralleh

Ph.D., Environmental Engineering

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Academic Qualifications

Ph.D., Environmental Engineering (2019)

- University of Ottawa, Civil, and Environmental Engineering department, Canada.

M.A.Sc, Environmental Engineering (2012)

- University of Ottawa, Civil, and Environmental Engineering department, Canada.

Master Degree in Water and Environmental Engineering (2007)

- University of Mu'tah, Al-Karak, Jordan.

Bachelor in Civil Engineering (2005)

- University of Mu'tah, Jordan.

Awards and Honors

- Jacqueline Shields Memorial Scholarship for waste management research and study (2017). An international award granted by the Air and Waste Management Association (AWMA) based on research excellence.
- Queen Elizabeth II – Graduate Scholarship in Science and Technology (2016). A competitive Canadian national scholarship awarded based on research excellence.
- Academic and Research Excellence Award, University of Ottawa, School of Civil and Environmental Engineering (2016).
- Admission Scholarship, University of Ottawa (2012). This scholarship is awarded based on the academic excellence.
- Mu'tah University Academic Excellence Award (2007).

Work Experience

Sep. 2019 - Current

Assistant Professor, Civil/ Water and Environmental Engineering Department, Mu'tah University, Jordan.

Jan. 2010 - April. 2018

Research and Teaching Assistant, Civil Engineering Department. University of Ottawa, Canada.

Sep. 2005 – Aug. 2006

Trainee Site Civil Engineer, Ministry of Public Works and Housing, Al-Karak, Jordan.

Research Interest

- ✓ Developing compact digesters for household use to convert kitchen and garden waste to energy in developing countries and rural areas.
- ✓ Bioenergy generation from wastewater, sludge, and organic wastes.
- ✓ Optimizing biosolids treatment and management.
- ✓ Advanced water and wastewater treatment using advanced filtration/ membrane technology.
- ✓ Optimizing the use of Microalgae technology for municipal and industrial biosolids and wastewater.
- ✓ Bio-oil extraction using Microalgae technology.

List of Publications

Articles Published in Refereed Journals:

- [J1] **Alqaralleh, R. M.**, Kennedy, K. & Delatolla, R. (2020). Molecular weight distribution of pretreated thickened waste activated sludge and fat, oil, and grease. *Environmental Science and Pollution Research, Springer* (2020, Feb):1-10 <https://doi.org/10.1007/s11356-020-07906-1>
- [J2] **Alqaralleh, R. M.**, Kennedy, K. & Delatolla, R. (2019). Microwave vs. Alkaline-Microwave Pretreatment for Enhancing Thickened Waste Activated Sludge and Fat, Oil, and Grease Solubilization, Degradation and Biogas Production. Manuscript was submitted to *Journal of Environmental Management*, 233, 378-392.

- [J3] **Alqaralleh, R. M.**, Kennedy, K., & Delatolla, R. (2018). “Improving Biogas Production from Anaerobic Co-Digestion of Thickened Waste Activated Sludge (TWAS) and Fat, Oil and Grease (FOG) Using a Dual-Stage Hyper-Thermophilic/Thermophilic Semi-Continuous Reactor.” *Journal of Environmental Management*, 217, 416–428.
- [J4] **Alqaralleh, R. M.**, Kennedy, K., Delatolla, R., & Sartaj, M. (2016). Thermophilic and hyper-thermophilic co-digestion of waste activated sludge and fat, oil and grease : Evaluating and modeling methane production. *Journal of Environmental Management*, 183, 551–561.
- [J5] **Alqaralleh, R.**, Delatolla, R., & Kennedy, K. (2015). Anaerobic digestion of simulated-organic fraction of municipal solid waste : effect of alkaline pretreatment. *Int. J. Environment and Waste Management*, 16(2), 166–185.

Conference Papers in Proceedings

- [C4] **Alqaralleh, R.**, Kennedy, K. and Delatolla, R. (2017) “Biogas recovery from hyper-thermophilic anaerobic co-digestion of thickened waste activated sludge, organic fraction of municipal solid waste and fat, oil and grease”. The International Conference on Renewable Energy and Resources, Vancouver, BC, Canada, (July 24-25, 2017) Written paper and oral presentation. (PhD work).
- [C3] **Alqaralleh, R.**, Kennedy, K. and Delatolla, R. (2016) “Thermophilic anaerobic co-digestion of thickened waste activated sludge and the liquid part of fats, oil and grease”. The 5th ICCE International Conference and Exhibition on Clean Energy, Montreal, ON, Canada, (Aug 22-24, 2016) Written paper and oral presentation. (Ph.D. work).
- [C2] **Alqaralleh, R.**, Kennedy, K. and Delatolla, R. (2013) “Hyper-thermophilic anaerobic co-digestion of thickened waste activated sludge and fats, oil and grease”. ICCE International Conference and Exhibition on Clean Energy, Ottawa, ON, Canada, (Sep 9-11, 2013) Written paper and oral presentation. (Ph.D. work).
- [C1] **Alqaralleh, R.**, Delatolla, R. and Kennedy, K. (2011) “Effect of Alkaline Pretreatment on Anaerobic Digestion of Organic Fraction of Municipal Solid Waste, CSCE Annual General Meeting and Conference, Ottawa, ON, Canada, (June 14-17, 2011), Written paper and oral presentation. (MAsc. work).

Membership of Professional Societies

- WEAO, professional member (since Oct.2018).
- IEEE, women in engineering member (since Jan. 2018).
- Solid Waste Association of North America (SWANA) (since Nov.2017).
- Air and Waste Management Association, member (since Oct. 2016).
- Jordanian Engineers Association (since Aug. 2005).

Workshops and Trainings

- Modern teaching using technology and different interactive strategies, Feb, 2018.
- Dry Lab-Safety, Feb, 2018.
- LEED Green Buildings Training Course, Jul 2018.

Skills

- Excellent Computer Skills in Microsoft Word, Excel, PowerPoint and Access.
- Auto CAD and Design Expert.
- Operating Systems: Microsoft Windows (ICDL) family and Linux.
- Experimental Design and Statistical Analysis.

Professional Activities

- I am acting occasionally as a reviewer for:
 - The Journal of Applied Energy, Fuel, and Waste Management (Elsevier) for articles related to biogas production, anaerobic digestion process, pollution, **2016-Current**.
 - The Journal of Environmental Science and Pollution Research (Springer), for articles related to sludge reduction, biogas production and digestate treatment using chemical pre-treatment, **2018-Current**.
- I am a regular reviewer for:
 - The Journal of Environmental Management (Elsevier) for articles related to landfills, anaerobic digestion of different waste for biogas production and nutrient transformation, since **Sep. 2018**.
- I participated in the 30th Eastern Canadian Symposium on Water Quality Research, May 27-29 **2016**, Ottawa, ON, Canada.
- I am a member of the Organization Committee for two upcoming conferences this summer,
 - ✓ The Global Congress and Expo on Renewable and Sustainable Energies, 16-17, July, 2020, Las Vegas, USA, and

- ✓ The ICCE 2020: 9th International Conference & Exhibition on Clean Energy, .24-26 Aug. 2020, Ottawa, ON, Canada. (Postponed to 2021 due to COVID-19).

Public Service & Voluntary Work

- Provided professional training on the use of the environmental engineering lab's tools to both senior and joiner environmental engineering graduate students at the University of Ottawa (**2012-2017**).
- Volunteered in "Ottawa Welcome Group" welcoming Syrian refugees who arrived to Ottawa (**2016/ 2017**).
- Volunteered to help organizing the GEO Ottawa Conference 2017 that was held in Ottawa, ON, Canada, October **2017**.

Links

- Google-Scholar:
<https://scholar.google.ca/citations?user=0pCeO54AAAAJ&hl=en>
- ResearchGate:
https://www.researchgate.net/profile/Rania_Alqaralleh
- Women in Science and Engineering:
https://twitter.com/CWSE_ON/status/865896144064442371