

Curriculum Vitae



Personal Information:

Full Name: Leema Abd Al-Rahman Al-Makhadmeh

Address: Department of Environmental Engineering
Collage of Engineering
Al-Hussein Bin Talal University
Ma'an P.O. Box 25
Jordan

Date and place of Birth: 18-08-1976/Alramtha

Nationality: Jordanian

Marital Status: Married

E-mail: l.al-makhadmeh@ahu.edu.jo
l.almakhadmeh@gmail.com

Education:

Feb 2006-July 2009:

Ph.D. (Dr. Ing.) Degree in Energy and Environmental Engineering (excellent).

Institute of Combustion and Power Plant Technology
Stuttgart University.

Thesis Title: “Coal Pyrolysis and Char Combustion Under Oxy-Fuel Conditions”.

1999-2002:

M.Sc. degree in Chemical Engineering (very good).

Jordan University of Science and Technology: Jordan

Thesis Title: “Removal of phenol, Dyes and Heavy Metals from Aqueous Solutions Using Palm Stone”.

1994-1999:

B.Sc. degree in Chemical Engineering (very good).

Jordan University of Science and Technology: Jordan

1994:

The General Secondary Education Certificate (91.7):

Al-Ramtha, Jordan.

Professional Experience

- 25-June2018** Professor
Department of Environmental Engineering
Al-Hussein Bin Talal University, Ma'an, Jordan.
- 17-Sep2017- June 2018** Vice Dean of Engineering Faculty
Al-Hussein Bin Talal University, Ma'an, Jordan.
- 18-Sep2016-Augest 2017** Associate professor visitor
Jordan University of Science and Technology/
Chemical Engineering Department.
- 6-Sep2015- Sep2016:** Head of the Department of Environmental Engineering.
- 9-Sep2014 –9-Sep2018:** Associate Professor
Department of Environmental Engineering
Al-Hussein Bin Talal University, Ma'an, Jordan.
- 9-Sep2009 –9-Sep2014:** Assistant Professor
Department of Environmental Engineering
Al-Hussein Bin Talal University, Ma'an, Jordan.
- 2006-2009:** Research Associate at the
Institute of combustion and Power Plant Technology (IFK),
University of Stuttgart
- 1999-2003:** Teaching assistant at
Jordan University of Science and Technology.
- 2003-2004:** Training at Government Water Laboratory-Irbid.

Research Interests

- Oxyfuel Technology/Combustion.
- Pyrolysis and Char combustion
- Oil-Shale Combustion and Utilization
- Emission control technologies (NO_x, SO_x, PM)
- CO₂ Capture technologies
- Renewable energy and its applications
- Biogas Production

Teaching Courses

- Introduction to Environmental Engineering
- Air Pollution
- Environmental Chemistry
- Numerical Analysis
- Equipment Design
- Statics
- Air pollution Lab
- Radiation Pollution and Safety
- Environmental Impact Assessment
- Special Issues in Environmental Engineering
- Wastewater Treatment
- Air Pollution Control
- Environmental Geochemistry
- Applied Mathematics
- Thermodynamics I
- Engineering Drawings
- Project I &II

Funded project

- Heavy Metal Removal from Aqueous Solutions using Jordanian Natural Minerals. Undergraduate project funded by KFD and KADDB, 2011.

Research Visit

- Scientific Research Visit Oil shale combustion under oxyfuel conditions: NO reduction, Stuttgart University, Combustion and Firing Institute, Germany, July-August, 2013.
- Scientific Research Visit Oil shale combustion under oxyfuel conditions, Stuttgart University, Combustion and Firing Institute, Germany, July-August, 2011.

Publications

- **Leema A. Al-Makhadmeh**, Mohammad A. Batiha, Joerg Maier, Saleh Rawadieh, Ibrahim Altarawneh, Günter Scheffknecht. Effect of air and oxyfuel staged combustion on oil shale fly ash formation with direct in-furnace limestone addition for sulphur retention. *Fuel*, 2018, 220, 192-199 .
- **Leema A. Al-Makhadmeh**, Mohammad A. Batiha, Mohammad S. Al-Harabsheh, Ibrahim Altarawneh, Saleh Rawadieh. The effectiveness of Zn leaching from EAFD using caustic soda. 2018, *Water, Air, & Soil Pollution*. 229:33.
- **Leema A. Al-Makhadmeh**, Joerg Maier, Mohammad A. Batiha, Günter Scheffknecht. Oxyfuel technology: Oil shale desulfurization behavior during staged combustion. *Fuel*, 2017, 190, 229-236.
- Saleh E. Rawadieh, Ibrahim S. Altarawneh, Mohammad A. Batiha, **Leema A. Al-Makhadmeh**, Mansour H. Almatarneh, and Mohammed noor Altarawneh. Reaction of Hydroperoxy Radicals with Primary C₁₋₅ Alcohols: A Profound Effect on Ignition Delay Times. *Energy Fuels*, 2019, 33, 11781–11794.
- Mohammad A. Batiha, Abdullah A. Marachli, Saleh E. Rawadieh, Ibrahim S. Altarawneh, **Leema A. Al-Makhadmeh**, Marwan M. Batiha. A study on optimum insulation thickness of cold storage walls in all climate zones of Jordan. *Case Studies in Thermal Engineering*. Volume 15, 2019, 100538
- Ibrahim S. Altarawneh, Saleh E. Rawadieh, Mohammad A. Batiha, **Leema A. Al-Makhadmeh**, Mouath A Al-Shaweesh, Mohammednoor K. Altarawneh. Structures and thermodynamic stability of cobalt molybdenum oxide (CoMoO₄-II). *Surface Science*, 2018, 677, 52-59.
- Ibrahim Altarawneh, Saleh Rawadieh, Mohammad Batiha, **Leema Al-Makhadmeh**, Sultan Alrowwad, Muafag Tarawneh. Experimental and numerical performance analysis and optimization of single slope, double slope and pyramidal shaped solar stills. *Desalination*, 2017, 423, 124-134.
- **Al-Makhadmeh L.**, M. A. Batiha. Removal of Iron and Copper from Aqueous Solutions Using Jordanian Kaolin and Zeolitic Tuff. *Desalination and Water treatment*, 57, 2016.
- **Al-Makhadmeh L.**, J. Maier, M. Al-Harabsheh and G. Scheffknecht. Oxy-fuel technology: Oil shale desulphurisation behaviour during unstaged combustion. *Fuel*, 2015, 158, 460–470.
- Mohammad Al-Harabsheh, Awni Al-Otoom, **Leema Al-Makhadmah**, Ian E Hamilton, Sam Kingman, and Sameer Al-Asheh. Pyrolysis of Poly(vinyl chloride) and –Electric Arc Furnace Dust Mixtures. *HAZMAT*, 2015 Jun 25; 299: 425-436.

- Mohammad S. Al-Harashsheh, Kamel Al Zboon, **Leema Al-Makhadmeh**, Muhannad Hararah, Mehaysen Mahasneh. Fly ash based geopolymer for heavy metal removal: A case study on copper removal. *Journal of Environmental Chemical Engineering*, 2015 June 3; 3: 1669–1677.
- **Al-Makhadmeh L.**, J. Maier and G. Scheffknecht. Oxy-fuel technology: NO Reduction During Oxy-Oilshale combustion. *Fuel*, 2014, 128, 155–161.
- Mohammad Al-harashsheh, Sam Kingman, **Leema Al-Makhadmeh**, Ian Hamilton. Microwave treatment of electric arc furnace dust with PVC: Dielectric characterization and Pyrolysis-Leaching. *HAZMAT*, 2014, 15; 274:87-97.
- **Al-Makhadmeh L.**, J. Maier, M. Al-Harashsheh and G. Scheffknecht. Oxy-fuel technology: An experimental investigations into oil shale combustion under oxy-fuel conditions. *Fuel*, 2013, 103, 421-429.
- M. A. Batiha, **L. A. Al-Makhadmeh**, M. M. Batiha, A. Ramadan and A. H. Kadhum. Generalization of the MAFRAM Methodology for Semi-Volatile Organic Agro-Chemicals. *Water, Air, and Soil Pollution*, 2013, 225, 1789.
- Scheffknecht G., **L. Al-Makhadmeh**, U. Schnell and J. Maier. Oxy-fuel coal combustion–Areview of the current state-of-the-art. *International Journal of Greenhouse Gas Control* , August, 2011.
- **Al-MakahadmehL.**; J. Maier; and G. Scheffknecht. Coal Pyrolysis and Char Burnout Under Conventional and Oxy-Fuel Conditions. *Flammentag Conference*, Germany, 16-17 sep, 2009.
- **Al-Makahadmeh L.**; J. Maier; and G. Scheffknecht. Coal Pyrolysis and Char Combustion Under Oxy-Fuel Conditions. *Clearwater Conference*, Florida-USA, May, 2009.
- Maier J., **L. Al-Makhadmeh**, G. Scheffknecht. Formation and Impact of Gases Sulfur Components in an Oxyfuel Process. *AIChEAnnual Meeting*, Nashville,TN 2009.
- Banat F. S.; Al-Asheh; and **L. Al-Makahadmeh**. Utilization of Raw and Activated Date Pits for the Removal of Phenol from Aqueous Solutions. *Journal of Chemical Engineering & Technology*, 2004, 27: 80-86.
- Banat F. S.; Al-Asheh; and **L. Al-Makahadmeh**. Kinetics and equilibrium study of cadmium ion sorption onto date pits: An agricultural waste. *Journal of Adsorption Science & Technology*. 2003, 21: 245-260.
- Banat F. S.; Al-Asheh; and **L. Al-Makahadmeh**. Evaluation of the Use of raw and activated date pits as potential adsorbents for dye containing waters. *Journal of Process Biochemistry*. 2003, 39: 193-202.

Conferences papers

- **Leema Al-Makhadmeh**. Oil shale combustion under oxyfuel conditions (Oral Presentation). 3rd International Conference and Expo on Oil and Gas (Oil Gas Expo-2017) during July 13-14, 2017 Berlin, Germany.
- **L. al-Makhadmeh**, J. maier and G. Scheffknecht. Coal Pyrolysis and Char Combustion under Oxy-Fuel Conditions. The 34th international technical conference on coal utilization & fuel sys systems, At Clearwater Florida, USA, May 2009.

- **L. al-Makhadmeh**, J. maier and G. Scheffknecht. Formation and Impact of Gases Sulfur Components in An Oxyfuel Combustion Process. Conference: 2009 AIChE Annual Meeting.

Conferences attendance

- 10th SESAME Workshop. Jordan, Amman, 2017
- 9th SESAME Workshop, Jordan, Amman, 2016
- Aqaba Conference for Marine and Coastal Environment, 2014
- Arab Renewable Energy Congress and Exhibition, Jordan, Amman 2011
- Green Building, Jordan, Amman 2010