

Dr. Arwa Walid Salim Abdelhay

✉ Amman-Jordan

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Researcher No in national database: 4420

Married

Jordanian



Education

➤ PhD (France): University of Grenoble

2005-2008 PhD in chemical engineering/Process Engineering

Field: Biological treatment of Industrial wastewater.

Thesis title: Development of a two-phase partitioning bioreactor TPPB for Phenanthrene degradation by Mycobacterium sp. 6PY1.

➤ MSc (Jordan): University of Science and Technology- Engineering Faculty- Jordan

2001-2003 MSc in chemical engineering.

Field: Rheology and Polymers

Thesis title: Extending the Shelf life of Urea Formaldehyde Resin Using Anti-Oxidants

➤ BSc (Jordan): University of Science and Technology- Engineering Faculty- Jordan.

1996-2001 BSc in chemical engineering.

Academic Experience

- **Associate professor: February 2017:** Water and Environmental Engineering department-German Jordanian University.
- **Assistant professor** 2010-February 2017: Water and Environmental Engineering department-German Jordanian University.
- **Assistant professor: 2009/2010:** Department of chemical engineering- Joseph Fourier University-France.
- **Full Time lecturer: 2008/2009:** Department of process and environmental engineering- National Institute of Applied Sciences INSA de Lyon-France.
- **Doctoral Teacher assistant** (Instructor): 2007: **Department of process engineering-** Grenoble Polytechnic Institute (INPG)-France
- **Teacher Assistant** (Feb. 2001-Sept. 2003) Department of chemical engineering- University of Science and Technology-Jordan.

Taught courses

Undergraduate courses

- Heat and mass transfer
- Fluid mechanics
- Unit operations
- Air pollution control
- Water and wastewater treatment
- Introduction to Environmental Engineering
- Biotechnology engineering
- Water and Environmental chemistry
- Chemistry for Engineers

Master courses

- Sanitation and Public health
- Advanced water and wastewater treatment

Administrative experience

Administrative positions

- **Vice Dean, School of Natural Resources Engineering and Management:** Oct 2016 up to now- German Jordanian University
- **Chair, Water and Environmental Engineering:** Jul 2012 to Sep. 2014- German Jordanian University
- **Chair, Civil and Environmental Engineering:** Oct 2016 to Oct. 2018- German Jordanian University
- **Exchange Coordinator, Water and Environmental Engineering:** 2010/2011- German Jordanian University

Academic Administrative positions

- **Administrative project coordinator** 2018 “Humanitarian Water, Sanitation and Hygiene” Master program funded by OFDA/USAID.
- **Administrative project coordinator** 2017/2018 “Integrated Water Resources Management” funded by DAAD. Master Program development.

Membership

Member of the Scientific Research and Innovation Fund (SRISF)- Water and Environmental Committee

Projects

INTERNATIONAL PROJECTS

- 1- **2019 “Installation and implementation of a pilot plant for the treatment of olive mill wastewater in Jordan cost efficient and environmentally sustainable project”** in cooperation with TIA company and Rostock University funded by TIA and DEG.
Task: Academic member

- 2- **2018 “Water Security in Jordan: from Data to Decision”** DLR Project in cooperation with Institute for Technology and Resources Management in the Tropics and Subtropics (ITT), TH Köln.
Task: Academic member

- 3- **2017/2018 “Integrated Water Resources Management”** funded by DAAD. Master Program development.
Task: - Academic member

- 4- **2018/2020 “Waste to positive energy” Project** funded by DAAD/(GIZ), Universities Cooperation with Jordanian Universities in frame of Supporting Refugees Hosting Communities in Sector of Waste Management, German Jordanian University in cooperation with Rostock university, Hamburg university, and Dresden university.
Task: - Academic member

- 5- **2018/2019 “Climate-resilient Water Management”** funded by DAAD in cooperation with Koblenz University.
Task: - Academic project coordinator.

- 6- **2008/2009 ‘Installation of bioactive bulk wastes of new generation’** Funded by EU. INSA de Lyon-France
Task: - Academic member

SEED GRANT PROJECTS

- 1- **2015/2016 ‘Destruction of Persistent Organic Pollutants (POPs) in wastewater using ultrasonic irradiation’** German Jordanian University Seed Fund

- 2- **2015/2016 Development of eco-efficient porous filters and membranes via a novel hybrid milling-molding process for potential water purification application** German Jordanian University Seed Fund

JOURNAL PAPERS

- 1- **Abdelhay A**, Magnin JP, Gondrexon N, Baup S & Willison JC (2008) Optimization and modeling of phenanthrene degradation by *Mycobacterium sp.* 6PY1 in a biphasic medium using response-surface methodology. Appl Microbiol Biotechnol **78**:881-888
- 2- **Abdelhay A**, Magnin JP, Gondrexon N, Baup S & Willison JC (2009) ‘Adaptation of a *Mycobacterium* strain to phenanthrene degradation in a biphasic culture system: influence on interfacial area and droplet size.’ Biotechnol lett **31**:57-63.
- 3- H. Benbelkacem, R. Bayard, **A. Abdelhay**, Y. Zhang, R. Gourdon (2010) ‘Effect of leachate injection modes on municipal solid waste degradation in anaerobic bioreactor’ Bioresource Technol **101**: 5206–5212.
- 4- **Abdelhay A**, Magnin JP, Gondrexon N, Baup S & Willison JC (2011) ‘Enhancement of mass transfer characteristics and phenanthrene degradation in Two-Phase Partitioning Bioreactor equipped with internal static mixers’.Biotechnol. and bioprocess engineering **16 (2)**: 413-418..
- 5- Abeer Al bsoul , Lua’y Zeatoun, **Arwa Abdelhay**, Mahdi Chihad (2014) ‘Adsorption of Copper Ions from Water by Different types of Natural Seed Materials’ Desalination and Water Treatment. **52**: 5876-5882
- 6- **A. Abdelhay**, E. Abdulhay, L. Zeatoun, B. Albiss (2015) ‘Adsorption based model for single-wall carbon nanotube SWNT response to NO₂ gas.’ Adsorption Science and Technology **33**(1): 37-43.
- 7- **A. Abdelhay**, A. Albsoul, F. Hadidi, A. Abuothman (2016) ‘Optimization and Modeling of Biogas Production From Green Waste/Biowaste Co-Digestion Using Leachate and Sludge.’ Clean Soil Air Water. 44(11) 1557–1563.
- 8- E. Abdulhay, **A. Abdelhay**, Aya Kilani, Lana Al-Shwiat, Salam Al-Rousan (2016) ‘Development of arduino based low cost neuro-feedback applied to ADHD’ Biomedical Research **27**(4): S31-S37.
- 9- **A. Abdelhay**, Abeer Al Bsoul, Amani Al-Othman, Nada M. Al-Ananzeh, Ahmed A. Al-Taani (2017) ‘Kinetic and thermodynamic study of phosphate removal from water by adsorption onto (*Arundo donax*) reeds’. Adsorption science and technology.36(1-2) 46-61.

- 10- I. Jum'h, **A. Abdelhay**, H. Al-Ta'ani, A. Telfah, M. Alnaief, S. Rosiwal (2017) 'Fabrication and applicatio of boron doped diamond BDD electrode in olive mill wastewater treatment in Jordan' Journal of water reuse and desalination. 7(4) 502-510.
- 11- Enas Abdulhay, Maha Al-Afeef, **Arwa Abdelhay** Areen Al-Bashir (2017) 'Classification of Normal, Ictal and Inter-ictal EEG via Direct Quadrature and Random Forest Tree' DOI 10.1007/s40846-017-0239-z.
- 12- **Abdelhay**, Inshad Jum'h, Enas Abdulhay, Akeel Al- Kazwini, Mashael Alzubi (2018) 'Anodic oxidation of Poultry slaughterhouse waste water on boron doped diamond electrode: process variables. Water Science and Technology Journal. 76(12) 3227-3235.
- 13- Abeer Al Bsoul, Mohammad Hailat, **Arwa Abdelhay**, Muhammad Tawalbeh, Inshad Jum'h, Khalid Bani-Melhem (2019) 'Treatment of olive mill effluent by adsorption on titanium oxide nanoparticles' Science of the Total Environment. 688 : 1327-1334
- 14- Ruba Khnouf; Dina Karasneh; Enas Abdulhay; **Arwa Abdelhay**; Weian Sheng; Hugh Fan (2019) 'Evaluation and Mathematical Modeling of a Microfluidics-enabled Blood Viscometer for the Diagnosis of Hematological and Cardiovascular Diseases. Biomedical Microdevices.21(80) :1-10 DOI : 10.1007/S10544-019-0426-5.
- 15- **Arwa Abdelhay**, Inshad Jum'h, Abeer Albsoul, Dina Al Tarazi (2019) 'Dairy Wastewater Remediation Using Electrochemical Oxidation on Boron Doped Diamond Anode (BDD)' Accepted in Desalination and Water Treatment.

CONFERENCE PAPERS

- 1- **Abdelhay A**, Magnin JP, Gondrexon N, Baup S & Willison JC (2009) 'Enhancement of mass transfer characteristics and phenanthrene degradation in Two-Phase Partitioning Bioreactor equipped with internal static mixers'. accepted : the conference of 'la Société Française de Génie des Procédés'
- 2- Enas Abdulhay, **Arwa Abdelhay**, Borhan Aldeen Albiss, Rami Oweis, 'Non-linear modeling of the dynamic response of single-wall carbon nanotube SWNT composites to NO₂ gas in air' accepted in ICMTA: International Conference on Materials Technology and Applications 10/2016-Singapore. Materials Science Forum: Volume: Nano Engineering and Materials Technologies pages 91-96.
- 3- Inshad. Jum'h, **Arwa. Abdelhay**, Ahmad. Telfah, Bernd. Kofer, Stefan. Rosiwal (2017) 'Veratric acid removal from water by electrochemical oxidation on BDD anode'. ICAM 2017 conference proceeding Journal: IOP Conf. Series: Materials Science and Engineering 305 (2018) 012021 doi:10.1088/1757-899X/305/1/012021

Training Courses

DELIVERED COURSES

Title	Awarding Institution/Agency	Date
Visiting Professor	Summer Academy program DAAD , Ostfalia University-Suderberg, Germany.	Summer 2013
Visiting Professor	Train Of the trainer program DAAD/ GJU, , Ostfalia University, Germany	Summer 2014
Lecturer	Training course: Water Quality Control: methods of measurement to :Libyan water authority employees	Winter 2014
Visiting Professor	DAAD Scientific Award for research , ISAS (Leibniz-Institute for Analytical science), Dortmund Germany	Summer 2016
Lecturer	online course: Introduction to drinking water treatment :Edraak/edX	12/2016
Visiting Professor	Train Of the trainer program DAAD/ GJU, Hochschule Ostwestfalen-Lippe, Germany	Summer 2017

ATTENDED TRAINING COURSES

Courses	Awarding Institution/Agency	Date
Engineers training	<i>Natural Resources Authority</i>	2004
Engineers training	<i>Ministry of Environment</i>	2004
Decentralized wastewater management for climate change adaptation in Jordan	GIZ	2018
ISO9001		From Feb. to March 2018

OTHER ACTIVITIES

- Evaluator for the Jordan Environment fund for grants application in the area of Solid waste treatment and management.
- Reviewer for many peer reviewed journals

LANGUAGES:

Arabic (Mother language)
English (bilingual)
French (Bilingual)
German (2 Beginner courses).