

## Dr. Arwa Walid Salim Abdelhay

✉ Amman-Jordan

☎ 00962798903890

Arwa.abdelhay@gnu.edu.jo

Researcher No in national database: 4420

39 years.

Married

Jordanian



## Education

### ➤ PhD (France): University of Grenoble

2005-2008 PhD in chemical engineering/Process Engineering

**Field:** Industrial wastewater treatment by two-phase biological reactors.

**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 Master of chemical engineering.

**Field:** Chemical Engineering-Rheology

**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*

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

## *Administrative experience*

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- **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 up to now- German Jordanian University
- **Exchange Officer, Water and Environmental Engineering:** 2010/2011- German Jordanian University

## *Research project*

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### **INTERNATIONAL PROJECTS**

**2018/2020 Positive waste to energy Project** funded by (DAAD), German Jordanian University in cooperation with Rostock university, Hamburg university, and Dresden university.

### **SEED GRANT/GJU**

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

**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

### **RESEARCH PROJECT/ FRANCE**

**2008/2009 ‘Installation of bioactive bulk wastes of new generation. INSA de Lyon-France**

**Task:** Modelling the biphasic leachate-biogas flow and biogas production in the wastes pilot bioreactors.

## Journal Papers

**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

**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.

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.

**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..

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

**A. Abdelhay**, E. Abdulhay, L. Zeatoun, B. Albiss (2015) 'Adsorption based model for single-wall carbon nanotube SWNT response to NO<sub>2</sub> gas.' *Adsorption Science and Technology* **33**(1): 37-43.

**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.

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.

**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.

I. Jum'h, **A. Abdelhay**, H. Al-Ta'ani<sup>1</sup>, 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.

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.

**A. 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.

### Conference Papers

**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’

Enas Abdulhay, **Arwa Abdelhay**, Borhan Aldeen Albiss, Rami Oweis, ‘Non-linear modeling of the dynamic response of single-wall carbon nanotube SWNT composites to NO<sub>2</sub> 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.

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

## **ATTENDED COURSES**

<b>Title</b>	<b>Awarding Institution/Agency</b>	<b>Date</b>
Attendee	<i>Natural resources authority</i>	2004
Attendee	<i>Ministry of Environment</i>	2004
Attendee	Decentralized wastewater management for climate change adaptation in Jordan	On going
Attendee	ISO9001	From Feb. to March 2018

## **OTHER ACTIVITIES**

- Reviewer for funded projects on solid waste management- ministry of Environment-Jordan
- Reviewer for many peer reviewed journals

## **LANGUAGES:**

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

## **COMPUTER SKILLS:**

Design expert  
Lab View  
AutoCAD  
Berkeley Madonna