

# Maather Sawalha

Aseirah Al Shamalia, Nablus, Palestine  
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**OBJECTIVE** Perform my teaching skills and research interests in the field of environmental analytical chemistry with my computer and communication skills.

## EDUCATION

### **The University of Texas at El Paso (UTEP)**

PhD of Environmental Science and Engineering

Overall GPA 3.9/4.0

Graduation date: May, 2006

**Major Field of Concentration:** Environmental Science and Engineering; including environmental geology, environmental biology, environmental chemistry, and statistics.

**Minor Field of Concentration:** Environmental chemistry.

**Thesis Title:** Phytofiltration Potential of Saltbush (*Atriplex Canescens*) to Remediate Heavy Metal Contaminated Waters

### **Al Najah National University, Nablus, Palestine**

Masters in Chemistry

Overall GPA 3.6/4.0

Graduation date: 1999

**Relevant Courses:** Organic, Physical, Analytical, and Inorganic Chemistry.

### **Al Yarmouk University, Irbid, Jordan**

Masters. in Organic Chemistry

Overall GPA 3.5/4.0

Graduation date: 1995

**Thesis Title:** Preparation and characterization of propergeloxysilylenol Ethers

**Major Field of Concentration:** Organic, Physical, Analytical, and Inorganic Chemistry.

**Minor Field of Concentration:** Organic chemistry: preparation and characterization of silyl enol ethers.

### **Al Yarmouk University, Irbid, Jordan**

Bachelors in Chemistry with minor in computer science

Overall GPA 3.4/4.0

Anticipated: 1991

**Major Field of Concentration:** Organic, Physical, Analytical, and Inorganic Chemistry.

**Minor Field of Concentration:** Computer Science

## Honors

- Received as the more advanced woman in science 2012 by the American consulate through women in science program
- Selected as the "Outstanding graduate" in May 2006 at the UTEP College of Science Pre-Commencement
- Receive the award for the best student presentation in the 1<sup>ST</sup> Annual Desert Southwest SETAC Conference in 2004
- Awarded a grant of \$1000 research grant from UTEP in 2004
- Received the two-year Fulbright scholarship 2001-2003
- Al Najah National University list 1998-1999
- Al Yarmouk University list 1988-1995

## Editorial Bord

- International Research Journal of Agricultural Science
- Journal of Hazardous materials
- Industrial & Engineering Chemistry Research

**EXPERIENCE****An Najah National University, Nablus, Palestine***Assistant professor**August 2008-present*

Courses:

Undergraduate : general chemistry, practical organic chemistry, analytical chemistry &amp; Environmental education.

Graduate : Water treatment and design, water chemistry, environmental sciences, Pesticides pollution

Working on a UNISCO funded project regarding water quality in Wadi Faraa in Palestine

**Palestine Technical University, Tulkarm, Palestine***Assistant professor**January 2010- May 2010*

Courses: General chemistry, general chemistry lab

**The University of Texas at Arlington, Arlington, Texas***Post doctoral Researcher**January 2007-May 2008*

- Continuing my work that started at Texas Tech University.
- Working with electrochemical generation of arsine in a sequential injection system, and detecting and quantifying arsine using a gas-phase chemiluminescence-based arsenic analyzer constructed at Texas Tech.
- Constructing a sequential injection electrochemical arsine analyzer, Testing the ability of different metals to be used as cathodes for arsine generation.

**Texas Tech University, Lubbock, Texas***Post doctoral Researcher**May 2006-December 2006*

- Construct a gas-phase chemiluminescence-based arsenic analyzer that was originally invented in the Texas Tech research lab of Dr. Dasgupta.
- Quantifying arsenic in samples by chemical generation of arsine.
- Operating and trouble shooting the analyzer.
- Using ICP-AES and GFAAS to validate the analysis performed on the arsenic analyzer.
- Extracting and measuring arsenic concentration in dust, soil and water samples using the analyzer.

**The University of Texas at El Paso (UTEP)***Teaching Assistant**Sep. 2003-May 2006*

- Prepare the required chemicals and tools for laboratory sessions
- Help the students to do the experiment to achieve the required results
- Answer the students questions to enable them understand the lab
- Grade the lab reports and exams for the professors

**Palestinian Central Bureau of Statistics***Director of Environmental Statistics Department**Aug. 1996-Aug. 2000*

- Participated in establishing the Department of Environmental Statistics to provide the required data for the decision makers and data users
- Organized and annual and monthly plans for the department to fulfill the objective of the department
- Supervised and participated in the design and implementation of environmental surveys,
- either from households or central records to have the appropriate data collection
- Managed survey data processing to get publishable data to be included in output reports.
- Coordinated and organized relationships with data users and producers to design good and useful projects
- Performed workshops about environmental statistics to inform data users and release statistical results
- Trained new employees to practice environmental statistics and join the team

**United Nations/NY/USA***Participant**Nov. 99-Dec. 99*

- Participated in the expert group meeting for revising the book of Environmental Statistics Indicators.

**Jordan University for Science and Technology, Ramtha, Jordan**

*Instructor*

*Aug.95-Aug.1996*

- Participated in teaching undergraduate chemistry labs for first year students
- Gave a lecture each lab period to explain the experiment for the students
- Helped the students to do the experiment to reach good results
- Answered the students questions to enable them understand the lab
- Graded reports and exams of the lab to evaluate the students

**Yarmouk University, Irbid, Jordan.**

*Instructor*

*1991-1995*

- Participated in teaching undergraduate chemistry labs
- Helped the students to do the experiment to obtain good results
- Answered the students questions to increase their understanding
- Graded lab reports to enable professors evaluate the students

**PRESENTATIONS and POSTERS**

**2004 Student Research Expo** Apr.2004

Presented a poster under the title of “Use of ICP/OES And XAS to Look at the Cadmium(II) Adsorption by Saltbush (*Atriplex Canescens*) Biomass”

**1st Annual Desert Southwest (SETAC) Conference** , June2004

Gave a platform presentation under the title of “chemical and spectroscopic approaches to determine the adsorption of chromium species to saltbush (*Atriplex Canescens*) biomass: a batch biotechnology process”.

**2nd Annual Rio Grande Conference** November2004

Presented a poster under the title of “Binding Of Chromium(III) And Chromium(VI) To Native And Modified Saltbush (*Atriplex Canescens*) Biomass: *Batch pH and XAS Studies*”

**Environmental Science and Engineering (ESE) PhD Seminar in UTEP** ,April 2005

Gave the main talk in the seminar under the title of “chemical and spectroscopic approaches to determine the adsorption of chromium species to saltbush (*Atriplex Canescens*) biomass: a batch biotechnology process”.

**Third International Phytotechnology conference** ,April 2005

Presented a poster under the title of “Binding Of Chromium(III) And Chromium(VI) To Native And Modified Saltbush (*Atriplex Canescens*) Biomass: *Batch pH and XAS Studies* ”

**2005 Student Research Expo**, April 2005

Presented a poster under the title of “Binding Of Chromium(III) And Chromium(VI) To Native And Modified Saltbush (*Atriplex Canescens*) Biomass: *Batch pH and XAS Studies* ”

**WBT World Best Technologies 2008** , March 2008

Presented a poster under the title of “Agreen feildable instrument for water born arsenic”

**Chemistry Department Seminar, An-Najah University, Palestine**, March 2009

Electrochemical Arsine Generation Coupled Gas-Phase Chemiluminescence Measurement of Total Arsenic

**Chemistry Department Seminar, Al Quds University, Palestine, April 2009**

Electrochemical Arsine Generation Coupled Gas-Phase Chemiluminescence Measurement of Total Arsenic

**Chemistry Department Seminar, Beir Zeit University, Palestine, April 2009**

Electrochemical Arsine Generation Coupled Gas-Phase Chemiluminescence Measurement of Total Arsenic

**International Graduate Conference on Science, Humanities and Engineering** May 2011

Arsenic determination in soil samples by gas –phase chemiluminescence

## PUBLICATIONS

- Maather F. Sawalha, Jose R. Peralta-Videa, Jason G. Parsons, Jorge H. Gonzalez, Jorge L. Gardea-Torresdey **“Removal of cadmium from contaminated waters using saltbush (*Atriplex canescens*) biomass: identification of Cd binding sites** *Int. J. of Environment and Pollution* 2008 - Vol. 34, No.1/2/3/4 pp. 28 - 42
- M.F. Sawalha, J.L. Gardea-Torresdey, J.G. Parsons, Geoffrey Saupe and J.R. Peralta-Videa **“Determination of adsorption and speciation of chromium species by saltbush (*Atriplex canescens*) biomass using a combination of XAS and ICP–OES”** • *Microchemical Journal*, Volume 81, Issue 1, August 2005, Pages 122-132.
- Maather F. Sawalha, Jose R. Peralta-Videa, Jaime Romero-González and Jorge L. Gardea-Torresdey. **“Biosorption of Cd(II), Cr(III), and Cr(VI) by saltbush biomass: Thermodynamic and isotherm studies”**. *Journal of Colloid and Interface Science* 300 (2006) 100–104.
- Maather F. Sawalha, Jose R. Peralta-Videa, Jaime Romero-González and Jorge L. Gardea-Torresdey **“Thermodynamic and isotherm studies of the biosorption of Cu(II), Pb(II), and Zn(II) onto the leaves biomass of saltbush (*Atriplex canescens*)”**. *Journal of Chemical Thermodynamics*. (2007), 39(3), 488-492.
- Maather F. Sawalha, Jose R. Peralta-Videa, Geoffrey B. Saupe, Kenneth M. Dokken, and Jorge L. Gardea-Torresdey **“Using FTIR to corroborate the identity of functional groups involved in the binding of Cd and Cr to saltbush (*Atriplex canescens*) biomass”**. *Chemosphere* (2007), 66(8), 1424-1430.
- Maather F. Sawalha<sup>1</sup>, Jose R. Peralta-Videa, Maria Duarte-Gardea, and Jorge L. Gardea-Torresdey **“Removal of copper, lead, and zinc from contaminated water by saltbush biomass: Analysis of the optimum binding, stripping, and binding mechanism”**. *Bioresource Technology*, (2008),99, 4438–4444.
- Maather F. Sawalha, Jose R. Peralta-Videa, Blanca Sanchez-Salcido, and Jorge L. Gardea-Torresdey **“Sorption of hazardous metals from single and multi-element solutions by saltbush biomass in batch and continuous mode: interference of calcium and magnesium in batch mode”**. *Journal of Environmental Management* 90 (2009) 1213-1218.
- Maather F. Sawalha,<sup>1</sup> Mrinal K. Sengupta,<sup>1</sup> Shin-Ichi Ohira, Ademola D. Idowu, Thomas E. Gill, Lila Rojo, Melanie Barnes, Purnendu K. Dasgupta<sup>1</sup> **Measurement of soil/dust arsenic by gas-phase chemiluminescence**. *Talanta* 77, (2008), 372-379
- Mrinal K. Sengupta, Maather F. Sawalha, Shin-Ichi Ohira, Ademola D. Idowu and Purnendu K. Dasgupta **A Green Analyzer for Arsenic. Electrochemical Arsine Generation Coupled Gas-Phase Chemiluminescence Measurement of Total Arsenic**. *Analytical Chemistry*. 2010, 82, 3467–3473

## SKILLS

- Proficient in various analytical techniques such as ICP, FAA, HPLC, GC, FTIR.
- Proficient in MS Word, Excel, Power Point, and Internet Explorer
- Extensive use in SPSS, Win1st, WinXAS
- Familiar with MS Access, GIS
- Bilingual in English and Arabic