

EDUCATION

- 2002-2005 Doctor of Philosophy (Ph.D.)
Chemistry
Carleton University
Ottawa, ON, Canada
Thesis: *Metal Speciation in Natural Waters: Evaluating Kinetics versus Equilibrium*
- 1999-2001 Master of Science (M.Sc.) (Rating: excellent, **GPA** 3.88 out of 4.00)
Chemistry
University of Jordan
Amman, Jordan
Thesis: *New Pyrazolo[fused]-Azepinoindoles- β -carbolines and Pyrimidones. Synthesis of thienyl- indoles and Pyrrole*
- 1995-1999 Bachelor of Science (B.Sc.) (Rating: excellent, **GPA** 3.86 out of 4.00)
Chemistry
The Hashemite University
Zarqa, Jordan

AREAS OF EXPERTISE

Analytical Chemistry: Utilizing carbon nanotubes and developing new functionalized carbon nano-materials for analytical and environmental applications; Chemical Speciation and trace and ultratrace Analysis; Pre-concentration and determination of organic and inorganic pollutants; Sorption and multivariate studies; Theoretical modeling.

2. SCHOLARSHIPS, FELLOWSHIPS AND OTHER AWARDS RECEIVED

Name	Location of Tenure	Period Held
Varian Graduate Scholarship in Analytical/Environmental Chemistry	Carleton University, Canada	April 2004
Hashemite University, Graduate Scholarship	Carleton University, Canada	April 2002 - April 2005
Hashemite University, Graduate Scholarship	University of Jordan, Jordan	Oct. 1999 - August 2001
President's Award, Top of Graduating Class	The Hashemite University, Jordan	July 1999

RESEARCH CONTRIBUTIONS**Articles in Refereed Publications**

1. **Ismail I. Fasfous**, , Jamal N. Dawoud. Uranium Uptake by Dowex Ion Exchange Resin: kinetics versus equilibrium. *Talanta*. **In Preparation**.
2. **Ismail I. Fasfous**, Yahya S. Al-Degs, Assma M. Mallah. "Assessment of different partial least squares variants for determination of two overlapping-binary-drug- systems" *Journal of Pharmaceutical Sciences*. **2016, submitted**.
3. Mahmoud Abu-Ghoush, **Ismail Fasfous**, Yahya Al-Degs, Murad Al-Holy, Ayman A. Issa, Anas Y. Al-Reyahi. "A New Application of Mid-Infrared spectroscopy and Kernel-PLS Calibration for Quick Detection of Pork in Higher Value Meat Mixes" *Journal of Food Measurement and Characterization*. **2016. Submitted**.
4. **Ismail I. Fasfous**, Jamal N. Dawoud, Abdulwahab K. Sallabi, Taghreed S. Hassouneh. "A density functional theory study of the $\text{Cu}^{+}(\text{CO})_n$ ($n = 1-3$) complexes" *Journal of Coordination Chemistry*, **2015**, 68, 1528-1543.
5. Samer M. Hamzeh, **Ismail I. Fasfous**, Jamal N. Dawoud. "Conductance and Thermodynamics Study of Interaction of Some Transition Metals with Mixed Oxygen-Nitrogen Donors Macrocycles in Acetonitrile solution" *Asian of Journal Chemistry*. **2015**, 27(2),674-678.
6. Z. Khattari, T. Al-Abdullah, M. Maghrabi, S. Khasim, A. Roy, **I. Fasfous**. "Interaction Study of Lipopeptide Biosurfactant viscosin with DPPC and Cholesterol by Langmuir Monolayer Technique" *Soft Materials*, **2015**, 13, 254-262.
7. Jamal N. Dawoud, **Ismail I. Fasfous**, Tareq K. Harahsheh. "Structure and potential energy surface of $\text{Na}^{+0}(\text{O}_2)_n$ ($n = 1-3$) complexes " *Computational and Theoretical Chemistry*, **2014**, 1027, 62-72.
8. Mousa Al-Noaimi, Obadah S. Abdel-Rahman, **Ismail Fasfous**, Mohammad El-khateeb, Firas F. Awwadi, Ismail Warad. "Ruthenium(II) bipyridine complexes bearing quinoline-azoimine (NN'N") tridentate ligands: synthesis, spectral characterization, electrochemical properties and single-crystal X-ray structure analysis " *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, **2014**, 125, 375-383.
9. **Ismail I. Fasfous**, Jamal N. Dawoud. "Uranium (VI) Sorption by Multiwalled Carbon Nanotubes from Aqueous Solution" *Applied Surface Science*. **2012**, 259, 433-440.
10. **Ismail I. Fasfous**, Nedal Abu Farha. "Removal of Cibacron Brilliant Yellow 3G-P Dye from Aqueous Solutions using Coffee Husks as Non-Conventional Low-Cost Sorbent" *World Academy of Science, Engineering and Technology*, **2012**, 70, 263-269.
11. **Ismail I. Fasfous**, Suha E. Rehan, Jamal N. Dawoud. "Simultaneous Preconcentration of Oxyfluorfen and Chlorpyrifos in Environmental Water Samples Using Spent Coffee Grounds as SPE Sorbents" *Jordan Journal of Chemistry*. **2012**, 7, 203-220.
12. Jamal N. Dawoud, **Ismail I. Fasfous**, and Amin F. Majdalawieh, "A Density Functional Theory

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- Study of the $\text{Cu}^+\cdot\text{O}_2$ and $\text{Cu}^+\cdot\text{N}_2$ Adducts" *Zeitschrift Für Naturforschung*, **2012**, 67 B, 118-116.
13. **Ismail I. Fasfous**, Mustafa M. El-Abadelah and Salim S. Sabri , "One-Pot Synthesis of 2,5-Bis(3-indolyl)-3,4-dinitrothiophene, 3-(2-Chloro-3,4-dinitrothien-2-yl)indole and Related Congeners" *Letters in Organic Chemistry*, **2011**, 8, 712-716.
14. **Ismail I. Fasfous**, Enas S. Radwan, Jamal N. Dawoud. "Kinetics, equilibrium and thermodynamics of the sorption of tetrabromobisphenol A on multiwalled carbon nanotubes" *Applied Surface Science*. **2010**, 256, 7246-7252.
15. J.N. Dawoud, **I.I. Fasfous**, S.M. Hamzeh, D.B. Jack. "Structures of D_2 layers on LiF(001)" *J Colloid Interface Sci*. **2010**, 343, 217-224.
16. Tahir Yapici, **Ismail I. Fasfous**, Jiujiang Zhao, Chuni L. Chakrabarti. "Effects of various competing ligands on the kinetics of trace metal complexes of Laurentian Fulvic Acid in model solutions and natural waters" *Anal. Chim. Acta*. **2009**, 636, 6-12.
17. Jiujiang Zhao, **Ismail I. Fasfous**, John D. Murimboh, Tahir Yapici, Parthasarathi Chakraborty, Sheren Boca, Chuni L. Chakrabarti. "Kinetic Study of Uranium Speciation in Model Solutions and in Natural Waters Using Competitive Ligand Exchange Method" *Talanta*. **2009**, **77**, 1015-1020.
18. Tahir Yapici, **Ismail I. Fasfous**, John Murimboh, Chuni L. Chakrabarti. "Investigation of DGT as a Metal Speciation Technique for Municipal Wastes and Mine Aqueous Effluents" *Anal.Chim. Acta*. **2008**, 622, 70-76.
19. Yamini Gopalapillai, **Ismail I. Fasfous**, John D. Murimboh, Tahir. Yapici, Parthasarathi Chakraborty, Chuni L. Chakrabarti "Determination of Free Nickel Ion Concentrations Using the Ion Exchange Technique: Application to Aqueous Mining and Municipal Effluents" *Aquatic Geochemistry*. **2008**, 14, 99-116.
20. J.N. Dawoud, A.K. Sallabi, **I.I. Fasfous**, D.B. Jack. Structures of H_2 layers on LiF(001). *Jordan Journal of Chemistry*. **2008**, 3, 269-279.
21. Parthasarathi. Chakraborty, **Ismail I. Fasfous**, John Murimboh, C.L. Chakrabarti, "Simultaneous determination of speciation parameters of Cu, Pb, Cd and Zn in model solutions of Suwannee River fulvic acid by pseudopolarography" *Anal. Bioanal. Chem.*, **2007**, 388, 463-474.
22. Parthasarathi. Chakraborty, Yamini Gopalapillai, John Murimboh, **Ismail I. Fasfous**, and Chuni L. Chakrabarti "Kinetic speciation of nickel in mining and municipal effluents" *Anal. Bioanal. Chem*. **2006**, 386, 1803-1813.
23. **Ismail I. Fasfous**, Chuni L. Chakrabarti, John. Murimboh, and Tahir Yapici. "Complexation of Lead in Model Solutions of Humic Acid: Heterogeneity and Effects of Competition with Copper, Nickel, and Zinc" *Environmental Chemistry*, **2006**, 3, 276.
24. Jeff W. Guthrie, Nouri M. Hassan, Mohamed .S. Salam, **I.I. Fasfous**, Cathy A. Murimboh, John Murimboh, , Chuni L. Chakrabarti and D.C. Grégoire "Complexation of Ni, Cu, Zn, and Cd by DOC in Some Metal-Impacted Freshwater Lakes: A Comparison of Approaches using Electrochemical
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Determination of Free-Metal Ion and Labile Complexes and a Computer Speciation Model, WHAM V and VI". *Anal. Chim. Acta.* **2005**, 528, 205-218.

25. **Ismail I. Fasfous**, Tahir Yapici, Nouri Hassan, John Murimboh, Chuni L. Chakrabarti, M.H. Back, D.R.S. Lean and D.C. Grégoire. "Kinetics of Trace Metal Competition in the Freshwater Environment: Some Fundamental Characteristics". *Environ. Sci. Technol.* **2004**, 38, 4979-4986.
26. P. Gmeiner, H. Hüber, K.A. Abu Safieh, **Ismail I. Fasfous**, M.M. El-Abadelah, S.S. Sabri and W. Voelter. "Synthesis and Dopamine Receptor Binding of Some Pyrazolo[3',4':6,7]azepino[5,4,3-cd]indole" *Heterocycles.* **2003**, 60, 1339-1350.
27. **Ismail I. Fasfous**, Mustafa M. El-Abadelah, Salim S. Sabri "Pictet Spengler Synthesis of Pyrazole-Fused β -Carbolines" *J. Heterocycl. Chem.* **2002**, 39, 225-227.

Conference presentations

1. **Ismail I. Fasfous**, Nedal Abu Farha, "Removal of Cibacron Brilliant Yellow 3G-P Dye from Aqueous Solutions using Coffee Husks as Non-Conventional Low-Cost Sorbent" International Conference on Environmental Science and Technology, Dubai, UAE, Oct. 8-9, 2012.
2. **Ismail I. Fasfous**, Yahya S. Al-Degs, Asmaa M. Mallah, T. Yapici. Assessment of multivariate calibration and liquid chromatography for quantification of two drugs systems of variable spectral overlap: A comparative study. *55th International Conference on Analytical Sciences and Spectroscopy*, Kingston, Ontario, August 9-12, 2009.
3. **I.I. Fasfous**, C.L. Chakrabarti, J.D. Murimboh and T. Yapici. Exploring the Link between the Equilibria and Kinetics of Trace Metal Speciation in Model Solutions of Laurentian Fulvic Acid. *Canadian Chemistry Conference and Exhibition, Halifax, Ontario, May 27 – May 31, 2006.*
4. **I.I. Fasfous**, T. Yapici, J. Murimboh, C.L. Chakrabarti. A Kinetic Study of Trace Metal Competition in Some Metal-Impacted Freshwater Lakes from the Rouyn-Noranda (Québec) Area Using Competing Ligand Exchange Method / Inductively Coupled Plasma- Mass Spectrometry. *87th Canadian Chemistry Conference and Exhibition, London, Ontario, May 29 – June 1, 2004. (Oral presentation)*
5. **I.I. Fasfous**, N.M. Hassan, M.S.A. Salam, J. Murimboh, C.L. Chakrabarti. Kinetic Speciation of Nickel in Aqueous Environmental Samples from Sudbury (Ontario) with Competing Ligand Exchange Method / Adsorptive Cathodic Stripping Voltammetry. *IUPAC Congress and 86th Canadian Society for Chemistry Conference and Exhibition, Ottawa, Ontario, August 10-15, 2003.*
6. **I.I. Fasfous**, N.M. Hassan, M.S.A. Salam, J. Murimboh, C.L. Chakrabarti. Kinetic Speciation of Nickel in Aqueous Environmental Samples from Sudbury (Ontario) with Competing Ligand Exchange Method / Adsorptive Cathodic Stripping Voltammetry. *49th International Conference on Analytical Sciences and Spectroscopy, Ottawa, Ontario, Canada, June 1-4, 2003.*

ACADEMIC ACTIVITIES

1. Member of Pharmacy Faculty Council at The Hashemite University, 2014-Now.
2. Member of Bio-Nanotechnology Center Council at The Hashemite University, 2011-Now.
3. Member of Scientific Research Committee in Chemistry at Chemistry Department, The Hashemite University, 2014-Now.
4. Head of the Curriculum and Course Equivalence Committee in Chemistry at Chemistry Department, The Hashemite University, 2013-Now.
5. Head of the Technical Tendering Committee, The Hashemite University, 2013- Now.
6. Head of the Chemicals, Equipment Supplies Committee at The Chemistry Department, The Hashemite University, 2007- 2013.
7. Head of the Chemicals, Equipment Supplies Committee at Faculty of Science, The Hashemite University, 2014- Now.
8. Head of the Social Committee at Chemistry Department, The Hashemite University, 2006-2007 and 2012-2013.
9. Member of the Science Faculty Council, The Hashemite University, 2009-2010, 2014-Now.
10. Member of the Organizing Committee of the 9th Jordanian Chemical Conference held at Chemistry Department, The Hashemite University, April 28, 2009.
11. Member of Accreditation Committee for Master degree in Chemistry at Chemistry Department, The Hashemite University, 2011-2012.
12. Member of Accreditation Committee for Bachelor degree in Chemistry at Chemistry Department, The Hashemite University, 2009-2010.
13. Head of the Seminar Committee at Chemistry Department, The Hashemite University, 2008-2009.
14. Head of the Library Committee at Chemistry Department, The Hashemite University, 2007-2010.

Certificates and workshops

1. Certificate of completion of a training workshop with title of *Jordan Chemical Security and Emergency Preparedness (Sponsored by the U.S Department of State Chemical Security Program), August 23-27, 2015, Landmark hotel, Amman, Jordan.*
2. Certificate of completion of a training workshop with title of *Chemical Security (Sponsored by the U.S Department of State Chemical Security Program), June 7-10, 2015,Marriott Hotel, Amman, Jordan.*

3. Participating in a training workshop with title of *First Swedish-Jordanian Workshop on Science and Research Using Synchrotron Radiation* held at the Physics Department, the Hashemite University, Jordan, 25 - 29 January 2015.
4. Certificate of completion of a training workshop with a title of *Peer Learning Workshop on Service Learning in Higher Education Concepts & Applications* (organized by Service learning Center at The Hashemite University) on Thursday December 1st, 2011, Holiday Inn, Amman.
5. Certificate of completion of a training workshop with a title of *e-Learning Training, Blackboard, Elluminate, Tegrity, Lectora*, (organized by e-Learning Center at The Hashemite University) on May 11-22, 2008, The Hashemite University, Zarqa, Jordan.
6. Certificate of completion of a training workshop with a title of *Education Technology Course*, May 10-15, 2006, Center for Academic Quality Assurance, Hashemite University, Zarqa, Jordan.
7. Participating in a training workshop on *FT-IR and NIR applications in Pharmaceutical and Food industries* (presented by experts from Bruker Optics in corporation with Sena Establishment for Laboratory Equipment) on Tuesday, February 28, 2012, Bristol Hotel, Amman.
8. Participating in a training workshop on *LC and related techniques in advanced Analytical Sciences* (organized by modern scientific supplies) on Tuesday, October 18, 2011.
9. Participating in a training workshop on *Recent Lab Products and Supplies* (organized by modern scientific supplies) on Tuesday, October 18, 2011, Grand Hayatt Amman Hotel.

SUPERVISING THESIS

I. Advisor for seven M.Sc. students at Hashemite University.

- Main supervisor with Dr. Jamal Dawoud (co-supervisor) on M.Sc. Thesis for Ms. Enas Radwan
Thesis: *Adsorption Characteristics of Brominated Flame Retardant TBBPA on Multi-walled Carbon Nanotubes as a New Adsorbent for Solid Phase Extraction from Aqueous Solution.*
- Supervisor on M.Sc. Thesis for Ms. Suha Rehan.
Thesis: *Method Development for the Use of Coffee Waste as a Potential Extractant for Some Pesticides in Water Samples Prior to High Performance Liquid Chromatography Determination.*
- Co-supervisor with Dr. Yahya Al-Degs (main supervisor) on M.Sc. Thesis for Mrs. Asma'a Mallah
Thesis: *Preconcentration- Determination of Organic Pollutants using Solid Phase Extraction with Conjunction of High Performance Liquid Chromatography and Multivariate Calibration.*
- Co-supervisor with Dr. Jamal Dawoud (main supervisor) on M.Sc. Thesis for Mr. Tareq Harahsheh
Thesis: *Structure and Potential surface of $Na^n(N_2)_m$ and $Na^n(O_2)_m$ ($n:0,1$; $m=1-3$)*
- Co-supervisor with Dr. Mousa Al-Noaimi (main supervisor) on M.Sc. Thesis for Mr. Abdullah Fayyumi.
Thesis: *Ruthenium (II) complexes of α -diimines: synthesis, DFT calculation, spectral characterization, electrochemical properties and single-crystal X-ray structure of 1-(quinolineimino)-1-phenylhydrazone)-propan-2-one.*

SUPERVISING THESIS (CONTINUED)

- Main supervisor with Dr. Amjad Elshaikh (co-supervisor) on M.Sc. Thesis for Mr. Anas Awwad (*In progress*)
Thesis: *Preparation, characterization and Evaluation of new multi-walled carbon nanotubes – titanium dioxide composites for environmental applications.*

II. Member of examination committees for several M.Sc. students at Hashemite University.

MEMBERSHIP

1. Member of the Chemical Institute of Canada (CIC), 2003 – 2007
2. Member of the Jordanian Chemical Society, 2007 – present.

PROJECTS

1. Employment of electrochemical methods for elucidation of reaction and corrosion mechanisms and quantification and characterization of redox active species: 12/1/2013, 58000 JD, Hashemite University.
2. Removal of Organic and Inorganic Pollutants from Wastewater using Agricultural and Food Products Wastes. 24/10/2011, 2900 JD, Hashemite University.
3. Lead Speciation in Environmental Water Samples by Miniaturized Ion Exchange Resin with Conjunction of Atomic Absorption Spectrometry. 5/3/2007, 2900 JD, Hashemite University.

COMPUTER SKILLS:

- Microsoft Office.
- Sigmaplot, Scientific Data Analysis and Graphing Software
- Windermere Humic Aqueous Model (WHAM)
- MINEQL program

COURSES

I taught the following courses:

- General Chemistry 1 (110103101)
- General Chemistry 2 (110103102)
- Basics of General Chemistry (110103107)
- Practical Basics of General Chemistry (110103108)
- Basics of Analytical Chemistry (110103211)
- Practical Analytical Chemistry (110103213)
- Instrumental Analysis 1 (110103311)
- Practical Instrumental Analysis (110103313)
- Environmental Analytical Chemistry (110103412)
- Special Topics in Analytical and Physical Chemistry (110103495)
- Advanced Instrumental Analysis (110103711)

EMPLOYMENT HISTORY**Chairman**

Sept 2014 – present

HASHEMITE UNIVERSITY, Chemistry Department

- Initiate the Hashemite University Science Inspiration Initiative in 2014.
- Faculty evaluation and mentoring.
- Promoting research at the department and faculty levels and applying for external funds.
- Program accreditation and curriculum development.

Associate professor

May 2013 – present

HASHEMITE UNIVERSITY, Chemistry Department**Assistant professor**

Sept 2006 – May 2013

HASHEMITE UNIVERSITY, Chemistry Department

- Teaching General Chemistry, Analytical and Environmental Chemistry, Instrumental Analysis and advanced Instrumental Analysis courses.
- Developing new *nano*-materials that are selective adsorbents for trace metals and organic pollutants.
- Conducting research in the field of metal speciation in aquatic environment.

- Conducting research in the field of pre-concentration of trace metals and organic pollutants using solid phase extraction prior to their determination.
- Chairman or member of several administrative and academic committees at Department and Faculty levels that deal with institutional policies, departmental matters and academic issues.
- Supervising master students' research.

Postdoctoral Fellow

May 2005 – Aug. 2006

CARLETON UNIVERSITY, Chemistry Department

- Conducted research in metal speciation and bioavailability in the freshwater environment.
- Developed novel techniques for metal speciation in freshwaters.

Teaching Assistant (During Ph.D. study)

Sept. 2002–April 2005

CARLETON UNIVERSITY, Chemistry Department

- Supervised laboratories in 1st year general chemistry.
- Mentored and inspired students to pursue graduate studies.

Research and Teaching Assistant

Sept. 2001–April 2002

HASHEMITE UNIVERSITY, Chemistry Department

- Supervised laboratories in 2nd year organic chemistry and 3rd year advance organic chemistry.
- Prepared and organized subject material, and demonstrated the laboratory experiments, in addition to grading examinations, term papers, and laboratory reports.

Research Assistant (During M.Sc. study)

July 2000– Aug. 2001

UNIVERSITY OF JORDAN, Chemistry Department

- Performed different routes to synthesize Viagra-Like compounds: conducted literature surveys, performed experiments, and participated in scientific conferences.
- Characterization of organic compounds (¹H-NMR, ¹³C-NMR, 2D-NMR, MS, FTIR).
- Coordinated research activities of the graduate students.

Teaching Assistant (During M.Sc. study)

Oct.1999 –June 2001

UNIVERSITY OF JORDAN, Chemistry Department

- Supervised laboratories in 4th year physical chemistry, and 1st year general chemistry.
- Demonstrated the theory, use and operation of various instrumental methods of analysis.

REFERENCES

Available upon request.