

Curriculum Vitae (CV)

Dr. Zahra Ali Fattah

PhD in Physical Chemistry

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Personal Information

- Place and Date of Birth: Duhok – Iraq /16th-April-1977.
- Nationality: Iraqi.
- Marital Status: Married.
- Hobbies: Watching scientific programs and reading literature.
- Mother Language: Kurdish.
- Foreign Language: English, Arabic.

Education

Degree	School/University	Year	Grade
PhD in Physical Chemistry	Bordeaux Univ., National Engineering School of Chemistry, Biology and Physics – France	2013	Very honorable
M.Sc. in Chemistry	Mosul Univ. ,College of Science – Iraq	2004	Very good
B.Sc. in Chemistry	Mosul Univ. ,College of Science – Iraq	1999	Good
Secondary	AL-Yakda secondary school in Mosul – Iraq	1995	90%

Theses

PhD Thesis entitled (Applications of Bipolar Electrochemistry: From Materials Science to Biological Systems), supervised by Prof. Alexander Kuhn and Dr. Laurent Bouffier.

M.Sc. Thesis entitled (Voltammetric Determination of Number of Anticoagulants in Human Blood Serum), supervised by Prof. S.T. Sulaiman.

Teaching Experience and Employment

- Lecturer of Physical Chemistry at Chemistry Department, College of Science, Duhok University, Kurdistan Region, Iraq. Since: December, 2013 – Now.
- PhD candidate at ISM – Group NSysA – Site ENSCBP, Bordeaux University, France, 2010 – 2013.
- Assistant Lecturer of Physical Chemistry (In addition to teach practical Analytical, Organic, and Inorganic Chemistry) at Chemistry Department, College of Science, Duhok University, Kurdistan Region, Iraq. Since: August, 2006 – 2010.

Other Work Experiences

- Chairman of one Session in KCST 2019, The 5th Kurdistan International Conference on Science and Technology (Kurdistan Region, Iraq, 24 – 25 April 2019).
- Responsible of organizing a chemistry fair at Science College - Duhok University in 2017.
- Scientific evaluator for a M.Sc. thesis in physical chemistry in 2017.
- Committee member of a M.Sc. defense in physical chemistry in 2016.
- Scientific evaluator for a M.Sc. thesis in physical chemistry in 2015.

- **Supervising Graduation Projects (usually, only a theoretical study (survey) is done by undergraduate students, no practical work is available):**

Graduation Projects, B.Sc. (Oct.2020- May 2021):

Electrical Conductivity of Electrolyte Solutions and Applications of Kohlrausch Law of Independent Migration of Ions

Students' names: Maeda Ameen Mahmood & Talar Sabir

Graduation Projects, B.Sc. (Oct.2019- May 2020):

1- Heavy Metals Removal by Phytoremediation Technology

Students' names: Shanaz Abdulrahman & Layla Adnan & Heleen Abdulqadr

2- Mercury: Uses, Sources, Effects on Human Health and Analytical Methods

Students' names: Diyana Salih & Shiler Ahmed & Muhamad Ezadin

Graduation Projects, B.Sc. (Oct.2018- May 2019):

1- Electrolytic Cell and Electrolysis.

Students' names: Bassam Hussein shamo & Falak Farho Tahlo

2- Ozone Layer: Distribution, Depletion and Consequences.

Students' names: Salwa Sabah Arif & Adar Ayob Mohammad

Graduation Projects, B.Sc. (Oct.2017- May 2018):

1- Graphene Structure, Synthesis and Applications.

Students' names: Fatma Muslih Hossen & Deren Khalaf Amin

2- Kinetics of Zero Order Reactions.

Students' names: Edres Muhammad Hawez & Renas Shahban Abdul Manaf

Graduation Project, B.Sc. (Oct.2016- May 2017):

Electronically Conducting Polymers: Structure, Electrochemical Synthesis and Applications.

Students' names: Alind Hasan Mustafa & Mahmoud Abdullah Omer

Graduation Projects, B.Sc. (Oct.2015- May 2016):

1- The Heterogeneous Catalysis.

Students' names: Ahmed Farhan & Mohamed Rasheed

2- Galvanic (Voltaic) Cell and Batteries.

Students' names: Bashar Salih & Masoud Ababaker

Graduation Projects, B.Sc. (Oct.2014- May 2015):

1- Bipolar Electrochemistry: Principle and Applications.

Students' names: Amin Dakhil & Firas Jamal

2- The Wonderful World of Carbon Nanotubes.

Students' names: Emad Saeed & Snur Mustafa

- Co-supervisor of undergraduate project (**practical/ experimental work**) for a student in Material Sciences at School of Science, Bordeaux University, France, May 21st - June 22nd 2011.
- Chemist at:
 - Private sector hospital (AL-Zahrawy) in disease analysis in the period (Oct.2000-Oct.2001).
 - Public sector hospital (AL-Jimhory) in disease analysis for about 8 months in 2000.

Research Interests

- Bipolar Electrochemistry of Materials Science
- Preparation of new Functional Structures by Electrodeposition and their Applications for example in Catalysis Processes
- Water Splitting by Electrocatalysts
- Surface Modification
- Water purification

Membership in Scientific Societies

- Member of Chemical Society of France ‘Société Chimique de France’ from 2011 – 2014.
- Member of Chemists and Teachers Unions in Kurdistan-Iraq

Awards

Excellent poster award during participation in ‘The Seventeenth International Symposium on Electroanalytical Chemistry. The Third International Meeting on Electrogenerated Chemiluminescence (Changchun, Jilin – **China**, 22 - 25 August 2019). **Z. Fattah**, L. Bouffier, and A. Kuhn

For the work of 'Wireless Design of Functional Asymmetric Zinc/Polymer Microswimmers by Indirect Bipolar Electrodeposition'.

Training Courses & Other Certificates

- International Training School on the Theory and Experiment of Modern Electroanalytical Chemistry for Countries along the Belt and Road & Developing Countries. State Key Laboratory of Electroanalytical Chemistry/Chinese Academy of Sciences / Changchun, Jilin – **China, 29th Aug. –12th Sept. – 2019.**
- Certificate of participation in the 2nd Chemistry Fair-Science College-Duhok University, 11th May 2017.
- Certificate for extensive use of Scanning Electron Microscope during the whole period of PhD study at ISM Institute – Bordeaux University – France.
- Training on High Resolution Transmission Electron Microscope HITACHI-H7650 with 3 hours of theoretical and 110 hours of practical work at Bordeaux Imaging Center (BIC) - France, from 21-09-2011 to 12-06-2013.
- Training on Transmission Electron Microscope FEI – Technai 12 with 3 hours of theoretical and 50 hours of practical work at Bordeaux Imaging Center (BIC) - France, from 18-03-2011 to 29-07-2011.
- Training on 'Utilization of Water Extinguisher and Evacuation' at Bordeaux University- France in July 2011.
- French Language Course of 50 hours in DEFLE center at University of Michel de Montaigne- Bordeaux 3- France in 2011.
- Introduction to French Language Course at University of Duhok (Aug. 2010).
- TOFEL.ITP Certificate in 2010.
- English Proficiency Course at University of Duhok (16th Feb. – 30th April) 2009.
- English Intermediate Course at University of Duhok (13th July – 27th August) 2008.
- English Basic Course at University of Duhok (25th May – 9th July) 2008.

- Computer Course at University of Duhok (1st-30th Nov.)2008.
- (Teaching Methods) Course at University of Duhok, College of Basic Education on (8th – 29th) Nov., 2007.
- (Theory and Practical Application in Advanced Chromatography GC & HPLC) University of Duhok, College of Education, Chem. Dept. (3rd – 15th) March, 2007.

Conferences (Oral & Poster Contributions)

- 1 – The Seventeenth International Symposium on Electroanalytical Chemistry
The Third International Meeting on Electrogenenerated Chemiluminescence
(Changchun, Jilin – **China**, 22 - 25 August 2019). **Z. Fattah**, L. Bouffier, and
A. Kuhn
Wireless Design of Functional Asymmetric Zinc/Polymer Microswimmers
by Indirect Bipolar Electrodeposition.
- 2 – KCST 2019, The 5th Kurdistan International Conference on Science and
Technology (Kurdistan Region, Iraq, 24 – 25 April 2019).
Zahra A. Fattah
Bipolar Electrochemistry: Principle and Application in Wireless Preparation
of Asymmetric Functional Microobjects.
- 3 – ElecNano 2013, 5th International Conference on The Nanoscale and
Electroanalysis: Surface Nanostructuring, Nanobiological Systems,
Coupled Techniques, Microsystems (Bordeaux, France, 15 - 17 May 2013).
Z. Fattah, J. Roche, D. Zigah, L. Bouffier, and A. Kuhn
A Chemiluminescent Janus Rod Prepared by Indirect Bipolar
Electrodeposition.
- 4 – Journée Scientifique de l'Institut des Sciences Moléculaires 2012,
(Bordeaux, France, 3 July 2012).
Z. Fattah, G. Loget, L. Bouffier, and A. Kuhn
Controlled Design of Asymmetric Carbon-Copper Microobjects by Bipolar
Electrochemistry.
- 5– NanoSWEC workshop 2011, International Conference on Bioinspired
Nanotechnology (Bordeaux, France, 14 - 17 Novembre 2011).
Z. Fattah, G. Loget, L. Bouffier, and A. Kuhn

Platinum Nanocluster Modified Carbon Microtubes Produced by Bipolar Electrochemistry as a Key Strategy for Designing Artificial Microswimmers.

- 6 – ElecNano4 - 7th ECHEMS 2011, International Conference on Electrochemistry in Nano Structuration of Substrates and Energy (Paris, France, 23-26 May 2011).
Z. Fattah, G. Loget, L. Bouffier, and A. Kuhn
Topological Control of the Dissymmetric Modification of Carbon Tubes with Platinum by Bipolar Electrochemistry.
- 7 – ECHEMS 2013, 9th International Meeting on Electrochemistry in Particles, Droplets, and Bubbles (Łochów, Poland, 23-26 June 2013).
Z. Fattah, J. Roche, D. Zigah, L. Bouffier, A. Kuhn
Controlled Design of Functional Asymmetric Microobjects by Wireless Electrodeposition.
- 8 – GSO-2012, Journée SCF-SCQ Grand Sud-Ouest (Bordeaux, France, 30 Novembre 2012).
Z. Fattah, D. Zigah, A. Kuhn and L. Bouffier
Toposelectivity of Copper Modified Carbon Substrates Using Bipolar Electrochemistry.
- 9 – GSO-2011, Journée de Chimie de la Catalogne et du Grand Sud-Ouest de la France (Barcelona, Spain, 25 novembre 2011).
Z. Fattah, G. Loget, L. Bouffier, and A. Kuhn
Designing of Carbon Microswimmers Using Bipolar Electrochemistry and Controlling the Direction of Motion.

List of Publications

- Indirect bipolar electrodeposition of polymers for the controlled design of zinc microswimmers, **Z. Fattah**, L. Bouffier, and A. Kuhn, *Applied Materials Today*, **(2017)**, 9, 259–265.
- Single-Step Screening of the Potential Dependence of Metal Layer Morphologies Along Bipolar Electrodes, G. Tisserant, J. Gillion, J. Lannelongue, **Z. Fattah**, P. Garrigue, J. Roche, D. Zigah, A. Kuhn, and L. Bouffier, *ChemElectroChem*, **(2016)**, 3 (3), 387-391.
- The EChemPen: A Guiding Hand To Learn Electrochemical Surface Modifications, M. Valetaud, G. Loget, J. Roche, N. Hüsken, **Z. Fattah**, V.

- Badets, O. Fontaine, and D. Zigah, *J. Chem. Educ.*, **(2015)**, 92, 1700–1704.
- Generation of metal composition gradients by means of bipolar electrodeposition, G. Tisserant, **Z. Fattah**, C. Ayela, J. Roche, B. Plano, D. Zigah, B. Goudeau, A. Kuhn, L. Bouffier, *Electrochim. Acta*, **(2015)**, 179, 276-281.
 - Lighting Up Redox Propulsion with Luminol Electrogenerated Chemiluminescence, L. Bouffier, D. Zigah, C. Adam, M. Sentic, **Z. Fattah**, D. Manojlovic, A. Kuhn, N. Sojic, *ChemElectroChem*, **(2014)**, 1, 95 – 98.
 - Straightforward synthesis of ringed particles, J. Roche, G. Loget, D. Zigah, **Z. Fattah**, B. Goudeau, L. Bouffier, S. Arbault, A. Kuhn, *Chem. Sci.* **(2014)**, 5, 1961 – 1966.
 - Chemiluminescence from Asymmetric Inorganic Surface Layers Generated by Bipolar Electrochemistry, **Z. Fattah**, J. Roche, P. Garrigue, D. Zigah, L. Bouffier, A. Kuhn, *ChemPhysChem*, **(2013)**, 14, 2089 – 2093.
 - Capillary electrophoresis as a production tool for asymmetric microhybrids, **Z. Fattah**, P. Garrigue, B. Goudeau, V. Lapeyre, A. Kuhn, L. Bouffier, *Electrophoresis*, **(2013)**, 34, 1985 – 1990.
 - Controlled Orientation of Asymmetric Copper Deposits on Carbon Microobjects by Bipolar Electrochemistry, **Z. Fattah**, P. Garrigue, V. Lapeyre, A. Kuhn, L. Bouffier, *J. Phys. Chem. C*, **(2012)**, 116, 22021 – 22027.
 - Straightforward single-step generation of microswimmers by bipolar electrochemistry, **Z. Fattah**, G. Loget, V. Lapeyre, P. Garrigue, C. Warakulwit, J. Limtrakul, L. Bouffier, A. Kuhn, *Electrochim. Acta*, **(2011)**, 56, 10562 – 10566.