

Jwahr Mohammed A. AlGhamdi

Assistant Professor

Personal Data

Nationality | Saudi

Department | Chemistry

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Office Phone No. | 31707

Language Proficiency

Language	Read	Write	Speak
Arabic	excellent	excellent	excellent
English	excellent	excellent	excellent

Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
2013-2015	Postdoc Fellow	Massachusetts Institute of Technology, Mechanical Engineering Department	Massachusetts, Cambridge, USA
2012	PhD in Physical Chemistry (Electrochemistry-Nanotechnology)	University of Dammam	Dammam, Saudi Arabia
2005	MSc in Physical Chemistry	King Faisal University, Science College	Dammam, Saudi Arabia
1999	BSc in Chemistry (with first honor degree)	Science College for Girls	Dammam, Saudi Arabia

PhD, Master or Fellowship Research Title: (Academic Honors or Distinctions)

Fellowship	Imaging of Chemical and Electrochemical Processes at the Nanoscale
PhD	Corrosion Studies of Carbon Nanotube-Nickel Composite Coatings on Steel Substrates
Master	Kinetics of Dissolution of Aluminum-Vanadium Alloys in Sulfuric Acid Solutions

Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work			Date
Assistant Professor	Chemistry Department	College of Science	Imam Abdulrahman Bin Faisal University	2013-present
Lecturer	Chemistry Department	College of Science	Imam Abdulrahman Bin Faisal University	2006-2013
Demonstrator	Chemistry Department	College of Science	Imam Abdulrahman Bin Faisal University	2001-2005

Administrative Positions Held: (Beginning with the most recent)

Administrative Position	Office	Date
Vice Dean	College of Engineering, IAU	2018-date
Vice Dean	Deanship of Community Service and Sustainable Development, IAU	2016-2018
Chairman of Committee	Quality Committee, Department of Chemistry, College of Science, IAU	2010-2013, 2015

Scientific Achievements

Published Refereed Scientific Researches

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication
1	Jwahr M. AlGhamdi , Shorooq AlOmar, Mohammed A.Gondal, Redhwan Moqbel, Mohamed A.Dastageer,	“Enhanced efficiency of dye co-sensitized solar cells based on pulsed-laser-synthesized cadmium-selenide quantum dots”	Solar Energy 209 (2020)
2	Idris Popoola, Mohammed Gondal, Luqman Oloore, AbdulJelili Popoolaab, Jwahr AlGhamd	Fabrication of organometallic halide perovskite electrochemical supercapacitors utilizing quasi-solid-state electrolytes for energy storage devices	Electrochimica Acta 332 ,2020
3	Idris Popoola, Mohammed Gondal, Jwahr M. AlGhamdi , and Talal F. Qahtan,	“Photofabrication of Highly Transparent Platinum Counter Electrodes at Ambient Temperature for Bifacial Dye Sensitized Solar Cells”	Scientific Reports-Nature.2018
4	Shouwen Shen, J. M. AlGhamdi , Mazen M. Khaled, Nayef M. Anazi, Ihsan M. Taie	Effect of temperature on crystallite size and residual stress of nano-nickel coatings	International Journal of Engineering Research & Science (IJOER), 2016
5	I. Soltani Bozchalooi, A. Careaga Houck, J. M. AlGhamdi , K. Youcef-Toumi	Design and Control of a Multi-Actuated Atomic Force Microscope for Large-Range and High-Speed Imaging	Design and Control of a Multi-Actuated Atomic Force Microscope for Large-Range and High-Speed Imaging. 2016

5	A.G.Gad Allah, M. A. Al-Khalidi and J. M. Al-Ghamdi	Currentless Behavior of Aluminum Alloys Containing Different Vanadium Percent as Minor Alloying Element in Sulphuric Acid Solutions	Journal of Saudi Chemical Society, 2006
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Patents

#	Name of Investigator(s)	Patent title and number	Publisher and Date of Publication
1	Jwahr M. AlGhamdi and Mohammed Gondal	Dye-sensitized solar cell including a semiconducting nanocomposite #US10210999B2	Granted- Us-patent office 19 Feb-2019
2	Idris Kayode POPOOLA, Muhammad GONDAL, Jwahr M. Alghamdi , Talal F. QAHTAN	Fabrication of platinum counter electrodes for bifacial dye-sensitized solar cells #US20190311859A1	Granted- Us-patent office 10 Oct 2019

Scientific Research Papers Presented to Refereed Specialized Scientific Conferences

#	Name of Investigator(s)	Research Title	Conference and Publication Date
1	I. SoltaniBozchalooi, A. Careaga Houck, J. AlGhamdi , K. Youcef-Toumi	High Speed, Large Range Atomic Force Microscopy	NIweek, Austin, 2014
2	J.M. AlGhamdi , M. Khaled, M. Atieh and I. Al Taie	Effect of CTAB Surfactant on the Corrosion Behavior of the Electrodeposited Nanocrystalline Ni-CNTs Composite Coatings	International Conference on Materials Science and its Applications, (ICMSA2012), 2012

Current Researches

#	Research Title	Name of Investigator(s)
1	Development of Dye Sensitized Solar Cells using Nanostructured Composite Materials	J. M. AlGhamdi

Membership of Scientific and Professional Societies and Organizations

- Member of Saudi Chemical Society (SCS)
- Member of American Chemical Society (ACS)
- Member of Saudi Chapter of the American Chemical Society (SAICSC-ACS)
- Member of NACE International, National Association of Corrosion Engineers
- Member of Electrochemical Society (ECS)

Teaching Activities

Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	General Chemistry	CHEM 101N	1 semester, 2 sections (15 Lecture/semester)
2	Research Project	CHEM 474 N	3 semesters, 11 students (15 Lecture/semester)
4	Corrosion	CHEM428N	1 semester, 1 section (15 Lecture/semester)
5	Kinetics of Chemical Reactions	CHEM 322N	2 semesters, 2 sections (15 Lecture/semester)
6	Electrochemistry	CHEM 406	1 semester, 1 section (15 Lecture/semester)

Brief Description of Undergraduate Courses Taught: (Course Title – Code: Description)

1	General Chemistry- CHEM 101N : The course covers the following topics: matter and measurement, molecules and molecular compounds, ions and ionic compounds, chemical reaction types, stoichiometry, atomic and molecular weights, the mole, simple quantitative calculations with chemical reactions, the periodic table, nomenclature, electronic structure of atoms, simple periodic properties of the elements, chemical bonding , and properties of various states of matter, acids and bases, and the basics of chemical equilibrium.
2	Kinetics of Chemical Reactions- CHEM 322N: This course provides the fundamental aspects of chemical reaction kinetics. The course is focused on studying the kinetics of elementary reactions as well as complexes reactions, using the kinetic data with helping of some fundamental kinetics theories to understand the mechanisms of chemical reactions.
3	Corrosion- CHEM 428 N: The course covers the basic concepts of corrosion chemistry, the kinetic of corrosion, the forms of corrosion, thermodynamic functions and corrosion, the different methods of corrosion protection and the concept of passivity.
4	Electrochemistry CHEM406: Electrochemistry is a foundation stone for many exciting developments , for example, energy storage and conversion, corrosion and production of materials and it is also central to many technologies essential to modern living. This course aims to introduce the concepts essential to the understanding of electrode reactions thermodynamically and kinetically as well as to illustrate some applications of electrochemistry.

Postgraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Advanced Electrochemistry 1	CHEM 542	1 semester, section (15 Lecture/semester)

Brief Description of Postgraduate Courses Taught: (Course Title – Code: Description)

1	Advanced Electrochemistry- CHEM 542: Introduction to electrochemistry: Nernst equation, electrode kinetics, dynamic electrochemistry, the Butler-Volmer and Tafel equations. Overpotentials. Kinetically and mass transport controlled electrochemical processes. Mass transport by migration, convection and diffusion.
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Conductivity. Solid state electrochemistry. Ion conducting and electronically conducting polymers. The electrochemical double layer, Structure and Property of Metal/Electrolyte Interface, Electrocatalytic Reaction, Dissolution and Deposition of Metals, Semiconductor Electrode Process.

Student Academic Supervision and Mentoring

#	Level	Number of Students	From	to
1	High school (National Olympiad for Scientific Creativity -Ibda'a 2017)	1	October 2017	May 2018

Research Supervision

#	Degree Type	Title	Institution	Date
1	Master of Science	Photoelectrocatalysis using Novel Semiconductors Composite	IAU	2021-Date
2	Master of Science	Synthesis of Novel anticorrosion coatings	IAU	2021-Date
3	PhD	Synthesis and application of Bi/BiOCl _x Br _{1-x} Heterojunction as Efficient Photocatalytic Material	KSU	2018-Date
4	Master of Science	Development of Solar Cells	IAU	2017-2018

Administrative Responsibilities, Committee and Community Service

Administrative Responsibilities

#	From	To	Position	Organization
1	Jan 2019	Date	Head of Public relation Committee at College of Engineering	Imam Abdulrahman Bin Faisal University
2	Jan,2018	Date	Vice Dean for Female Students Affairs, College of Engineering	Imam Abdulrahman Bin Faisal University
3	Jan, 2016	2018	Vice dean, Deanship of Community Service and Sustainable Development	Imam Abdulrahman Bin Faisal University
4	Aug,2015	Jan,2016	Chairman of Quality Committee	Department of Chemistry, College of Science, IAU
5	2010	2013	Chairman of Quality Committee	Department of Chemistry, College of Science, IAU

Committee Membership

#	From	To	Position	Organization
1	2021	Date	Consultancy Committee member	The Vice Presidency for Academic Affairs, IAU
2	Nov 2017	Oct 2018	Member- "Policies and Regulations of Community-based "Service Learning" Project at IAU" Committee	The Vice Presidency for Academic Affairs, IAU

3	Dec 2015	2016	Member- Thomson Reuters collaboration committee	College of Science, IAU
4	Sep 2015	Jan 2016	Chairman of Quality and Academic Accreditation Committee in Chemistry Department	College of Science, IAU
5	Sep 2015	Jan 2016	Member- Curriculum Development	Chemistry Department, College of Science, IAU
6	2010	2012	Chairman of Quality and Academic Accreditation Committee in Chemistry Department	College of Science, IAU

Volunteer Work

#	From	To	Type of Volunteer	Organization
1	2021	2021	Initiative: Green Environment at College of Engineering-Female Building	College of Engineering, IAU
2	2020	2020	Teaching Talented students "Dye Sensitized Solar Cells" workshop and lab.	College of Science and Education Administration for talented students.
3	2018	Date	Board member in Qurtuba Society for Reading	Ministry of Labor and Social Development
4	2018	July	Electrical Engineering -summer enrichment program instructor	Mawhiba Summer Enrichment Program at Imam Abdulrahman Bin Faisal University
5	2018	9 th October	"Nawabeg" Program برنامج نوابغ	Education administration for gifted students in Khaber City.
6	2016	Date	Training of Science College Graduates	College of Science at IAU and Research Center at KFUPM
7	2013	2013	First Female event for NACE Society, titled "Five Secrets of Corrosion"	National Association of Corrosion Engineers (NACE)- Saudi Chapter
8	2012	2013	Member of Mawhiba Referee Main Committee	Mawhiba, Rhyadh
9	2006	2009	Summer Enrichment Program for Gifted Students	Mawhiba and College of Science at Dammam University.

Personal Key Competencies and Skills

1	Learning all the time!
2	Building and leading creative teams
3	Voluntarism
4	Computer Software: MATLAB, Origin, Camtasia, AutoLab (Nova).

Last Update

14./11/2021