



## FACULTY FULL NAME: Marwah Hamdan Aljohani

Assistant Professor

### Personal Data

Nationality | Saudi

Department | Chemistry

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### Language Proficiency

Language	Read	Write	Speak
Arabic	Very good	Very good	Very good
English	Very good	Very good	Very good

### Academic Qualifications (Beginning with the most recent)

Academic Degree	Place of Issue	Address
PhD	national university of Ireland Galway	Ireland
Master		Ireland
Bachelor	Umm Al-Qura	Makkah

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

PhD	Enhancing the Bioavailability of Active Pharmaceutical Ingredients through Cocrystallization and Coamorphization.
Master	Particle size and shape control of active pharmaceutical ingredients

### Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work	Date
Assistant Professor	Chemistry Department- Science College	Present
Assistant Professor	Cooperative at Chemistry Department, Umm Al-Qura University	2021-2022



### Administrative Positions Held: (Beginning with the most recent)

Administrative Position	Office	Date
Teaching assistant	Undergraduate laboratories, National University of Ireland Galway	2015-2018
Teacher	Albatol secondary school, Makkah	2008-2010

### Scientific Achievements

#### Published Refereed Scientific Research

(In Chronological Order Beginning with the Most Recent)

#	Name of Investigator(s)	Research Title	Publisher	Date of Publication
	Lamis Alaa Eldin Refat, <b>Marwah Aljohani</b> and Andrea Erxleben	Trimesic Acid as a Building Block for Ternary and Quaternary Salts and Salt Cocrystals	Crystal Growth and design	2024
	Aeshah H. Alamri, Kedila Rasheeda, Salwa J. Kamal, Marwah Aljohani, Talal A. Aljohani, Irshad Baig, Vijaya D.P. Alva, N. Phadke Swathi, Ikenna B. Onyeachu and Seranthimata Samshuddin	Pyrimidine derivatives as efficient anticorrosive agents for acid corrosion of mild steel: Electrochemical and computational validation	Arabian Journal of Chemistry	2024
	Ayman H. Ahmed , Ibrahim O. Althobaiti, <b>Marwah Aljohani</b> , Ehab S. Gad , Yazeed M. Asiri and Omar A. Hussein.	Mammalian Cell Cytotoxicity, Antibacterial Activity and the Properties of Methylenebis (Hydroxybenzoic Acid) and Its Related Zinc(II) Complex	Crystals	2024
	Javed, Aiman, Momina Islam, Youssef O. Al-Ghamdi, Mudassir Iqbal, <b>Marwah Aljohani</b> , Saima Sohni, Syed Shoaib Ahmad Shah, and Shahid Ali Khan	Synthesis of oxidized carboxymethyl cellulose-chitosan and its composite films with SiC and SiC@ SiO <sub>2</sub> nanoparticles for methylene blue dye adsorption	International Journal of Biological Macromolecules	2023



Phadke Swathi, Seranthimata Samshuddin, Talal A. Aljohani, Kedila Rasheeda, Vijaya D. P. Alva, Irshad Baig, <b>Marwah Aljohani</b> & Aeshah Hassan Alamri	Corrosion mitigation of carbon steel using triazole Mannich base derivatives: Correlation of electrochemical studies with quantum chemical calculations	Arab Journal of Basic and Applied Sciences	2023
E. M. Abdallah, G. M. Asnag, M. A. Morsi, <b>Marwah Aljohani</b> , Aisha Nawaf Albalwa, A. Y. Yassin	Elucidation of the effect of hybrid copper/selenium nanofiller on the optical, thermal, electrical, mechanical properties and antibacterial activity of polyvinyl alcohol/carboxymethyl cellulose blend	Polymer Engineering and Science	2023
<b>M. Aljohani</b> , P. McArdle, A. Erxleben	Dual-drug amorphous formulation of gliclazide,	Drug Development and Industrial pharmacy	2021
<b>M. Aljohani</b> , P. McArdle, A. Erxleben	Influence of Excipients on Cocrystal Stability and Formation	Cryst. Growth	2020
<b>M. Aljohani</b> , P. McArdle, A. Erxleben	The Very Different Effect of Water on Nucleation, Crystallization, and Hydrate Stability of Zingerone and Vanillate Esters,	Cryst. Growth Des	2020
<b>M. Aljohani</b> , P. MacFhionnghaile, P. McArdle, A. Erxleben	Investigation of the Formation of Drug- Drug Cocrystals and Coamorphous Systems of the Antidiabetic Drug Gliclazide	Int J. Pharm	2019
M. Alsubaie, <b>M. Aljohani</b> , A. Erxleben, P. McArdle	Cocrystal forms of the BCS class IV drug sulfamethoxazole. Cryst. Growth Des	.Cryst. Growth Des	2018
<b>M. Aljohani</b> , A. Pallipurath, P. McArdle, A. Erxleben	A comprehensive cocrystal screening study of chlorothiazide.	Cryst. Growth Des	2017



N. Kamali, M. Aljohani, P.McArdle and A. Erxleben.	Hydrogen Bonding Networks and Solid-State Conversions in Benzamidinium Salts.	Cryst. Growth Des.,	2015
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### Completed Research Projects

#	Name of Investigator(s) (Supported by)	Research Title	Report Date
1	Narjes Buali, Rayan Almazni, Fatimah Aljaffer, Shaima Alqahtani, Sarah Kalala, Abrar Alshwaiki	Pharmaceutical of Cocrystal and Coamorphous of Diclofenac	2022/2023
2	Ghadeer alyousef, Walaa Alshurafa, Nouf Alajlani, Zahra Alasfoor, Laila Alsumain, Khadijah Nori	Pharmaceutical Cocrystals and Coamorphous of Olanzapine	2022/2023
3	Alaa Alnassir, Zahra Saleem, Anwar Alsameen	Synthesis and Characterization of Bi-Ligand Copper and Iron Based Metal-Organic Frameworks	2022/2023
4	Razan saad Almutairi, Yasmeen moneer Alrasheedi Roze jamal Hammad	Metal nanocomposite supported on Gelatin-Chitosan hydrogel as a catalyst for removal of dyes and inorganic pollutant	2022/2023
5	Manar Alghamdi, Nouf Alshehri, Fatimah Alawadh	Investigating meloxicam dissolution and improving its solubility	2023/2024
6	Shahad Hassan Yaseen, Shahad AlSaqer	Unveiling the Potential of Metal-Organic Frameworks: Exploring Synthesis, Characterization, and Applications	2023/2024



### Contribution to Scientific Conferences and Symposia

#	Conference Title	Place and Date of the Conference	Extent of Contribution
1	The British Association of Crystal Growth (BACG) from July 9th to 11th July 2019..	London, the United Kingdom	Oral presentation
2	The Irish Universities Chemistry Research Colloquium from 20th to 21st June 2019.	Dublin, Ireland.	Oral presentation
3	Chemistry Research Day at Oral Communications and Display of Posters post-Graduates in Chemistry 9th January 2019	Galway, Ireland.	Oral presentation
4	The Sixth European Conference on Crystal Growth (ECCG6) from 16-20 September 2018.	Varna, Bulgaria.	Poster presentation
5	The 31st European Crystallographic Meeting from (ECM31) 22-27 August 2018.	Oviedo, Spain.	Poster presentation
6	The British Association of Crystal Growth (BACG) from 20th to 22nd June 2018.	Limerick, Ireland.	Oral presentation
7	The Inorganic Ireland meeting May 16 2017. Dublin, Ireland	Dublin, Ireland	Poster presentation
8	The 2nd CHEMATHON Competition. on October 5, 2023	KFUPM, KSA	Poster presentation



9	The second annual scientific meeting of the College of Science 9-13/5/ 2024	Dammam, Saudi Arabia	Poster presentation
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- Royal Society of Chemistry

### Teaching Activities Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
	Instrumental Chemical Analysis	CHEM 208	12 Lab
	General Chemistry	CHEM110	12 Lab
	Inorganic chemistry (lectures)	CHEM 208	15 lectures
	Mechanism of inorganic reaction (lectures)	CHEM 514	15 lectures
	Biochemistry (1).	BIOCH 308	15 lectures
	General chemistry (1)	28171101	12 Lab
	General chemistry (2)	28172131	15 lectures
	Thermodynamic	28172135	12 Lab
	Surface chemistry	28173554	12 Lab
	Qualitative analysis	28172134	12 Lab
	Spectrophotometric and electrochemical analysis methods	28173555	12 Lab

### Teaching Activities Postgrad.

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)



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

1-	<b><u>Inorganic chemistry, CHEM 208, Course Description:</u></b> Electronic configuration of elements, physical and chemical properties, prediction of new elements and compounds, Classification of groups, electronic distribution, presence in nature, preparation methods, General characteristics, Industrial applications, and chemical properties..
2-	<b><u>Mechanism of inorganic reaction, CHEM 514, Course Description:</u></b> General Introduction, kinetics and mechanism in reaction of complexes, classification of inorganic reactions, ion exchange reactions and electron transfer reactions..
3-	<b><u>Biochemistry (1). BIOCH 308, Course Description:</u></b> It covers fundamental concepts of biochemistry and applications of the biochemistry in human life; the chemistry of carbohydrates, amino acids, proteins, nucleic acids, lipids and vitamins; gene information; enzymes and enzymes regulations.
4-	<b><u>General chemistry (1) (lab), Practical content:</u></b> The use of teaching intelligent classes for lectures. Encourage students to prepare reports in general topics in chemistry. The use of information technology or the Internet in order to increase awareness of the concepts of chemistry. Link the theoretical and practical sides of the course to help the students to understand and interpret the properties of the chemical compounds.
5-	<b><u>General chemistry (2), Course Description:</u></b> The atomic shells, their shapes and Bohr theory of hydrogen atom. Electronic structure and Lewis structures of different chemical compounds. The valence shell electron pairs repulsion theory, molecular orbital theory and valence bond theory. The principle quantum numbers, classification of elements and properties of ionic and covalent compounds
6-	<b><u>Thermodynamic (lab), Practical content:</u></b> The course deals with the basic principles of thermodynamics including heat, energy, laws of thermodynamics and their applications, exothermic and endothermic reactions as well as spontaneous and non-spontaneous processes.
7-	<b><u>Surface chemistry (lab), Practical content:</u></b> The practical part contains some practical experiments related to surface tension determination using different methods and by using some equipment and adsorption from solution
8-	<b><u>Qualitative analysis (lab), Practical content:</u></b> Qualitative Analytical Chemistry course provide students with the necessary background of qualitative analysis of different compounds and its application. By the end of this course student will be able to know the fundamentals of analytical chemistry and has the ability to identify different methods used for qualitative analysis.
9-	<b><u>Spectrophotometric and electrochemical analysis methods (lab), Practical content:</u></b> A study of the interaction of light (or other electromagnetic radiation) with matter is an important and versatile tool for the chemist. Indeed, much of our knowledge of chemical substances comes from their specific absorption or emission of light. In this experiment, we are interested in analytical procedures based on the amount of light absorbed (or transmitted) as it passes through a sample
10-	



### Course Coordination

#	Course Title and Code	Coordination	Co-coordination	Undergrad	Postgrad.	From	To
	Inorganic chemistry (lectures)			√		2023	
	Mechanism of inorganic reaction (lectures)	√		√		2022	2023
	Biochemistry (1).			√		2022	2022
	General chemistry (1)			√		2021	2022
	General chemistry (2)			√		2021	2022
	Thermodynamic			√		2021	2022
	Surface chemistry			√		2021	2022
	Qualitative analysis			√		2021	2022
	Spectrophotometric and electrochemical analysis methods			√		2021	2022

### Student Academic Supervision and Mentoring

#	Level	Number of Students	From	To
	Different levels	18 students	2023	

### Supervision of Master and/or PhD Thesis

#	Degree Type	Title	Institution	Date
	Master	Understanding the Inhibition Mechanism of some N- Heterocyclic drugs as Corrosion Inhibitors for an Acidic Corrosive Environment	Dammam, Saudi Arabia	2023
	Master	Cocrystal forms of the BCS class IV drug sulfamethoxazole	NUI Galway, Ireland	2018

### Training courses or programs

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1	Train the trainers (TOT). Vision Center for Education and Training, 2020
2	Designing training packages, Vision Center for Education and Training, 2020



3	Faculty Mentorship Certification Program. (FMCP), Imam Abdulrahman Bin Faisal University, 2022
4	The Academic Leaders Forum in its first session, Ministry of education, 2022
5	Core Competencies in Teaching and Learning for Faculty Members (56), Imam Abdulrahman Bin Faisal University, 2022
6	The role of the leader in activating design thinking, Imam Abdulrahman Bin Faisal University, 2022
7	Electronic leadership, Imam Abdulrahman Bin Faisal University, 2022
8	Searching mechanisms in international libraries, journals and scientific service centers in scientific researcher website
9	الدورات التدريبية لمسار صاعد ضمن برنامج الباحث العلمي الناجح, كلية العلوم, جامعة الامام محمد بن فيصل
10	The 7th Forum of Local Ethics Committees, King Abdulaziz City for Science and Technology, 2022
11	دورة التعرف على نظام البلاك بورد وإنشاء المحتوى, كلية العلوم, جامعة الامام محمد بن فيصل
12	Introduction to X-ray diffraction and it's application, KAUST (King Abdullah University of Science and Technology), 2021
13	Introduction to NMR Spectroscopy: Theory and Applications, KAUST (King Abdullah University of Science and Technology), 2021
14	برنامج (القيادة الاستراتيجية) مركز القيادة بجامعة الإمام عبد الرحمن بن فيصل 2023
15	ورشة عمل "تعليم الموهوبين في البرامج الدراسية وكالة الشؤون الأكاديمية بكلية العلوم 2023
16	القيادة التعليمية الإبداعية 2023 - مركز القيادة بجامعة الإمام عبد الرحمن بن فيصل
17	Generative Artificial Intelligence: A Game changer in Higher Education- 2023
18	What is Artificial Intelligence & how to use it in teaching-2023
19	الموائمة العامة بين اختبارات المركز الوطني قياس والبرامج الأكاديمية بجامعة الإمام عبد الرحمن بن فيصل 2024
20	<b>Quality Electronic System: "Mua'sherat 2024</b>
21	2024- استراتيجيات الذكاء الاصطناعي
22	<b>AI Applications in Higher Education Student Assessment Practices - 2024</b>



## Administrative Responsibilities, Committee and Community Service (Beginning with the most recent)

### Administrative Responsibilities

#	From	To	Position	Organization

### Committee Membership

#	From	To	Position	Organization
	2023	Present	Head of Graduation projects unit	College of science
	2023	present	Head the Assessment of course learning outcomes committee	Chemistry department
	2023	2024	Member of the curriculum development strategies committee	Chemistry department
	2022	2023	Member of the exam progress committee	Chemistry department
	2023	2023	Member of Teaching Strategy committee	College of science

### Volunteer Work

#	From	To	Type of Volunteer	Organization
	2024	2024	مشرف اداري لمعرض مشاريع التخرج	كلية العلوم جامعة الامام عبد الرحمن بن فيصل
	2022	2024	مشرف فعالية علمية لقسم الكيمياء	كلية العلوم جامعة الامام عبد الرحمن بن فيصل
	2023	2023	مقدم ورشة تدريبية لبرنامج الباحث العلمي الناجح	كلية العلوم جامعة الامام عبد الرحمن بن فيصل
	2020, 2021		Researcher in the natural products unit and crystallography lab	King Abdul-Aziz university
	2019		Kitchen chemistry	NUIG
	2018-2019		Saudi society	NUIG

### Personal Key Competencies and Skills: (Computer, Information technology, technical, etc.)

1	Research
2	Laboratory Skills
3	Problem-solving
4	Work effectively both as a team member and independently
5	Communication
6	Trustworthiness & Ethics
7	Critical Thinking
8	Leadership

### Last Update

2024  
Marwah