

Dr. SARAH ALI ALDULAIJAN

ASSISTANT PROFESSOR (Ph.D)

Personal Data

Nationality | Saudi

Department | Chemistry

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Language Proficiency

Language	Read	Write	Speak
Arabic	✓	✓	✓
English	✓	✓	✓

Academic Qualifications

Date	Academic Degree	Place of Issue	Address
2000-2003	Bachelor of Science in Chemistry	University of Dammam	Dammam, KSA
2005-2006	English as a Second language (ESL)	University of Taxes at Austin	Taxes, USA
2007-2008	MSc. Master degree in Molecular Modeling (Chemistry)	Cardiff University	Cardiff, UK
2009-2012	PhD. in Theoretical and Computational Chemistry	Cardiff University	Cardiff, UK
2016-2017	Post-Doc at Chemical and Mechanical Engineering Departments (Saudi Aramco Ibn Khaldun Fellowship – Visitor Researcher).	Massachusetts Institute of Technology (MIT)	Massachusetts, USA

Professional Record:

Job Rank	Date
Director of local and international partnerships unit At Imam Abdulrahman Bin Faisal University, KSA.	Dec2023- current
Assistant Professor At Imam Abdulrahman Bin Faisal University, KSA.	2013- current
Assistant Director of the Centre of Scientific Publications, Imam Abdulrahman bin Faisal University, KSA	2013-2016
Teaching Assistant	2010-2011

At School of Chemistry, Cardiff University, Wales, UK.	
Post-Doc At Mechanical Engineering Departments, Massachusetts Institute of Technology (MIT), Massachusetts, USA	2016-2017

Administrative Positions Held:

Administrative Position	Office	Date
Assistant Director	Centre of Scientific Publications, Imam Abdulrahman bin Faisal University, KSA	2013-2016
Member of knowledge management committee	Vice president of female student affairs, Imam Abdulrahman bin Faisal University, KSA	2018 - 2020
Member of Teaching faculty committee	Chemistry Department, Imam Abdulrahman bin Faisal University, KSA	2018 - 2022
Head of scientific research committee	Chemistry Department, Imam Abdulrahman bin Faisal University, KSA	2018-2019
Head of community service committee	Chemistry Department, Imam Abdulrahman bin Faisal University, KSA	2019 – 2020
Member of the Intellectual Property Committee	Imam Abdulrahman bin Faisal University	2020
Member of community service committee	Chemistry Department, Imam Abdulrahman bin Faisal University, KSA	2021
Member of scientific research committee	Chemistry Department, Imam Abdulrahman bin Faisal University, KSA	2021-2022
Member of three-terms committee	Chemistry Department, Imam Abdulrahman bin Faisal University, KSA	2021-2022
Coordinator of the College of Science and the Department of Chemistry at the University's Professional Exams Initiative	College of science, Imam Abdulrahman bin Faisal University, KSA	2021-2022

Head of scientific research and innovation committee	Chemistry Department, Imam Abdulrahman bin Faisal University, KSA	2022- 2023
Member of scientific research committee	Chemistry Department, Imam Abdulrahman bin Faisal University, KSA	2023- current
Director of the Local and International Partnerships Unit	Imam Abdulrahman bin Faisal University, KSA	2023- current
Coordinator of international partnerships at Imam Abdul Rahman Bin Faisal University with the Secretariat of the University Affairs Council of the Ministry of Education	Imam Abdulrahman bin Faisal University, KSA	2023- current

Self-Development Training:

From Harvard University, USA:

- Managing Yourself and Leading Others, Harvard Division of Continuing Education, Professional Development Programs

From MIT Learning Center, MIT, USA:

- Developing Your Personal Brand.
- Managing Diversity and Inclusion.
- Giving Effective Feedback.
- Coaching Using the Grow Model.
- Giving Presentations with Confidence.
- Developing Potential of Self and Others.
- SMART Goal Setting.
- Managing Your Time.
- Communicating with Influence.
- Collaborate and Build Relationships.
- Networking and Informational Interviewing.
- Delegating for Success.
- Resume and Cover letters.

From Cardiff University, Wales, UK:

- Leadership Tools.
- Time Management.
- Self-Control training course.

- Starting Out: Induction Event for New Researchers
- Writing a Literature Review (Writing & Literature Skills in the Physical Sciences/Engineering).
- Managing your References Using EndNote.
- Presentation Skills.
- Fear Course
- Seven Secrets of Highly Successful Researchers.
- Conference Know-How in the Sciences.
- Managing Stress in the PhD.
- Academic Writing: Writing Well (Writing & Literature Skills in the Physical Sciences/Engineering).
- Perfectionism.
- Mapping Your Mind - Creative Notemaking for Research.
- Toastmasters Training Course.
- PhotoShop.
- Preparing for the Viva: Physical Sciences & Engineering.

From IAU in cooperation with other universities and sectors:

- Higher order thinking skills workshop, Dr.Beverley Webster from the University of Melbourne.
- Teaching for Creativity and Innovation, Presented by Laura Ryan from Buffalo State University of New York.
- Boosting Innovation and Entrepreneurship in university education, University of Turku.
- King Abdullah University Science and Technology Winter Enrichment program.
- Implementing Project-Based Learning in Higher Education, Turun yliopisto, University of Turku.
- Certificate in leadership in digital transformation.

And More than 70 workshops from the IAU in field education and research development.

Scientific Achievements

Published Refereed Scientific Researches

#	Name of Investigator(s)	Research Title	Publisher
1	S. Aldulaijan, J.A. Platts	Theoretical prediction of a peptide binding to major Histocompatibility complex II	Journal of Molecular Graphics and Modelling
2	S.Aldulaijan, J.A. Platts	Prediction of Peptide Binding to Major Histocompatibility II Receptors with	Journal of molecular Biochemistry

		Molecular Mechanics and Semi-Empirical Quantum Mechanics Methods	
3	S. Aldulaijan , J.A. Platts	Quantum Chemical Methods for Calculation of Non-Covalent Interactions in Biological Molecules	Current Physical Chemistry
4	M. Dhifallah, A. Dhoub, S. Aldulaijan , F. Dizenzo and H. Guesmi	Investigation of surface changes in Au-Cu alloys under CO, NO and O ₂ reactive gases.	The Journal of Chemical Physics
5	Abir S. Abdel-Naby, Sara Nabil, Sarah Aldulaijan , Ibtisam M. Ababutain, Azzah I. Alghamdi, Somaiah Almubayedh and Khaled D. Khalil	Synthesis, Characterization of Chitosan-Aluminum Oxide Nanocomposite for Green Synthesis of Annulated Imidazopyrazol Thione Derivatives	polymers
6	Sabrine Baachaoui, Sarah Aldulaijan , Fayçal Raouafi, Rafea Besbes, Luca Damman, Alessandro Fortunelli, Adnene Dhoub and Nouredine Raouafi	Pristine graphene covalent functionalization with aromatic aziridines and their application in the sensing of volatile amines – an ab initio investigation	RSC Advances
7	Sabrine Baachaoui, Sarah Aldulaijan , Luca Sementa, Alessandro Fortunelli,* Adnene Dhoub,* and Nouredine Raouafi	Density Functional Theory Investigation of Graphene Functionalization with Activated Carbenes and Its Application in the Sensing of Heavy Metallic Cations	Journal of Physical Chemistry C
8	Meriam Belaiba, Sarah Aldulaijan , Sabri Messaoudi, Manef Abedrabba, Adnene Dhoub and Jalloul Bouajila	Evaluation of Biological Activities of Twenty Flavones and In Silico Docking Study	Molecules
9	Aldulaijan, Sarah ; Shaban, Sara; Alharthi, Salha; Abdullatif, Bushra; Abdel-Naby, Abir	Use of Bioresource Nanocomposite as Heterogeneous Base Catalyst for the Green Synthesis of Novel Bioactive Pyrazoles. Antibacterial evaluation using Molecular Docking	New Journal of Chemistry
10	Sarah Aldulaijan , Afnan M. Ajeebi, Abdesslem Jedidi, Sabri Messaoudi, Nouredine Raouafi and Adnene Dhoub	Surface modification of graphene with functionalized carbenes and their applications in the sensing of toxic gases: a DFT study	RSC Advance
11	Sabrine Baachaoui, Luca Sementa, Rabiaa Hajlaoui, Sarah Aldulaijan , Alessandro Fortunelli, Adnene	Tailoring Graphene Functionalization with Organic Residues for Selective Sensing of Nitrogenated Compounds: Structure and Transport Properties via QM Simulations	Journal of Physical Chemistry C

	Dhouib, and Nouredine Raouafi		
12	Abir Abdel-Naby, Bushra A. Alabdullatif, Sarah Aldulaijan and Yanallah Alqarni	Synthesis and characterization of <i>p</i> -carboxy phenyl amino maleimide-g-cellulose acetate/ZrO ₂ nanocomposite membrane for water desalination	Water Reuse
13	Sarah Aldulaijan	In-silico selection of peptides for the recognition of imidacloprid.	Plos one
14	Sarah Aldulaijan , Raghad Alruwili, Rawan Almulaify, Fatimah Alhassan, Yousif Al-Dulaijan, Faris Alshahrani, Lamia Mokeem, Mohamed Gad, Mary Anne Melo, Abdulrahman Balhaddad	Benzyltrimethyl dodecyl Ammonium Chloride-Doped Denture-Based Resin: Impact on Strength, Surface Properties, Antifungal Activities, and In Silico Molecular Docking Analysis	Journal of Functional Biomaterials

Membership of Scientific and Professional Societies and Organizations

- Member of Saudi Chemical Society, KSA, 2016-current.
- Member of Saudi Arabian International Chemical Sciences Chapter of the American Chemical Society (SAICSC-ACS), KSA, 2010- Current.
- Member of the council of the Center of Scientific Publications, University of Dammam, KSA, 2013- 2016.
- Member of the council of the Department of Chemistry, University of Dammam, KSA, 2013- Current.
- Member of Arbitration of the National Olympiad Competition (talent) path of scientific research, KSA, 2014.
- Member of Molecular Graphics and Modeling Society, London, UK, 2014.
- Member of the Knowledge Management committee, IAU, 2018-2020.
- Member of Ibn Khaldun committee, MIT, 2016-Current.
- Member of the Intellectual Property Committee at Imam Abdulrahman bin Faisal University, 2020.
- Head of the professional exam committee in the college of science and chemistry department 2021-2022.
- Member of the committee supervising the implementation of the agreement between the university and the Ministry of Defense in Kingdom of Bahrain 2023-current.
- Chairman of the supervisory committee to activate the memorandum of understanding between the university and Alyamamah University 2024-current.

- Head of a team preparing a proposal for the university's international students office 2024.
- Coordinator of international partnerships at Imam Abdul Rahman Bin Faisal University with the Secretariat of the University Affairs Council of the Ministry of Education, 2023- current.

Teaching Activities

Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	General Chemistry I	CHEM203	lectures
2	General Chemistry II	CHEM207	lectures
3	Thermodynamics Chemistry	CHEM306	lectures
4	Quantum Chemistry	CHEM504	lectures
5	Colloidal Chemistry	CHEM554	lectures
6	Research Project	CHEM508	Lectures
7	Physical Chemistry I	CHEM201	Lectures
8	Chemical Kinetics and Reaction Mechanisms	CHEM402	Lectures
9	Chemical Kinetics and Reaction Mechanisms	CHEM402	Lab
10	Physical Chemistry 2	CHEM207	Lectures

Postgraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Advanced Quantum Chemistry	CHEM541	Lectures

Course Coordination

#	Course Title and Code	Coordination	Co-coordination	Undergrad.	Postgrad.
1	General Chemistry I	✓		✓	
2	General Chemistry II	✓		✓	
3	Thermodynamics Chemistry	✓		✓	
4	Quantum Chemistry	✓		✓	
5	Colloidal Chemistry	✓		✓	

6	Advanced Quantum Chemistry	✓			✓
7	Research Project		✓	✓	
8	Physical Chemistry I	✓		✓	
9	Chemical Kinetics and Reaction Mechanisms		✓	✓	
10	Physical Chemistry I		✓	✓	

Student Academic Supervision and Mentoring

#	Level	Number of Students	From	To
	Undergrad.	12 to 30 student per year	2013	current

Supervision of Master Thesis

#	Degree Type	Title	Institution	Date
1	Master	Computational Study and Modelling of Some Catalyst Reactions by Graphene	Chemistry Department, Imam Abdulrahman bin Faisal University, KSA	2018 - 2022
2	Master	Green synthesis, Pharmacological Evaluations and Molecular Docking Studies of Novel Chromenone Derivatives	Chemistry Department, Imam Abdulrahman bin Faisal University, KSA	2021 - 2022

Last Update

4/1/2025