

## FACULTY FULL NAME

# Nuhad Abdullah Abdurrahman Alomair

POSITION Associate Professor in Physical Chemistry

### Personal Data

Nationality | Saudi

Sex: Female

Marital Status: Married

place of Birth | ALKhobar, KSA

Department | Chemistry

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### Research profile links at International Databases

Database	Link
Google Scholar	<a href="https://scholar.google.com/citations?user=6mRPmLcAAAAJ&amp;hl=ar">https://scholar.google.com/citations?user=6mRPmLcAAAAJ&amp;hl=ar</a>
Scopus	<a href="https://www.scopus.com/authid/detail.uri?authorId=56002119900">https://www.scopus.com/authid/detail.uri?authorId=56002119900</a>
ResearchGate	<a href="https://www.researchgate.net/profile/Na_Al-Omair">https://www.researchgate.net/profile/Na_Al-Omair</a>
LinkedIn	<a href="https://www.linkedin.com/in/nuhad-alomair-481789150">https://www.linkedin.com/in/nuhad-alomair-481789150</a>
ORCID	<a href="https://orcid.org/0000-0003-3659-9177">https://orcid.org/0000-0003-3659-9177</a>

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

Date	Academic Degree	Place of Issue	Address
2003	Ph. D. in Physical Chemistry	Science College	Dammam
1997	M. Sc. in Physical Chemistry	Science College	Dammam
1991	B. Sc. in Chemistry	Science College	Dammam

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

PhD	Studies on The Electric Conductance Behavior of Some Dyes in Different Solutions
Master	Spectrophotometric and Potentiometric Studies on The Ionization of Some Basic Dyes in Different Media

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

Job Rank	Place and Address of Work	Date
Associate Professor	Chemistry department, Science College, IAU	20-10-2016 to date
Assistant Professor	Chemistry department, Science College, University of Dammam	2003
Lecturer	Chemistry department, Science College	1997
Demonstrator	Chemistry department, Science College	1991

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

Administrative Position	Office	Date
Dean	Scientific Research Deanship	20/10/2019 to date
Director	Basic and Applied Scientific Research Center (BASRC)	5/11/2018 to 31/03/2021
Dean	Science College	16/9/2010 to 12/7/2016 12/7/2018 to 20/10/2019
Vice dean of Academic Affairs	Science College	26/10/2007 to 15/9/2010

### Administrative Responsibilities, Committee and Community Service

#### (Beginning with the most recent)

#### Committee Membership

#	From	To	Position	Organization
1.	6/12/2020	date	Member of Board of Trustees	IAU
2.	2015	date	Member of university council	IAU
3.	20/10/2019	date	Head of DSR council	IAU
4.	19/02/2021	date	Member of research chairs committee	IAU
5.	02/03/2021	date	Member of computer science and information technology college council	
6.	5/11/2020	date	Member of strategic planning committee	IAU
7.	24/10/2020	date	Head of the Scientific Research Initiative in Teaching and Learning for a university professor	IAU
8.	7/10/2020	date	Head of students publishing initiative	IAU
9.	17/8/2020	date	Member of the committee of scientific supervision and follow-up of research funded by KACST at IAU	IAU
10.	17/6/2020	date	Member of Committee for Institutional Fund	IAU
11.	20/2/2020	date	Member of Institute for Studies and Consultations council	IAU
12.	4/12/2019	date	Member of Preparing the Scientific Research Strategy for the IAU and its follow up implementation.	IAU
13.	20/10/2019	date	Member of Research Excellence Award	IAU
14.	20/10/2019	date	Member of Deanship of Higher studies council	IAU
15.	21/10/2018	20/10/2019	Member of thinking and strategic plan committee	IAU
16.	21/12/2018	20/10/2019	Member in deanship of scientific research.	IAU
17.	15/9/2017	2/9/2018	Head of the committee of faculty affairs in chemistry dep.	IAU
18.	9/10/2014	4/12/2019	Member of recruitment committee.	IAU
19.	13/4/2015	12/7/2016	Member of main committee of deanship of community service and sustainable development	UOD
20.	2013 2018 to	2016 4/12/2019	Head of behavior committee in science college	IAU
21.	2013	2014	Member of Al-Faisaliah School Board	AlMaaref company

## Scientific Achievements

### Published Refereed Scientific Research

(In Chronological Order Beginning with the Most Recent)

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication	DOI	Q
1.	Muneerah B. Almahasheer, Abdullah Al Rubaish, Abdullah Alkadi, Mahmoud A. Abdellatif, Vijaya Ravinayagam, Assaf, Wael Fateh, Palanivel Rubavathi Marimuthu, Nuhad A. Alomair	Faculty Readiness for Online Teaching at Imam Abdulrahman Bin Faisal University During the COVID-19 Crisis: A Cross-Sectional Study	F1000Research  2021	-	Q2
2.	Hanan H. Mohamed, Fatima Al Qarni, <b>Nuhad A. Alomair</b> , Sultan Akhtar	Solar Photocatalytic and Antimicrobial Activity of Porous Indium-Doped TiO <sub>2</sub> Nanostructure	Arabian Journal for Science and Engineering 27 October <b>2020</b>	<a href="https://doi.org/10.1007/s13369-020-04957-x">https://doi.org/10.1007/s13369-020-04957-x</a>	Q1
3.	Hanan H Mohamed, Fatimah Al Qarni, <b>Nuhad A. Alomair</b>	Design of porous Ga doped TiO <sub>2</sub> nanostructure for enhanced solar light photocatalytic applications	Materials Research Bulletin 5 September <b>2020</b>	<a href="https://doi.org/10.1016/j.materresbull.2020.111057">https://doi.org/10.1016/j.materresbull.2020.111057</a>	Q1
4.	Marwa Hamandi, Mohamed Triki, Jordi Llorca, Fethi Jomni, <b>Nuhad A. Alomair</b> And Hafedh Kochkar	Investigation of physicochemical and electrical properties of TiO <sub>2</sub> nanotubes/graphene oxide nanocomposite	Bull. Mater. Sci. 10 April, <b>2020</b>	<a href="https://doi.org/10.1007/s12034-020-2072-1">https://doi.org/10.1007/s12034-020-2072-1</a>	Q3
5.	Hanan H Mohamed, <b>Nuhad A. Alomair</b> , Detlef W Bahnemann	Kinetic and mechanistic features on the reaction of stored TiO <sub>2</sub> electrons with Hg (II), Pb (II) and Ni (II) in aqueous suspension	Arabian Journal of Chemistry 1 December, <b>2019</b>	<a href="https://doi.org/10.1016/j.arabjoc.2016.08.001">https://doi.org/10.1016/j.arabjoc.2016.08.001</a>	Q1
6.	<b>Nuhad A. Alomair</b> and Hanan H Mohamed	Single Step Green Synthesis of Au /ZnO/rGO Nanocomposites for Visible Light Photocatalytic Application	Materials Research Express 11 October, <b>2019</b>	<a href="https://doi.org/10.1088/2053-1591/ab4967">https://doi.org/10.1088/2053-1591/ab4967</a>	Q2
7.	Fatimah Al Qarni, <b>Nuhad A. Alomair</b> and Hanan H. Mohamed	Environment-Friendly Nanoporous Titanium Dioxide with Enhanced Photocatalytic Activity	Catalysts 25 September, <b>2019</b>	<a href="https://doi.org/10.3390/catal9100799">https://doi.org/10.3390/catal9100799</a>	Q2
8.	Hanan H. Mohamed, <b>Nuhad A. Alomair</b> , Sultan Akhtar, Tamer E. Youssef	Eco-friendly synthesized $\alpha\text{Fe}_2\text{O}_3/\text{TiO}_2$ heterojunction with enhanced visible light photocatalytic activity	Journal of photochemistry and Photobiology A: Chemistry 1 September, <b>2019</b>	<a href="https://doi.org/10.1016/j.jphotochem.2019.111951">https://doi.org/10.1016/j.jphotochem.2019.111951</a>	Q1

9.	Raouf Jebali , Mohamed Triki,, <b>Nuhad A. Alomair</b> , , Hafedh Kochkar	From adsorption of rare earth elements on TiO <sub>2</sub> nanotubes to preconcentration column application	Microchemical Journal 1 September, <b>2019</b>	<a href="https://doi.org/10.1016/j.microc.2019.104021">https://doi.org/10.1016/j.microc.2019.104021</a>	Q2
10.	Mohamed HH, Alsanea AA <b>Nuhad A. Alomair</b> , Akhtar S, Bahnemann DW.	ZnO@ porous graphite nanocomposite from waste for superior photocatalytic activity.	Environmental Science and Pollution Research 1 April, <b>2019</b>	<a href="https://doi.org/10.1007/s11356-019-04684-3">https://doi.org/10.1007/s11356-019-04684-3</a>	Q1
11.	<b>Nuhad A. Alomair</b> and Hanan H Mohamed	Green synthesis of ZnO hollow microspheres and ZnO/rGO nanocomposite using red rice husk extract and their photocatalytic performance	Materials Research Express 3 August, <b>2018</b>	<a href="https://doi.org/10.1088/2053-1591/aaa469">https://doi.org/10.1088/2053-1591/aaa469</a>	Q2
12.	N.O. ALZAMEL,F. ALAKHRAS , A.A. AL-ARFAJ1 , M.A. AL-KHALDI <b>Nuhad A. Alomair</b> , E. AL-ABBAD , A.A. WASSEL and N. OUERFELLI	On the Homographic Dependence of Activation Energy and Viscosity Arrhenius' Temperature for Some Pure Fluids	Asian Journal of Chemistry 31 July, <b>2018</b>	<a href="https://doi.org/10.14233/ajchem.2018.21319">https://doi.org/10.14233/ajchem.2018.21319</a>	Q4
13.	A.A. AL-ARFAJ, F. ALAKHRAS, E. AL-ABBAD, N.O. ALZAMEL, <b>Nuhad A. Alomair</b> and N. OUERFELLI	Removal of Orange 2G Dye from Aqueous Solutions Using TiO <sub>2</sub> -Based Nanoparticles: Isotherm and Kinetic Studies	Asian Journal of Chemistry 31 May, <b>2018</b>	<a href="https://doi.org/10.14233/ajchem.2018.21298">https://doi.org/10.14233/ajchem.2018.21298</a>	Q4
14.	Hanan H. Mohamed, <b>Nuhad A. Alomair</b>	Exploiting stored TiO <sub>2</sub> electrons for multi-electron reduction of an azo dye methyl orange in aqueous suspension	Journal of Saudi Chemical Society 1 March, <b>2018</b>	<a href="https://doi.org/10.1016/j.jscs.2016.06.002">https://doi.org/10.1016/j.jscs.2016.06.002</a>	Q2
15.	Rami Haj Kac em, Mohamed Dallal, <b>Nuhad A. Alomair</b> , Ahlam Al-Arfaj, Nora Alzamel, Nouredine Ouerfelli	Analysis of correlation between viscosity Arrhenius parameters: Extension to ternary liquid mixtures	Mediterranean Journal of Chemistry 14 November, <b>2017</b>	<a href="https://doi.org/10.13171/mjc65/017114633rhk">https://doi.org/10.13171/mjc65/017114633rhk</a>	Q4
16.	Mohamed Dallel, Ahlam A. Al-Arfaj, <b>Nuhad A. Alomair</b> , Mishaal A. Alkhaldi, Noura O. Alzamel, Asala A. Al-Zahrani And Nouredine Ouerfell	A Novel Approach of Partial Derivatives to Estimate the Normal Boiling Temperature via Viscosity Arrhenius Behaviour in N,N-Dimethylformamide + Ethanol Fluid Systems	Asian Journal of Chemistry 1 September, <b>2017</b>	<a href="https://doi.org/10.14233/ajchem.2017.20764">https://doi.org/10.14233/ajchem.2017.20764</a>	Q4
17.	M. Dallel, A.A. Al-Zahrani, H.M. Al-Shahrani, G.M. Al-Enzi, L. Snoussi, N.Vrinceanu, <b>Nuhad A. Alomair</b> & N. Ouerfelli	Prediction of the boiling temperature of 1,2-dimethoxyethane and propylene carbonate through the study of viscosity–temperature	Physics and Chemistry of Liquids 4 July, <b>2017</b>	<a href="https://doi.org/10.1080/00319104.2016.1233181">https://doi.org/10.1080/00319104.2016.1233181</a>	Q2

		dependence of corresponding binary liquid mixtures.			
18.	<b>Nuhad A. Alomair</b>	Investigation of Interactions between Sodium Dodecyl Sulfate and Crystal Violet in Aqueous Solution	Asian Journal of Chemistry 1 April, <b>2017</b>	<a href="https://doi.org/10.14233/ajchem.2017.20368">https://doi.org/10.14233/ajchem.2017.20368</a>	Q4
19.	Hanen Salhi , Saik Babu , Nada Al-Eidan , Nejib H. Mekni , Noura Al-Otaibi , Khadija Y. Alqahtani , <b>Nuhad A. Alomair</b> and Nouredine Ouerfelli	On the reduced Redlich-Kister excess properties for 1,2-dimethoxyethane with propylene carbonate binary mixtures at temperatures (from 298.15 to 318.15) K	Mediterranean Journal of Chemistry 5 January, <b>2017</b>	<a href="https://doi.org/10.13171/mjc62/01701061439-salhi">https://doi.org/10.13171/mjc62/01701061439-salhi</a>	Q4
20.	<b>Nuhad A. Alomair</b> , D. Das, L. Snoussi, B. Sinha, R. Pradhan, K. Acharjee, K. Saoudi, N. Ouerfelli	A partial derivatives approach for estimation of the viscosity Arrhenius temperature in N,N-dimethylformamide + 1,4-dioxane binary fluid mixtures at temperatures from 298.15 K to 318.15 K	Physics and Chemistry of Liquids 2 September, <b>2016</b>	<a href="https://doi.org/10.1080/00319104.2016.1139707">https://doi.org/10.1080/00319104.2016.1139707</a>	Q2
21.	R.B. Haj-Kacem, N. O. Alza-mel, <b>Nuhad A. Alomair</b> , M.A. Alkhaldi, A.A. Al-Arfaj, N. Ouerfelli	Sensitivity of Viscosity Arrhenius –Type Equation to Density of Liquids	Asian Journal of Chemistry 1 January, <b>2016</b>	<a href="http://dx.doi.org/10.14233/ajchem.2016.19990">http://dx.doi.org/10.14233/ajchem.2016.19990</a>	Q4
22.	H. Salhi, <b>Nuhad A. Alomair</b> , A.A. Al-Arfaj, M.A. Alkhaldi, N.O. Alzamel, K.Y. Alqahtani, N. Ouerfelli	Correlation between boiling temperature and the viscosity Arrhenius activation energy in N,N-dimethylformamide+2-propanol binary mixtures at 303.15 to 323.15 K.	Asian Journal of Chemistry 1 June, <b>2016</b>	<a href="http://dx.doi.org/10.14233/ajchem.2016.19858">http://dx.doi.org/10.14233/ajchem.2016.19858</a>	Q4
23.	<b>Nuhad A. Alomair</b>	Thermodynamic Study of interaction between a Cationic Surfactant and an Anionic Azo Dye in Aqueous Solution	Indian Chemical Society January, <b>2016</b>	---	Q4
24.	Z. Trabelsi, M. Dallel, H. Salhi, D. Das, <b>Nuhad A. Alomair</b> & N. Ouerfelli	On the viscosity Arrhenius temperature for methanol + N,N-dimethylformamide binary mixtures over the temperature range from 303.15 to 323.15 K	Physics and Chemistry of Liquids 4 July, <b>2015</b>	<a href="https://doi.org/10.1080/00319104.2014.947372">https://doi.org/10.1080/00319104.2014.947372</a>	Q2

25.	<b>Nuhad A. Alomair</b>	Thermodynamic Analysis of Dye-Surfactant Interactions in Aqueous Solution Using Conductometric and Surface Tension Techniques	Scientific Journal of King Faisal University (Basic and Applied Sciences) December, <b>2015</b>	---	Q4
26.	M. A. Al-Khalidi , K. Y. Al-qahtani , A.A.Al-arfaj, <b>Nuhad A. Alomair</b>	Inhibition of Steel Corrosion in 0.5m Hydrochloric Acid Solution	The SciTech, Journal of Science & Technology 4 July, <b>2014</b>	---	Q2
27.	M. Dallel, D. Das , E.S. Bel Hadj Hmida , <b>Nuhad A. Alomair</b> , A.A. Al-Arfaj and N. Ouerfelli	Derived partial molar properties investigations of viscosity Arrhenius parameters in formamide + N,N-dimethylacetamide systems at different temperatures	Physics and Chemistry of Liquids 4 May, <b>2014</b>	<a href="https://doi.org/10.1080/00319104.2013.871669">https://doi.org/10.1080/00319104.2013.871669</a>	Q2
28.	<b>Nuhad A. Alomair</b> , Safenaz M. Reda, Farah M. Al-Hajri	Triton Facilitated Spherical TiO <sub>2</sub> Nanoparticles and Their Advantage in a Dye-Sensitized Solar Cell.	Advances in Materials Physics and Chemistry 13 February, <b>2014</b>	<a href="https://doi.org/10.4236/ampc.2014.42005">https://doi.org/10.4236/ampc.2014.42005</a>	--
29.	<b>Nuhad A. Alomair</b> , Safenaz M. Reda, Farah M. Al-Hajri	Effect of Organic Dye on the Photovoltaic Performance of Dye-Sensitized ZnO Solar Cell.	Advances in Nanoparticles 10 February, <b>2014</b>	<a href="https://doi.org/10.4236/anp.2014.31005">https://doi.org/10.4236/anp.2014.31005</a>	Q2
30.	M. A. AL - Khalidi , E.A. Moussa and <b>Nuhad A. Alomair</b>	Spectrophotometric and Kinetic studies of some basic dyes	AL -Azhar Bull. Sci. <b>2000</b>	---	--
31.	E.A. Moussa, M.A. AL – Khalidi, <b>Nuhad A. Alomair</b>	Behavior of some Basic dyes in different solvents	AL -Azhar Bull. Sci. <b>1999</b>	---	--

#### Filed Patents

#	Patent Title	Name of Investigator(s)
1	ZnO-Porous Graphite Composites, Their Use and Manufacture	Alomair NA, Mohamed HH, United States patent <b>Publication No.</b> US-2020-0391190-A1 <b>Publication Date:</b> 17/12/2020
2	Transformation of Polyethylene Terephthalate (PET) Bottle Mixed Waste into Porous Graphite Photocatalyst Nanocomposite for Water Treatment	Mohamed HH, Alsanea AA, Alomair NA, Akhtar S, Bahnemann DW United States patent <b>Publication No.</b> US-2020-0346940-A1 <b>Publication Date:</b> 5/11/2020
3	Application of TiO <sub>2</sub> nanomaterials in the extraction of antibiotics and hormones from milk	Hafedh Kochkar, Alomair NA and others United States patent

#### Published Refereed Scientific Books

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication
1	N. A. Alomair and others	Interactive Physical Chemistry	IAU, 2017

## Grants and Awards Obtained

#	Name of award	Donor of the award and place	Date
1	Reward excellence for scientific publishing, paper entitled (correlation between boiling temperature and the viscosity Arrhenius activation energy in N,N-dimethylformamide+2-propanol binary mixtures at 303.15 to 323.15 K)	IAU	2016
2	Reward excellence for scientific publishing, paper entitled (partial derivatives approach for estimation of the viscosity Arrhenius temperature in N,N-dimethylformamide + 1,4-dioxane binary fluid mixtures at temperatures from 298.15 K to 318.15 K)	IAU	2016
3	Reward excellence for scientific publishing, paper entitled (Thermodynamic Study of interaction between a Cationic Surfactant and an Anionic Azo Dye in Aqueous Solution)	IAU	2016
4	Reward excellence for scientific publishing, paper entitled (Derived partial molar properties investigations of viscosity Arrhenius parameters in formamide + N,N-dimethylacetamide systems at different temperatures)	IAU	2015
5	Reward excellence for scientific publishing, paper entitled (On the viscosity Arrhenius temperature for methanol + N,N-dimethylformamide binary mixtures over the temperature range from 303.15 to 323.15 K)	IAU	2014
6	Outstanding performance during the academic year 2009	KFU	2009

## Scientific Research Papers Presented to Refereed Specialized Scientific Conferences

#	Name of Investigator(s)	Research Title	Conference and Publication Date
1.	Nuhad A. Alomair and Hanan H Mohamed	Green Synthesis of ZnO Hollow Microspheres and ZnO/rGO Nanocomposite Using Red Rice Husk Extract and Their Photocatalytic Performance"	23 <sup>rd</sup> International Conference on Nanomaterials and Nanotechnology <i>Theme: Exploring Advances of Nanomaterial Sciences</i> March 15-16, 2018 London, UK
2.	Hanan H Mohamed and Nuhad A. Alomair	Graphene Oxide Based Porous Metal Oxide Microspheres for Photocatalytic Wastewater Treatment	The 4 <sup>th</sup> Saudi International Nanotechnology Conference, SINC 2016 KFUPM + KACST 25-27/10/2016
3.	Nuhad A. Alomair and Hanan H Mohamed	Synthesis of ZnO/CNT Microspheres Composites for Enhanced Photocatalytic Water Treatment	The 4 <sup>th</sup> Saudi International Nanotechnology Conference, SINC 2016 KFUPM + KACST 25-27/10/2016
4.	M. Dallela, N. Al-Otaibi, N. Al-Eidan, N.A. Al-Omair, A.A. Al-Arfaj, K.Y. Alqahtani, A. Toumi, N. Ouerfelli	Van der Waals clusters detection through the activation of viscous flow derived properties in isobutyric acid + water binary mixtures near and far away from critical temperature	JCC 2015 - First Tunisian Chemical Society Conference Sol Azur Beach Hotel, Hammamet – Tunisia, 8-10 May 2015
5.	H.salhiah, M.Hichri, N.A. Al-Omair, K.Y. Alqahtani, N. Ouerfelli	Estimation des coefficients d'activité à partir de l'enthalpie libre molaire relative à l'activation d'écoulement visqueux dans les mélanges N,N-diméthylacétamide + 2-éthoxyéthanol	The Eighteenth National days of Chemistry JNC18 Monastir, Tunisia 21-23 Dec. 2014
6.	N.Dhouibi, H.Hamda, N.A. Al-Omair, N.Ouerfelli, A.H.Alhamzaoui	Contribution à une modélisation de la corrélation entre les paramètres d'Arrhenius relatifs à la viscosité pour certains solvants purs.	The Eighteenth National days of Chemistry JNC18 Monastir, Tunisia 21-23 Dec. 2014
7.	N. A. Al-Omair	Attracting creative and innovative ideas and competencies and their role in the dissemination of knowledge	Sixth International Arab Conference for Information Technology 29-31/10/2013



## Funded Projects

#	Application Number	Duration in months	Title	status
1	2020-711-MED	24	Daily Magnesium intake for drinking water in relation to Diabetes	ongoing
2	2020-100-BASRC	24	Assisted Photocatalysis by Ferroelectric Polarization for Fine Chemicals Production	ongoing
3	2020-060-DSR	12	Extraction of biosilica from date palm rachis and arecanut leaf sheath fibers	ongoing
4	IF-2020-019-BASRC	24	Development of a smart nanohybrid material for solar photodegradation and disinfection of organic (biological) pollutants in water	ongoing
5	IF-2020-018-BASRC	24	Water Desalination and Purification	ongoing
6	Covid19-2020-074-DSR	6	The Positive Impacts of Remote Working During Pandemic Covid-19 In IAU	Done
7	2019-063-Sci	24	CO <sub>2</sub> capture and storage using nanoporous carbon nitride molecular baskets - To combat greenhouse effect	Done
8	2019-087-Sci	24	Design of nanomaterials for Water Treatment at Low Energy Cost-Conception of photocatalytic reactor equipped with smart glass	Done
9	2019-303-Sci	24	Sustainable Production of H <sub>2</sub> fuel from seawater and Sunlight	Done
10	2017-145-Sci	24	Green Design and Synthesis of 3D Metal Organic Frameworks Composites as Multifunctional Nanomaterials for Energy and Environmental Sustainability	Done
11	2016-074-Sci	12	Transforming industrial Wastes into Carbon Based Nanomaterials (CNTs) for H <sub>2</sub> Production Application	Done
12	2015-060-Sci	12	Study of molecular interaction through the reduced Redlich-Kister excess physicochemical properties in binary mixtures	Done
13	2015-151-Sci	12	Investigations of the correlation between viscosity Arrhenius behavior and the boiling point of pure and binary liquid mixtures	Done
14	2014-070-Sci	12	Correlation study between viscosity Arrhenius behavior and the boiling point of some pure and binary liquid mixtures	Done
15	2014-074-Sci	12	Investigations of molecular interaction through the reduced Redlich-Kister excess physicochemical properties in some binary mixtures	Done

## Current Research

#	Research Title	Name of Investigator(s)
1.	The Role of Strontium on the Enhancement of Photocatalytic Response of TiO <sub>2</sub> Nanotubes – Application in Methylene Blue and Formic acid Photodegradation under Visible Light and UV-A	Nuhad A. Alomair
2.	The Positive Impacts of Remote Working During Pandemic Covid-19 In IAU	Nuhad A. Alomair and Others
3.	Faculty Readiness for Online Teaching During the COVID 19 Crisis in Imam Abdulrahman Bin Faisal University	Nuhad A. Alomair and Others



### Participation in scientific conferences, workshop and Forum:

#	Conference Title	Place and Date of the Conference	Extent of Contribution
1.	Reality and Future of Scientific Research in the GCC Countries	General Secretariat of the Cooperation Council for the Arab States of the Gulf (GCC) April 8th, 2021	attendance
2.	World Intellectual Property Day workshop	IAU 04/26/2020	Participation paper entitled "IAU & IP"
3.	Conference on Empowering Women in Scientific Research	Umm Al-Qura University 1-2 / 3/2020	Participation paper entitled "Building a culture of scientific research: pathway for funded research"
4.	The second forum for department heads	IAU 02/23/2020	Participation paper entitled "SciVal"
5.	The ninth forum for scientific research	IAU, college of Art 02/19/2020	Participation paper entitled "Building a culture of scientific research"
6.	Women Empowerment Conference	IAU 5-6 / 2/2020	Keynote speaker "Who paves the way"
7.	Assessing the performance of the faculty member	Al Qassim university 20-21-2019	attendance
8.	Environmental and Development in Gulf Region.	Dammam Sheraton Hotel, KSA, 25-27/2/2014	Head of the conference and Chairman of session
9.	Sixth International Arab Conference for Information Technology	Morocco 29-31/10/2013	Conference Paper titled (oral): Attracting creative and innovative ideas and competencies and their role in the dissemination of knowledge
10	Sustainability through biomimicry discovering a world of solutions inspired by nature	Dammam Sheraton Hotel, KSA 26-27/11/2012	attendance
11	Elements in Academic Accreditation and the Future of Higher Education	Dammam university -09-13 May 2010	attendance
12	11 <sup>th</sup> Eurasia conference on Chemical Sciences	The dead Sea – Jordan 6-10/10/2010	attendance
13	The Arab Conference about the Nano Economical & Developmental Effects.	KFUPM, KSA 27-29/03/2010	attendance
14	KACST- KAUST Workshop on National Research Policy	KAUST, Thuwal, KSA, 31/10-1/11/2009	attendance
15	First International Conference of e-learning and distance education in institutions of higher education	Riyadh, KSA 16-18/ 3/2009	attendance
16	Symposium on management of sections of female students in Universities, Challenges, and ambition.	KFU, KSA 7- 8/3/2006	attendance

### Training courses or programs

#	The name of the session or course or program and the organization	Place and Date of the Course
1.	UK Research and Innovation Framework and System, Workshop (online)	UK Science and Innovation Network 22/02/2021
2.	The best improvements in enhancing scientific research, Workshop (online)	UK Science and Innovation Network 08/03/2021
3.	Project of legal studies and building capabilities for the program of research, development, creativity, and entrepreneurship. Ministry of Education	Riyadh 31/ 10/ 2019
4.	Methodology and mechanism for developing scientific research strategy in universities. Ministry of Education	Riyadh 13 / 11/ 2019
5.	Measuring learning outcomes Ministry of Education	Riyadh 2019
6.	Ethical standards in scientific and engineering research The Research Development Office (RDO) in the Ministry of Education with the American Association for the Advancement of Science (AAAS) and engineering research	Riyadh 9-10 December 2018.
7.	Accountability in higher education Academic Leadership center, Ministry of Education	AL Khobar 14 December 2018.
8.	Qualifications Registration Procedure	IAU, 18-11-2018
9.	Integrate roles to improve admission practices Deanship of Admission and Registration Workshop	IAU 1-11-2018
10.	Decision making and problem solving Academic Leadership center, Ministry of Education	AL Khobar 26-11-2017
11.	How to Write High Quality Research article Deanship of Library Affairs	IAU 14-11-2017
12.	Developing Core Competencies in Teaching and Learning Deanship of Academic Development	IAU Oct. 16 <sup>th</sup> -17 <sup>th</sup> & Oct. 25 <sup>th</sup> – 26 <sup>th</sup>
13.	Roundtable meeting Government organizations: excellence and leadership in customer service Institute of Public Administration	ALHasaa, KSA, 25-27/2/2014
14.	The program of the visiting of the Deans of Science college to the universities of the County of Wales in Britain  Visiting program: day 1: British Council, QAA presentation, Cardiff University day 2: Cardiff Metropolitan University, HEFCE overview, NMITE overview day 3: University of Bristol, University of the West of England (UWE) day 4: University of Exeter The organization: NCAAA	UK, Wales county 13-3-2016
15.	Best Practices in Coaching and Mentoring Academic Leadership center, Ministry of Education	AL Khobar 22 / 10/ 2015
16.	Teaching for Creativity and Innovation	UOD

	Deanship of Academic Development	17-18/ 11/ 2014
17.	Academic Ranking of World Universities	Istanbul, Turkey 15-19/ 6/2014
18.	KAUST Saudi Leadership Program1	KAUST, Thawal 30March – 5April 2014
19.	Advanced Teaching Strategies in Higher Education	UOD 28-29 /4/ 2014
20.	Events and Conference Management	UOD 25/5/2014
21.	Second meeting of the leaders of higher education institutions (excellence locally and globally: keeping pace with development) Ministry of Higher Education	Riyadh 17/5/2012
22.	Workshop on Recruiting, Developing and Retraining a Faculty for the Twenty First Century Ministry of Higher Education	AL Khobar 15-16/10/2011
23.	Workshop on Teaching & Learning	UOD 20-22/9/2011
24.	Scientific Workplace	KFUPM 15 /2/2011
25.	Parliamentary Procedure	KFU 28/10/2009
26.	Microsoft Office Productivity	Saudi Aramco 4 – 5 /10 /2009 14-10- 1434
27.	Development of administrative communication skills, "the Institute of Public Administration"	UOD 5- 8 / 4 / 2009 9- 4 -1434
28.	One article in accordance with the standards of quality	Faculty of Education Jubail – KFU 29-30/11/2008 30-11-1429
29.	Electronic tests using web CT - Dean of the development of university education - and the urban development	KFU 11/5/2008
30.	Effective English communication Skills via Self-Directed learning workshop	Saudi Aramco 02/07 / 2008
31.	Course entitled "Total Quality Management"	Institute of Public Administration 9-11/4 / 2006

#### Participation in arbitration:

#	The name of the journal, dissertation, book
1	Arbitrator of DSR-supported research projects for the year 2020
2	Master Dissertation under title "Design of Low Temperature Hybrid TiO <sub>2</sub> -Cyanuric acid nanocomposites - Application in the photodegradation of organic pollutants in water", for Ashwaq Bin Said, 2019, IAU
3	Master Dissertation under title "Studies on the Electrochemical Behavior of Copper-Silver Alloys in Sodium Sulphate Aqueous Solutions" for Nada Alaaidan, 2015, IAU
4	Master Dissertation under title "Studies on The Removal of some heavy metal ions from aqueous solutions using chitosan-vanillin chelating polymers" for Haneen Alshahrani, 2017, IAU
5	Book under title "Activated Carbon Adsorption Behavior and Application", 2015, King Saud University

## Membership of Scientific and Professional Societies and Organizations

#	The name of Scientific and Professional Societies and Organizations
1.	Saudi Chemical Society - King Saud University
2.	American Chemical Association

## Teaching Activities

### Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	General Chemistry	CHEM203	15 lectures, 12 labs
2	Electrochemistry	CHEM406	15 lectures, 12 labs
3	Chemical Kinetics and Reaction Mechanisms	CHEM 402	15 lectures, 12 labs
4	Surface Chemistry & Catalysis	CHEM507	15 lectures, 12 labs
5	Thermodynamic	CHEM306	12 labs
6	Introductory to Analytical Chemistry (lab).	CHEM301	12 labs
7	Organic Chemistry (1) (lab).	CHEM302	12 labs
8	Biochemistry (1) (lab).	BIOCH401	12 labs

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

1	<p><b>General Chemistry, CHEM 203, Course Description:</b>                      Theoretical content: Introduction to the states of matter: solid, liquid and gaseous state, gas laws, and kinetic theory of gases. This course includes types of solutions, ideal and non-ideal solutions, and colligative properties, chemical and ionic equilibrium. Thermochemistry, energy changes in chemical reactions, acid-base equilibrium, buffer solutions as well.                      Practical content:                      The topics covered include some experiments on viscosity of liquids, density of liquids and solids, determining the molar mass of volatile liquids measuring, heat of enthalpies, equilibrium constant, pH, acid base titration, buffer solution and buffer capacity.</p>
2	<p><b>Electrochemistry, CHEM406, Course Description:</b>                      Theoretical Content:                      Electrolytic solutions - electrolytic conductivity, kinds of electrical conductors, Faraday laws of electrolytic analysis effect of concentration on electrolytic conductivity, measurement of electrolytic conductivity, Theories of electrolytic conductivity- conductivity measurements applications, reference electrodes                      Thermodynamics of galvanic cells – Classification of cells, Application on galvanic cells, Polarization – types of polarization, Over-potential and its measurements – decomposition potential, Fick's laws.                      Practical Content:                      Experiments on the determination of electrode and cell potentials, number of electrons in electrochemical reaction, equilibrium constant, degree of dissociation and solution PH.</p>
3	<p><b>Chemical Kinetics and Reaction Mechanisms, CHEM 402, Course Description:</b>                      Theoretical content:                      Introduction to kinetics, definition of reaction rates, factors that affect reaction rate, reaction rate constant, law and order, activation energy, temperature dependence of rate constants - Arrhenius equation, collision theory - transition state theory, zero, first, second and third order reactions, multiple order reactions - it's</p>

	applications and methods of testing, analysis of kinetic results, parallel reactions, reversible reactions and equilibrium, consecutive reactions, chain reactions and complex reaction mechanisms. Practical content: Determination of speed reaction for some reactions of different rate types.
4	<b>Surface Chemistry &amp; Catalysis, CHEM507, Course Description: Theoretical Content:</b> Introduction to Surface Chemistry, The structure of surface, Thermodynamics of an interface, Dynamics at Surfaces, Adsorption-Induced Charge Transfer at Surfaces, The Surface Chemical Bond, Catalysis by Surfaces. Practical Content: Some of experiments related to adsorption and catalysis.
5	<b>Thermodynamic CHEM306, Course Description:</b> Practical Content: Determination of neutralization, heat of formation, heat of decomposition - Approving of Hess's law - Determination of distribution coefficient and Effect of common ion and solubility product.
6	<b>Introductory to Analytical Chemistry (lab). CHEM301, Course Description:</b> Practical content: Carry out experiments on every type of volumetric titrations (neutralization, precipitation and redox). Perform experiment on gravimetric analysis by following the right steps.
7	<b>Organic Chemistry (1) (lab). CHEM302, Course Description:</b> Practical content: Tests for liquid compounds: Aldehyde, ketones, alcohols, Tests for solid compounds: Acids, esters, unsaturated compounds. Aromatic tests: Nitration, sulphonating and Purification of liquids.
8	<b>Biochemistry (1) (lab). BIOCH401, Course Description:</b> Practical content: Chemical reactions for carbohydrates, protein, fatty acids, and fat - Determination of some enzyme and one vitamin.

### Postgraduate

#	Course Name	Course Code	Credit hours
1	Advanced Heterogeneous Catalysis	CHEM 547	3
2	Research Methods	CHEM 519	1
3	Green Chemistry and Catalysis	CHEM 622	3
4	Photo and Electro Catalysis (PEC)	Chem 647	3

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

1	<b>Advanced Heterogeneous Catalysis, CHEM547</b> General introduction about adsorption-Physisorption – Chemisorption- Adsorption measurements- Factors effect on adsorption- Adsorption isotherms, Langmuir isotherm, BET theory, Henry, Temkin and freundlich isotherm- Catalyses, working of catalysts, types of catalyses, activity of catalysts, catalyst promotion_ Homogeneous catalyst, heterogeneous catalyst, mechanism of heterogeneous catalyst, positive and negative catalyses, properties of heterogeneous catalysts- Autocatalysis- Theories of catalyses- Characterization of catalysts, general properties: surface structure, surface composition, spectral analysis methods, the properties of the particles, surface area, pore size distribution, measurement of pores- Surface properties, x-ray diffraction, scanning electron microscopy (SEM), transmission electron microscopy (TEM), x-ray fluorescence-auger electron spectroscopy (AES)- poisoning and deactivation, inhibition and selective catalysts.
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2	<b>Research Methods CHEM 519</b> Introduction -Types of research methodology - Methodological steps in the preparation of scientific research work - Choosing a research plan topic- Identifying and define a problem- research goals- quantities research designs- practical steps- -minaret research a list of references.
3	<b>Green Chemistry and Catalysis CHEM 622</b> General Introduction to Green Chemistry- The 12 Principles of Green Chemistry -Energy and Green Chemistry- The role of catalysis - Green solvents Catalysis and Green Chemistry: Basics of Organometallic Chemistry-Catalysis and Green Chemistry: Oxidations and Reductions- Transition Metal Catalyzed Reactions in Green Solvents- The Contribution of Photochemistry to Green Chemistry- Renewable Resources: Chemicals from Biomass.
4	<b>Photo and Electro Catalysis (PEC) CHEM 647</b> General Introduction to Photocatalysis and Electro-photocatalysis What is Photocatalysis Science? - Photocatalysis vs Electro-photocatalysis Semiconductor interface - Binary semiconductors - Ternary semiconductors - Quaternary semiconductors Hydrogen generation by water splitting. Waste water treatment What is water Pollution? - Causes & Consequences Waste water treatment by photocatalysis vs photo electrocatalysis Reduction of carbon dioxide into hydrocarbon (fuel production)

#### Supervision of Master and/or PhD Thesis

#	Degree Type	Title	Institution	Date
1	Master Fatimah Alqarni	Green Approach of synthesis of metal doped TiO <sub>2</sub> nanoparticles for photocatalytic application	IAU	2017
1	Master Iman Alabbad	Adsorption of some fatty acids on sodium Montomorillonite clay	UOD	2006

#### Ongoing Research Supervision

#	Degree Type	Title	Institution	Date
1	Master Maram Aljizani	Magnetic g-C <sub>3</sub> N <sub>4</sub> for Photocatalytic Water Treatment and H <sub>2</sub> Production	IAU	2020 to date

#### Volunteer Work

#	From	To	Type of Volunteer	Organization
1.	1/6/2020	1/7/2020	Preparing the report "Measuring individual responsibility in light of the spread of the new Corona virus, Covid-19."	Social Responsibility Council in the Eastern Province
2.	1/7/2018	21/7/2018	Project manager	summer program for gifted students, collaborate with Mawhiba
3.	16/11/2017	16/11/2017	Workshop to gifted student under title "how to write scientific manuscript"	Mawhiba



4.	7/6/2015	9/7/2015	Project manager	SA-RSI international summer program for gifted students, collaborate with CEE (Center for Excellence in Education, USA), Saudi ARAMCO.
5.	2009	2011	Administration assistance	national center for assessment in Higher Education (Qiyas)

### Last Update

31/05/2021