



# Dr. Reem Khalid AlBilali

Assistant Professor

## Personal Data

Nationality | Saudi

Department | Chemistry

Email | [ralblali@iau.edu.sa](mailto:ralblali@iau.edu.sa)

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## Language Proficiency

| Language | Read | Write | Speak |
|----------|------|-------|-------|
| Arabic   | √    | √     | √     |
| English  | √    | √     | √     |

## Academic Qualifications (Beginning with the most recent)

| Date | Academic Degree           | Place of Issue         | Address              |
|------|---------------------------|------------------------|----------------------|
| 2012 | Ph.D., Physical Chemistry | University of Dammam   | Dammam, Saudi Arabia |
| 2006 | M.Sc., Physical Chemistry | King Faisal University | Dammam, Saudi Arabia |
| 2000 | B.Sc., Hons. Chemistry    | University of Dammam   | Dammam, Saudi Arabia |

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

|               |  |
|---------------|--|
| Fellowship    | Immobilized preformed metal nanoparticles for the one pot isomerization of allylic alcohols to saturated ketones and the transfer dehydrogenation of alcohols to carbonyl compounds at anaerobic conditions, Cardiff Catalysis Institute, Cardiff University, 2015-2017. |
| Fellow (FHEA) | Advance HE fellowship (Teaching and learning support in higher education). October 2020, Advance HE, UK.   |
| PhD           | Study of the Interaction Behavior of Protoporphyrin IX with Montmorillonite Clay and Modified Silica Nanoparticles, University of Dammam, 2012   |
| Master        | Corrosion and Corrosion Inhibition of Sabc Mild Steel in Acid Chloride Solution Containing Carbamide Derivatives, University of Dammam, 2006. (I achieved grade A in my master)  |



### Research profile links at international databases

| Database         | Link  |
|------------------|---|
| Google Scholar   | <a href="https://scholar.google.com/citations?user=NGL300gAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=NGL300gAAAAJ&amp;hl=en</a> |
| Researcher ID    | <a href="https://www.researchgate.net/profile/Reem-Albilali">https://www.researchgate.net/profile/Reem-Albilali</a>                             |
| Scopus Author ID | <a href="https://www.scopus.com/authid/detail.uri?authorId=57195067063">https://www.scopus.com/authid/detail.uri?authorId=57195067063</a>       |
| ORCID            | <a href="https://orcid.org/0000-0002-6184-1124">https://orcid.org/0000-0002-6184-1124</a>   |

### Overview and Research Interests:

I have 20 years of working experience in academia with direct contact to chemistry labs. My research area is heterogeneous catalysis, and I have several major research themes of interest. These can be summarized:

- Preparation and characterization of supported metal nanoparticles and their catalytic testing for gas and liquid phase reactions
- Catalysis for energy; H<sub>2</sub> production; biomass conversion; bifunctional catalysts, size and shape control of metal colloids.
- Investigation of precious-metal-based catalysts for the oxidative destruction of Volatile Organic Compounds (VOCs) for environmental protection.
- Characterization of catalysts using a wide range of analytical techniques.
- Innovative nanoscale applications for water, air, soil, food, climate, and energy sustainability
- Adsorption behavior of heavy metal and different pollutants on surfaces and their environmental protection applications.

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

| Job Rank                      | Place and Address of Work                        |         |                | Date                  |
|-------------------------------|--|---------|----------------|-----------------------|
| Post-Doctoral Research Fellow | Cardiff Catalysis Institute - Cardiff University | Cardiff | United Kingdom | 15/9/2015 – 14/9/2017 |
| Assistant Professor           | Imam Abdulrahman Bin Faisal University           | Dammam  | Saudi Arabia   | 5/2/2013- Present     |
| Lecturer                      | University of Dammam                             | Dammam  | Saudi Arabia   | 17/3/2009- 5/2/2013   |
| Demonstrator                  | University of Dammam                             | Dammam  | Saudi Arabia   | 11/6/2001- 16/3/2009. |



## Scientific Achievements

### ➤ International Collaborations:

I have established a successful collaboration with partners in the UK and China, including the Energy and Environment Research Institute, the Environmental Materials and Pollution Prevention Technology Center, and the State Key Laboratory of Multiphase Flow in Power Engineering at the School of Energy and Power Engineering, Xi'an Jiaotong University in China. This collaboration has resulted in numerous publications that have significantly advanced knowledge in the fields of environmental engineering and catalysis.

### ➤ Published Refereed Scientific Research (In Chronological Order Beginning with the Most Recent)

|    | Name of Investigator(s)   | Research Title  | Publisher and Date of Publication   |
|----|---|---|---|
| 33 | Han Xu, Qin Yang, Mingjiao Tian, Yaru Zhao, Dong Guo, Zeyu Jiang, Yanfei Jian, Yadi Wang, Fan Dang, Chunli Ai, Jialei Wan, Reem Albilali, Chi He          | Engineering Cr–O–Ti structure towards boosted vinyl chloride destruction: Oxygen species evolution and reaction mechanism                                       | Applied Catalysis B: Environment and Energy 2025, 365,124914<br><b>WOS Impact factor 20.3, Q1</b>   |
| 32 | Yani Wu, Yadi Wang, Jicheng Liu, Zeyu Jiang, Jialei Wan, Jingjing Wang, Shouning Chai, Chunli Ai, Fan Dang, <b>Reem Albilali</b> , Chi He                 | Promoting intermediates transformation by boosting H <sub>2</sub> O dissociation over core-shell Pd@CoO Janus for acetone efficacious oxidation                 | Applied Catalysis B: Environment and Energy 2024, 354,124113.<br><b>WOS Impact factor 20.3, Q1</b>  |
| 31 | Chunli Ai, Jialei Wan, Zeyu Jiang, Yadi Wang, Fan Dang, Shouning Chai, Mingjiao Tian, Yanfei Jian, Yanke Yu, Changwei Chen, <b>Reem Albilali</b> , Chi He | Constructing Pd@Layered-CoO <sub>x</sub> /MFI Bifunctional Catalyst for Efficient Ethyl Acetate Oxidation: Boosted C=O Activation and *O Species Transformation | Environmental Science & Technology, 2024, 58, 26, 11760–1177.<br><b>WOS Impact Factor: 11.4, Q1</b> |
| 30 | Mudi Ma, Qiyuan Liu, Dingmeng Guo, Lianghui Xia, Jingjing Wang, <b>Reem Albilali</b> , Chi He   | Regulating active oxygen species and acidity of Ca doped LaMnO <sub>3</sub> perovskite  | Chemical Engineering Journal, 2024, 498, 155426.<br><b>WOS Impact factor 8.3, Q1</b>                |



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|----|--|---|--|
|    |  | catalysts toward efficient n-butylamine oxidation   |  |
| 29 | <b>Reem Albilali</b>   | Total oxidation of propane using titania-supported platinum nanoparticles prepared through sol-immobilization   | Arab Journal of Basic and Applied Sciences, 2024, 31(1), 53–64.<br><b>WOS Impact Factor: 6.2, Q1</b> |
| 28 | Mudi Ma, <b>Reem Albilali</b> , Chi He   | Recent advancements and challenges in the catalytic purification of volatile organic compounds  | Environmental Science: Nano, 2024, 11, 4060-4073<br><b>WOS Impact Factor: 5.8, Q1</b>                |
| 27 | Fan Dang, Zeyu Jiang, Yadi Wang, Jialei Wan, Chunli Ai, Mingjiao Tian, Yanfei Jian, Han Xu, <b>Reem Albilali</b> , Jiaguo Yu, Chi He       | Enhanced Light Alkane Oxidation under Impurity-Containing Conditions by Low-Coordinated Co–O Structures Boosting C–H Bond Activation                                      | ACS Catalysis, 2024, 14(18), 14031–14042.<br><b>WOS Impact Factor: 11.6, Q1</b>                      |
| 26 | Yanke Yu, Jiahang Li, Mengqia Geng, Yonghua Zhao, <b>Reem Albilali</b> and Chi He  | Taming the Activation Routes Achieves Highly Efficient Toluene Degradation by H <sub>2</sub> -Induced Hydrodealkylation   | ACS EST Eng. 2024, 4, 11, 2768–2776<br><b>WOS Impact Factor: 10.9, Q1</b>                            |
| 25 | Yadi Wang, Zeyu Jiang, Yani Wu, Chaoqian Ai, Fan Dang, Han Xu, Jialei Wan, Weisheng Guan, <b>Reem Albilali</b> , Chi He                    | Simultaneously Promoted Water Resistance and CO <sub>2</sub> Selectivity in Methanol Oxidation Over Pd/CoOOH: Synergy of Co–OH and the Pd–O <sub>latt</sub> –Co Interface | Environmental Science and Technology 2024, 58, 41, 18414–18425<br><b>WOS Impact Factor: 11.4, Q1</b> |
| 24 | Yanfei Jian, Zeyu Jiang, Mingjiao Tian, Mudi Ma, Lianghui Xia, Shouning Chai, Jingjing Wang, <b>Reem Albilali</b> , and Chi He             | Low-Temperature Propane Activation and Mineralization over a Co <sub>3</sub> O <sub>4</sub> Sub-nanometer Porous Sheet: Atomic-Level Insights                             | JACS Au, 2023, 3(1), 3076–3088.<br><b>WOS Impact Factor: 8.0, Q1</b>                                 |
| 23 | Lianghui Xia, Shuai Xu , Yanfei Jian , Xiangbo Feng , Zeyu Jiang , Jingjing Wang , Yuliang Li b, Yao Wang a, Shouning Chai a, Yujie Liu a, | Efficient propane mineralization over unsaturated Pd cluster/CeO <sub>2</sub> with prominent C–C cleavage   | Journal of Hazardous Materials, 2024, 461(5), 132509.<br><b>WOS Impact Factor: 13.6, Q1</b>          |



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|----|--|---|--|
|    | Honggeng Peng , <b>Reem Albilali</b><br>Chi He   | capacity driven by inherent oxygen activation ability   |  |
| 22 | Junwei Xu , Qiyuan Liu , Zhaohui Chen Lu Li , Yanfei Jian , <b>Reem Albilali</b> , Chi He, Mudi Ma,                        | Efficient selective combustion of n-butylamine on hierarchical Cu-Mn/SAPO-34 catalysts: The effect of mesoporosity and acidity  | Applied Catalysis A, General 665 (2023) 119354<br><b>WOS Impact factor 5.7, Q1</b>         |
| 21 | Yu Huang , Mingjiao Tian, Zeyu Jiang, Mudi Ma, Changwei Chen , Han Xu, Jingjie Zhang , <b>Reem Albilali</b> , Chi He       | Inserting Cr <sub>2</sub> O <sub>3</sub> dramatically promotes RuO <sub>2</sub> /TiO <sub>2</sub> catalyst for low-temperature 1,2-dichloroethane deep destruction: Catalytic performance and synergy mechanism | Applied Catalysis A: General, 2023, 665(1), 119354.<br><b>WOS Impact Factor: 5.7, Q1</b>   |
| 20 | Changwei Chen, Mohammadreza Kosari, Chi He, Mudi Ma, Mingjiao Tian, Zeyu Jiang and <b>Reem Albilali</b>                    | Realizing Toluene Deep Mineralization by Coupling Nonthermal Plasma and Nitrogen-Enriched Hollow Hybrid Carbon  | ACS Applied Materials & Interfaces 2022, 14, 990–1001<br><b>WOS Impact factor 9.5, Q1</b>  |
| 19 | Mudi Ma, Rui Yang, Zeyu Jiang , Changwei Chen , Qiyuan Liu, <b>Reem Albilali</b> , Chi He                                  | Fabricating M/Al <sub>2</sub> O <sub>3</sub> /cordierite (M = Cr, Mn, Fe, Co, Ni and Cu) monolithic catalysts for ethyl acetate efficient oxidation: Unveiling the role of water vapor and reaction mechanism   | Fuel 303 (2021) 121244<br><b>WOS Impact factor 8, Q1</b>                                   |
| 18 | Yanfei Jian, Mingjiao Tian, Chi He, Jingchao Xiong, Zeyu Jiang, Hui Jin, Lirong Zheng, <b>Reem Albilali</b> , Jian-Wen Shi | Efficient propane low-temperature destruction by Co <sub>3</sub> O <sub>4</sub> crystal facets engineering: Unveiling the decisive role of lattice and oxygen defects and surface acid-base pairs               | Applied Catalysis B: Environmental, 2021, 283, 119657<br><b>WOS Impact factor 24.3, Q1</b> |



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| 17 | ukun Sun, Yang Gao, Chi He, Weiyu Song, Zeyu Jiang, <b>Reem Albilali</b> and Bo Bai                              | Efficient and stable low-temperature CO oxidation over Pt/In–SnO <sub>2</sub> composite triggered by abundant oxygen vacancies and adsorption sites                            | Catalysis Science & Technology-2021, Issue 11, 3621 - 3934.<br><b>WOS Impact factor 6.17, Q1</b>    |
| 16 | Mudi Ma , Rui Yang , Chi He, Zeyu Jiang , Jian-Wen Shic , <b>Reem Albilali</b> , Khaled Fayaz , Baojun Liu,      | Pd-based catalysts promoted by hierarchical porous Al <sub>2</sub> O <sub>3</sub> and ZnO microsphere supports/coatings for ethyl acetate highly active and stable destruction | Journal of Hazardous Materials 401 (2021) 1232812<br><b>WOS Impact factor 9.03, Q1</b>              |
| 15 | Huang Huang, Changwei Chen, Rui Yang, Yanke Yu, <b>Reem Albilali</b> , Chi He                                    | Remarkable promotion effect of lauric acid on Mn-MIL-100 for non-thermal plasma-catalytic decomposition of toluene   | Applied Surface Science, 2020, 503, 144290<br><b>WOS Impact factor 7.3, Q1</b>                      |
| 14 | Ashwaq Bin Sadi, <b>Reem Khaled Al Bilali</b> , Samar Abdalwahab Abubshait, Hafedh Kochkar                       | Low temperature design of titanium dioxide anatase materials decorated with cyanuric acid for formic acid photodegradation   | Journal of Saudi Chemical, , Society, 2020, 24( 4 ) ,351-363. <b>WOS Impact factor 3.5, Q2</b>      |
| 13 | Qing Zhu, Zeyu Jiang, Mudi Ma, Chi He, Yanke Yu, Xiaohe Liu, <b>Reem Albilali</b>                                | Revealing the unexpected promotion effect of diverse potassium precursors on $\alpha$ -MnO <sub>2</sub> for the catalytic destruction of toluene                               | Catalysis Science & Technology, 2100-2110<br><b>WOS Impact factor 5.72, Q1</b>                      |
| 12 | Mingjiao Tian, Xu Guo, Rui Dong, Zheng Guo, Jianwen Shi, Yanke Yu, Mingxing Cheng, <b>Reem Albilali</b> , Chi He | Insight into the boosted catalytic performance and chlorine resistance of nanosphere-like meso-macroporous CrOx/MnCo <sub>3</sub> Ox for 1, 2-dichloroethane destruction       | Applied Catalysis B: Environmental, 2019, 259 (15), 118018<br><b>WOS Impact factor 16.6, Q1</b>     |
| 11 | Y Jian, T Yu, Z Jiang, Y Yu, M Douthwaite, J Liu, <b>R Albilali</b> , C He                                       | In-depth Understanding the Morphology Effect of $\alpha$ -Fe <sub>2</sub> O <sub>3</sub> on Catalytic Ethane Destruction   | ACS applied materials & interfaces, 2019, 11 (12), 11369–11383<br><b>WOS Impact factor 13.6, Q1</b> |



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| 10 | Baoming Zhao, Yanfei Jian, Zeyu Jiang, <b>Reem Albilali</b> , Chi He  | Revealing the unexpected promotion effect of EuOx on Pt/CeO <sub>2</sub> catalysts for catalytic combustion of  | Chinese Journal of Catalysis, 2019, 40 (4), 543-552<br><b>WOS Impact factor 4.9, Q1</b>    |
| 9  | M Ma, H Huang, C Chen, Q Zhu, L Yue, <b>R Albilali</b>  | Highly active SBA-15-confined Pd catalyst with short rod-like micro-mesoporous hybrid nanostructure for n - butylamine low-temperature destruction                          | Molecular Catalysis, 2018, 455, 192-203<br><b>WOS Impact factor 2.93, Q2</b>               |
| 8  | Mingjiao Tian, Mudi Ma, Bitao Xu<br>Changwei Chen, Chi He, Zhengping Hao, <b>Reem Albilali</b>                | Catalytic removal of 1,2-dichloroethane over LaSrMnCoO <sub>6</sub> /H-ZSM-5 composite: insights into synergistic effect and pollutant-destruction mechanism                | Catalysis Science and Technology, 2018, 8, 4503-4514.<br><b>WOS Impact factor 5.72, Q1</b> |
| 7  | Changwei Chen, Huang Haung, Yanke Yu, Jianwen Shi, Chi He, <b>Reem Albilali</b> , Hua Pan                     | Template -free synthesis of hierarchical porous carbon with controlled morphology for CO <sub>2</sub> efficient capture   | Chemical Engineering Journal, 2018, 584-594<br><b>WOS Impact factor 8.3, Q1</b>            |
| 6  | Changwei Chen , Yanke Yu , Chi He , Li Wang , Huang Huang , <b>Reem Albilali</b> , Jie Cheng , Zhengping Hao. | Efficient capture of CO <sub>2</sub> Over ordered micro-mesoporous hybrid carbon nanosphere   | Applied Surface Science, 2018, ,439, 113-121.<br><b>WOS Impact factor 5.1, Q1</b>          |
| 5  | <b>Albilali R</b> , Douthwaite M, He Q and Taylor S.  | The selective hydrogenation of furfural over supported palladium nanoparticle catalysts prepared by sol-immobilisation: effect of catalyst support and reaction conditions. | Catalysis Science and Technology, 2018,8, 252-267<br><b>WOS Impact factor 5.72, Q1</b>     |
| 4  | <b>Albilali R.</b> and Dimitratos N.  | Transfer Dehydrogenation of 1-Phenylethanol Over Pd/C Under Mild  | Catalysis Letters, 2017, 147, 9: 2372–2384.  |



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|---|---|---|--|
|   |   | Conditions: Effect of Reaction Conditions and Optimization of Catalytic Performance.                      | WOS Impact factor 2.8, Q2  |
| 3 | AlSuwyyan,A.,AlOmairen, g Morsi,M, <b>AlBilali.R</b> and AlOmair,N. | Interactive Physical Chemistry, <b>English Version. (Book).</b>   | Imam Abdulrahman Bin Faisal University Publication Center, Dammam, Saudi Arabia. (2017). |
| 2 | Olfat M. Sadek, Safenaz M. Reda, <b>Reem K. Al-Bilali</b>           | Preparation and Characterization of Silica and Clay–Silica Core-Shell Nanoparticles Using Sol-Gel Method. | Advanced in Nanoparticles, 2: 165-175.(2013).  |
| 1 | A.G.Gad Allah, M.A.Al-Khalidi and <b>R.K.AlBilali</b>               | Environmental Factors Affecting Corrosion of Sabc Mild Steel in Acid Chloride Solutions                   | Journal of Saudi Chemical Society.,11(1):147-162.(2007)                                  |

➤ **Published Refereed books.**

|    |  |  |   |
|----|--|--|---|
| 1. | AlSuwyyan, A.,AlOmairen, Morsi,M, <b>AlBilali.R</b> and AlOmair,N. | Interactive Physical Chemistry, <b>Arabic Version. (Book).</b> | AlMutanabbi LTD, Dammam, Saudi Arabia. (2013) |
|----|--|--|---|

➤ **Scientific Visits:**

1. Sabbatical leave during the period of (15/9/2015 – 14/9/2017) as I worked as a post-doctoral research fellow at Cardiff Catalysis Institute, Cardiff University, Cardiff, United Kingdom which is the premier academic catalysis facility in the UK and one of the leading institutes in the world. During this period, I worked as post-doctoral research fellow with the group of Regius Professor Graham Hutchings- one of the leader scientists in the field of catalysis in the world- and Professor Stuart Tylor; the Deputy Director of the Cardiff Catalysis Institute and the head of the Catalysis and Interfacial Science Section in the School



of Chemistry. The research group works on a diverse range of catalysis, with a focus on catalytic oxidation, applied towards both selective and total oxidation.

2. Visiting Scientist during July and August of 2018 at Cardiff Catalysis Institute, Cardiff University, Cardiff, United Kingdom with the group of Regius Professor Graham Hutchings-Professor Stuart Tylor.

➤ Completed funded Research Projects

|    | Name of Investigator(s)<br>(Supported by)  | Research Title   | Report Date                            |
|----|--|--|--|
| 1- | Reem AlBilali and Nikolaos Dimitratos, supported by the Deanship of Scientific Research at IAU University                  | Immobilized preformed metal nanoparticles for the one pot isomerization of allylic alcohols to saturated ketones and the transfer dehydrogenation of alcohols to carbonyl compounds at anaerobic conditions. | November/2017                          |
| 2- | Reem K. Al-Bilali, Olfat M. Sadek and Safenaz M. Reda, supported by King Abdulaziz City for Science and Technology (KACST) | Study of the Interaction Behavior of Protoporphyrin IX with Montmorillonite Clay and Modified Silica Nanoparticles   | November/2013, grant number (AT-17-73) |

➤ Current Research Projects

|   | Research Title   | Name of Investigator(s)   |
|---|--|---|
| 1 | Synergistic Mechanism of Platinum Atoms and Nanoclusters in Hydrocarbons Oxidation: Boosting the Reactants Concurrent Activation | Zeyu Jiang, Meizan Jing, Xiao Hai, Yibo Zhang, Mark Douthwaite, Jian Liu, Weiyu Song, Changwei Chen, Reem Albilali, Lirong Zheng, Jiaguo Yu, Chi He |
| 2 | Engineering unsaturated Cu <sup>1</sup> -O <sub>3</sub> coordination to drive oxygen   | Yadi Wang, Zeyu Jiang, Yuliang Li, Mingjiao Tian, Chaoqian Ai, Fan Dang, Chunli Ai, Jialei Wan, Reem Albilali, Chi He                               |



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|   | species activation for low-temperature catalytic oxidation   |   |
| 3 | Low-coordinated Co-O structure for boosted C-H activation in light-alkanes oxidation under impurity-contained reality                | Fan Dang, Zeyu Jiang, Yadi Wang, Jialei Wan, Chunli Ai, Mingjiao Tian, Yanfei Jian, Changwei Chen, Yani Wu, Chi Ma, Han Xu, Reem Albilali, Jianguo Yu, Chi He |
| 4 | Strengthened Catalysis over Zeolite-Confined System Triggered by Electronic Structure and Microenvironment Modulation                | Jingjing Wang, Zeyu Jiang, Hengyue Xu, Xinzhe Li, Yanfei Jian, Pei Su, Shouning Chai, Lianghui Xia, Mudi Ma, Reem Albilali and Chi He                         |
| 5 | Stretched Pd-CoO <sub>x</sub> Interfaces-Induced Oxygen Vacancy Consecutive Activation Realizes Light Alkane Efficacious Destruction | Lianghui Xia, Meizan Jing, Yujie Liu, Kang Hui Lim, Qiyuan Liu, Yanfei Jian, Jingjing Wang, Mudi Ma, Shouning Chai, Reem Albilali, Chi He                     |

➤ Contribution to Scientific Conferences and Symposia

I- Participation in Conferences

|   | Conference Title   | Research Title  | Type of Participation | Date        | Place of Conference                  |
|---|--|---|-----------------------|-------------|--------------------------------------|
| 1 | International Conference on Industrial Engineering and Operations Management | Size Controlled supported noble metals Nanoparticles for catalyzed Transfer Dehydrogenation of Alcohols | Oral Presentation     | 11/2/2024   | Khalifa University-Dubai, UAE        |
| 2 | Successful Scientific Researcher Symposium                                   | Using Mendeley program to manage scientific references  | Oral Presentation     | 11/Dec/2022 | Virtual-organized. By IAU University |



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|---|--|---|----------------------|----------------|--|
| 3 | Second International Webinar on Science, Sustainable, Development and Ecosystems in    | Chair of the session  | Chair of the session | Feb/2022       | <b>Virtual-organized.</b><br>By IAU University |
| 4 | First International Webinar on Science, Sustainable, Development and Ecosystems in     | Chair of session  | Chair of the session | 6-7/April/2021 | Virtual-organized.<br>By IAU University        |
| 5 | Online International Conference on Catalysis and Chemical Engineering                  | Supported Metal Nanoparticles for Selective Conversion of Furfural to Tetrahydrofurfuryl alcohol                              | Oral Presentation    | 4-5/3/2021     | Herald Meetings-USA                            |
| 6 | 5th International Conference on Pollution Control and Sustainable Energy               | Catalytic Conversion of Furfural to tetrahydrofurfuryl alcohol over Supported Palladium Nanoparticles under Mild Conditions   | Poster Presentation  | 14-16/3/2019   | London, UK                                     |
| 7 | The 16 <sup>th</sup> International conference on Emerging Materials and Nanotechnology | The Influence of Tuning the Particle Size of Titania-Supported Palladium Nanoparticles on their Catalytic Activity for Liquid | Oral Presentation    | 22-23/23/2018  | London, UK                                     |



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|-----------|---|--|-------------------|-----------------|---|
|           |   | Phase Transfer Dehydrogenation of alcohol  |                   |                 |   |
| <b>8</b>  | Europacat Conference 2017                     | Size Controlled Palladium Nanoparticles for the Transfer Dehydrogenation of 1-Phenylethanol under Mild Conditions                            | Poster            | 27-31st /8/2017 | Florence, Italy                             |
| <b>9</b>  | 4th European Chemistry Congress               | Transfer dehydrogenation of 1-phenylethanol over supported palladium nanoparticles under mild conditions                                     | Oral Presentation | 11/05/2017      | Barcelona, Spain                            |
| <b>10</b> | Green Catalysis by Design (NOVACAM)           | Impact of Stabilizers on Catalysis of Titania-Supported Palladium Nanoparticles for Liquid Phase Transfer Dehydrogenation of 1-phenylethanol | Poster            | 22/02/2017      | University of Padova, Padova, Italy         |
| <b>11</b> | Cardiff Catalysis Institute Annual Conference | Catalyzed Liquid Phase Transfer Hydrogenation of Aromatic Alcohols Using Supported Nanoparticles   | Poster            | 10/01/2017      | Cardiff University, Cardiff, United Kingdom |
| <b>12</b> | UK Catalysis Conference                       | Transfer dehydrogenation of 1-   | Oral Presentation | 04/01/2017      | Holywell Park, Loughborough, England,       |



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|--------|--|--|--------|---------------|---|
|        |  | phenylethanol over supported palladium nanoparticles under mild conditions |        |               | United Kingdom                                |
| 1<br>3 | International Conference on Chemistry and Industry | Corrosion Inhibition of Sabc Mild Steel Under Mild Condtions               | Poster | 27/11/12/2004 | R King Saud University, Riyadh, Saudi Arabia, |

## II. Attended Conferences and Symposium

|   | Event Title  | Event Type | Date  | Organizer                                       | Place of Event                   |
|---|--|------------|---|---|----------------------------------|
| 1 | THE INTERNATIONAL CONFERENCE AND EXHIBITION FOR SCIENCE                | Conference | 6-8/Feb/2023                                  | King Saud University                            | Riyadh, Saudi Arabia             |
| 2 | First Gulf Chemistry Association International Conference & Exhibition | Conference | 13-17/Nov/2022                                | Bahrain University                              | Bahrain                          |
| 3 | WATER RESEARCH COMMUNITY forum (WRC)                                   | Forum      | 26/Jan/2022                                   | Ministry of Environment Water and Agriculture   | AL Khobar, Saudi Arabia          |
| 4 | .Engineering and Computer Science Forum                                | Forum      | 21 November 2015                              | Scientific Society for Saudi students in the UK | Cardiff University, Cardiff, UK  |
| 5 | Cardiff Catalysis Institute Conference                                 | Conference | 5 <sup>th</sup> -6 <sup>th</sup> January 2016 | Cardiff University                              | Cardiff University, Cardiff, UK  |
| 6 | 9th Saudi Students' Conference   | Conference | 13-14 Feb 2016                                | Saudi Arabian Culture Bureau in London          | The ICC, Birmingham, Cardiff, UK |
| 7 | Perspectives on Applied Catalyst Characterization                      | Symposium  | 8th March 2016                                | Royal Society of Chemistry's                    | Durham University, UK            |



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|----|--|------------|---------------------|---|--|
|    |  |            |                     | Applied Catalysis Group   |  |
| 8  | Professor Graham Hutching 65 <sup>th</sup> Birthday Symposium          | Symposium  | 16 March 2016       | Cardiff Catalysis Institute   | Cardiff University, Cardiff, UK        |
| 9  | Cardiff Chemistry Conference   | Conference | 9-10 May 2016       | Cardiff University  | Cardiff University, Cardiff, UK        |
| 10 | Providing sustainable catalytic solutions for a rapidly changing world | Symposium  | 8-9 May 2017        | Royal Chemical Society  | London, UK                             |
| 11 | Fourth International Conference for e-Learning and Distance Education, | Conference | 2-5 March 2015      | IAU University  | Riyadh, Saudi Arabia                   |
| 12 | Fifth Saudi Scientific Conference                                      | Conference | 16-18 April 2012.   | Umm Al-Qura University  | Makkah, Saudi Arabia                   |
| 13 | The developmental and Economic Effects of Nanotechnology in Arabia     | Conference | 27-29 March 2010.   | King Fahad University of Petroleum and Minerals,                            | Dhahran, Saudi Arabia                  |
| 14 | Fourth Saudi Scientific Conference,                                    | Conference | 21-24 March 2010.   | Taiba University  | A Madinah, Saudi Arabia, 21-24/3/2010. |
| 15 | Provincial Scientific Creativity (Conference), ,                       | Conference | 26- 30 August 2006. | King Abdul-Aziz and his Companions Foundation for Giftedness and Creativity | Jeddah, Saudi Arabia                   |

### ➤ Other Scientific Achievements

- (May 2023) Professional certificate in eLearning Experience Design-Advance Level (eLXD-A)

awarded by the National eLearning Center in Saudi Arabia.



### Membership in Scientific and Professional Societies and Organizations

- MRSC member in the Royal Chemical Society, London, United Kingdom since 2017
- A member of the American Chemical Society, Saudi Chapter (ACSSC) since 2010
- A member of the Saudi Chemical Society, King Saud University since 2012

### Teaching Activities

#### Undergraduate

|   | Course/Rotation Title                     | No./Code | Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics) |
|---|---|----------|--|
| 1 | Surface Chemistry and Catalysis           | Chem 507 | Lectures   |
| 2 | Thermodynamic Chemistry                   | Chem     | Lectures   |
| 3 | Colloidal Chemistry                       | Chem 426 | Lectures   |
| 4 | Chemical kinetics and Reaction mechanisms | Chem 402 | Lectures   |
| 5 | Chemistry of Corrosion                    | Chem 512 | Lectures   |
| 6 | Electrochemistry                          | Chem 402 | Lectures   |
| 7 | General Chemistry I                       | Chem101  | Lectures   |
| 8 | General Chemistry II                      | Chem102  | Lectures   |



|    |  |          |          |
|----|--|----------|----------|
| 9  | Thermodynamics                             | Chem 302 | Lectures |
| 10 | Electrochemistry (1)                       | Chem 225 | Lab      |
| 11 | The Chemistry of Surfaces and Catalysts.   | Chem 323 | Lab      |
| 12 | General Chemistry (Physical and Inorganic) | Chem 101 | Lab      |
| 13 | Kinetic Chemistry                          | Chem 322 | Lab      |
| 14 | Electrochemistry (2)                       | Chem 425 | Lab      |
| 15 | Thermodynamic Chemistry (1)                | Chem 203 | Lab      |
| 16 | Analytical Chemistry                       | Chem 241 | Lab      |
| 17 | Biochemistry (1).                          | Chem 261 | Lab      |

- **Postgraduate**

|   |                              |          |          |
|---|------------------------------|----------|----------|
| 1 | Advanced in electrochemistry | Chem 542 | Lectures |
|---|------------------------------|----------|----------|



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

|   |  |
|---|--|
| 1 | <p><b>Surface Chemistry and Catalysis, Chem 507</b></p> <p>Introduction to surface chemistry: surface and interface, classification of properties, external surfaces, clean surfaces, interfaces, absorption, and thickness of surface layer. Structure of surface: surface diffraction, notation of surface structures, the structure of clean surfaces, the structure of adsorbed monolayers.</p> <p>Thermodynamics of an interface: surface thermodynamic functions, surface tension, surface energy and surface composition of two- component systems, two-dimensional phases, metastable surface phases, curved surfaces, thermodynamics of adsorbed monolayers.</p> <p>Dynamics at surfaces: surface atom vibrations, elementary processes of gas-surface interaction. Electrical properties of surfaces: the surface electron potential, the surface space charge, the work function, adsorption-induced charge transfer at surfaces: metals and insulators, surface electron density of states, electron excitation at surfaces, electron emission from surfaces by incident electron or photon beams, field electron emission, field ionization, electron tunneling.</p> <p>The surface chemical bond: bonding trends across the periodic table, cluster -like bonding of molecular adsorbents, the carbon monoxide chemisorption bond, and adsorbate-induced restructuring. The flexible surface, thermal activation of bond breaking, surface-structure sensitivity of bond breaking, coverage dependence of bonding and co-adsorption, weak surface bonds</p> <p>Catalysis by surfaces: brief history of surface catalysis, catalytic action, catalyst preparation, deactivation, and regeneration, metal catalysis, catalysis by ions at surfaces. Acid-base catalysis, most frequently used catalyst materials, surface-science approach to catalytic chemistry, case histories of surface catalysts, hydrogenation of carbon monoxide, and hydrocarbon conversion on platinum.</p> <p>Practical content:<br/>Some of experiments related to adsorption and catalysis.</p> |
| 2 | <p><b>Thermodynamic Chemistry Chem 306</b></p> <p>The Chemical Thermodynamic course focuses on the study of the interrelation of heat and work with chemical reactions or with physical changes of state within the confines of the laws of thermodynamics. This course emphasizes the process during which the energy transfer from one place to another and from one form to another. The chemical thermodynamics involves not only laboratory measurements of various thermodynamic properties, but also the application of mathematical methods to the study of chemical reactions and the spontaneity of processes – it predicts whether the reaction will occur or not. The structure of course is based on the four laws of thermodynamics. From these laws, a multitude of equations relating to the thermodynamic properties of the system can be derived using relatively simple mathematics.</p>  |
| 3 | <p><b>Colloidal Chemistry, Chem 426</b></p>  |



|          |   |
|----------|---|
|          | <p>The course is focused on particles that are dispersed in liquids. The topics presented in this course include: an introduction to colloidal systems and classification, preparation of colloids, stability of colloids, properties of colloids, coagulation and flocculation in colloidal solutions. Nearby topics, such as surfactants, emulsions and foams, are also covered to make the course complete on a stand-alone basis.</p>   |
| <b>4</b> | <p><b>Kinetic Chemistry and Reaction mechanism Chem 402:</b><br/>The course includes an 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 and its applications, analysis of kinetic results, parallel reactions, reversible reactions and equilibrium, consecutive reactions, chain reactions and complex reaction mechanisms.</p>  |
| <b>5</b> | <p><b>Chemistry of Corrosion, Chem 512</b><br/>The course aims to highlight different aspects of corrosion chemistry including the thermodynamic of corrosion, the relation between free energy and corrosion cell potential, electrical double layer, Nernst equation and formal potential, electrochemical and galvanic series, Pourbaix Diagrams, kinetics of corrosion and method of corrosion protection.</p>  |
| <b>6</b> | <p><b>General chemistry (I) Chem 101</b><br/>The course covers these major subjects:<br/>Chemical foundations, atoms, Molecules, and Ions, stoichiometry, types of chemical reactions and solution stoichiometry, atomic structure and periodicity, bonding: general concepts.</p>  |
| <b>7</b> | <p><b>General chemistry (II) Chem 102</b><br/>The Course deals mainly with an introduction to the states of matter: solid, liquid and gas, 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. Topics also covered thermochemistry, energy changes in chemical reactions, acid-base equilibrium, buffer solutions as well.<br/>The topics covered in the practical content 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> |

- Course Coordination



|   | Course Title and Code                             | Coordination | Co-coordination | Undergrad. | Postgrad. | From   | to      |
|---|---|--------------|-----------------|------------|-----------|--------|---------|
| 1 | Chemical Kinetics and Reaction Mechanism Chem 402 | √            |                 | √          |           | 9/2018 | 4/2024  |
| 2 | Thermodynamic Chemistry 306                       | √            |                 | √          |           | 1/2024 | 5/2024  |
| 3 | Advanced Electrochemistry Chem 542                | √            |                 |            | √         | 4/2023 | 7/2023  |
| 4 | Colloidal Chemistry, 426 Chem                     | √            |                 | √          |           | 9/2017 | 12/2018 |
| 5 | Chemistry of Corrosion, 421 Chem                  | √            |                 | √          |           | 2014   | 2015    |

- **Student Academic Supervision and Mentoring**

| Level            | Number of Students | From | to   |
|------------------|--------------------|------|------|
| Different levels | 230                | 2014 | 2023 |

- **Research Supervision**

- Co-supervisor of master student: Ashwaq AlSaadi, title of thesis: Design of Low Temperature Hybrid TiO<sub>2</sub> Cyanuric acid nanocomposites Application in the photodegradation of organic pollutants in water, during the period of 2018 to 2020.
- Co-supervisor of PhD student in collaboration with Department of Environmental Science and Engineering, State Key Laboratory of Multiphase Flow in Power Engineering, School of Energy and Power Engineering, Xi'an Jiaotong University, Shaanxi, China. Title of thesis: Catalytic Decomposition of VOCs over Highly Dispersed Noble Metal Based Catalysts (2020-2024)



- **Participation in arbitration**

- Examiner of the master thesis of Zainah AlDhawi entitled (Synthesis and Characterization of Incorporated Mesoporous Silica Materials (Cr-SBA-16)- Applications in Selective Oxidation).3/Nov/2020
- Reviewer in Chemical Engineering Journal, Q1 journal (2020-date)
- Reviewer in the 14th Annual International Conference on Industrial Engineering and Operations Management 2023
- Reviewer in the Journal of Industrial and Engineering Chemistry (October-2021)
- A reviewer member in the International Conference on Material Research and Engineering (ICMRE)-2015
- A reviewer member in the Fifth Scientific Conference for Students of Higher Education in KSA, 2013/2014

- **Ongoing Research Supervision**

|   | Degree Type                   | Institution                            | Date                  |
|---|-------------------------------|--|-----------------------|
| 1 | Supervising 40 B.Sc. Projects | Imam Abdulrahman Bin Faisal University | 2014-<br>Present<br>s |

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

- **Administrative Responsibilities**

|   | From | To      | Position  | Organization  |
|---|------|---------|---|---|
| 1 | 2023 | Present | <ul style="list-style-type: none"> <li>• Chair of Public Relations and community service committee in the Chemistry Department</li> </ul> | Chemistry Department, collage of science Imam Abdulrahman Bin Faisal University |



|   |        |        |   |  |
|---|--------|--------|---|--|
| 2 | 2021   | 3/2023 | <ul style="list-style-type: none"> <li>The director of the Graduate Studies Development Unit</li> </ul>   | College of Science, Imam Abdulrahman Bin Faisal University   |
| 3 | 2019   | 2020   | <ul style="list-style-type: none"> <li>Coordinator of Innovation and Entrepreneurship in</li> </ul>   | Collage of Science - Imam Abdulrahman Bin Faisal University. |
| 4 | 2018   | 2022   | <ul style="list-style-type: none"> <li>A Member in Quality Committee in Chemistry Department</li> </ul>   | Imam Abdulrahman Bin Faisal University.                      |
| 5 | 2018   | 2022   | <ul style="list-style-type: none"> <li>Chair of Standard six- self-evaluation study of chemistry department committee (I have written standard six (which related to the learning resources) in the self-study report, and I was a member of the self-study committee.</li> </ul> | Imam Abdulrahman Bin Faisal University                       |
| 6 | 2017   | 2020   | <ul style="list-style-type: none"> <li>A Member of The Committee of Ph.D. Development Program in Chemistry Department</li> </ul>  | Imam Abdulrahman Bin Faisal University.                      |
| 7 | 9/2017 | 8/2023 | <ul style="list-style-type: none"> <li>Chair of Libraries Affair</li> </ul>   | Imam Abdulrahman Bin Faisal University                       |



|   |      |         |   |   |
|---|------|---------|---|---|
|   |      |         | subcommittee in Chemistry Department  |   |
| 8 | 2014 | 2015    | <ul style="list-style-type: none"> <li>Chair of Scientific Research subcommittee in Chemistry Department</li> </ul> | Imam Abdulrahman Bin Faisal University. |
| 9 | 2010 | 2013    | <ul style="list-style-type: none"> <li>A Member of Exam Progress Committee in Chemistry Department</li> </ul>       | Imam Abdulrahman Bin Faisal University. |
|   | 2008 | Present | <ul style="list-style-type: none"> <li>A Member of Student Advisor Committee in Chemistry Department</li> </ul>     | Imam Abdulrahman Bin Faisal University. |

- Patents

- PatentNo. US11659846B2**

**Title:** Separation column containing titanium oxide nanotubes

**Inventors:** Dr.Hafedh Kochkar, Dr.Nuhad Alomair, Dr.Reem Albilali, Dr.Suhailah AlJameel

**Status:** Granted 30/May/2023

- PatentNo. US11659847B2**

**Title:** Dairy purification mixture

**Inventors:** Dr.Hafedh Kochkar, Dr.Nuhad Alomair, Dr.Reem Albilali, Dr.Suhailah AlJameel

**Status:** Granted on 30/May/2023

- Committee Membership

|   | From | To   | Position   | Organization                           |
|---|------|------|--|--|
| 1 | 2019 | 2020 | Coordinator of Innovation and Entrepreneurship in Collage of Science | Imam Abdulrahman Bin Faisal University |



|   |        |         |   |  |
|---|--------|---------|---|--|
| 2 | 2018   | 2022    | A member in Quality committee in chemistry department                             | Imam Abdulrahman Bin Faisal University |
| 3 | 9/2017 | 2022    | A member of the committee of Ph.D. Development Program in in Chemistry Department | Imam Abdulrahman Bin Faisal University |
| 4 | 2008   | Present | A member of the Student Advisor Committee in Chemistry Department                 | Imam Abdulrahman Bin Faisal University |
| 5 | 2010   | 2013    | A member of Exam Progress Committee in Chemistry Department                       | University of Dammam                   |

### Workshops and Training Courses

|   | Title of the Event   | Event Type | Event Date       | Place  | Organized By                         |
|---|--|------------|------------------|--|--------------------------------------|
| 1 | Utilizing Artificial Intelligence Applications in Education            | Workshop   | January 15, 2024 | Deanship of E-Learning and Distance Learning | IAU University, Dammam, Saudi Arabia |
| 2 | Generative Artificial Intelligence: A Game Changer in Higher Education | Workshop   | August 22, 2023  | Deanship of Higher Education Development     | IAU University, Dammam, Saudi Arabia |
| 3 | Values in a Global World   | Workshop   | October 24, 2023 | Deanship of Higher Education Development     | IAU University, Dammam, Saudi Arabia |



|    |   |          |                      |  |                                      |
|----|---|----------|----------------------|--|--------------------------------------|
| 4  | The First and Second Training Program for the Corporate Social Responsibility Platform. | Workshop | November 11-12, 2023 | Community Partnership Management             | IAU University, Dammam, Saudi Arabia |
| 5  | Strategies for empowering students with self-directed learning skills                   | Workshop | November 14, 2023    | Deanship of Higher Education Development     | IAU University, Dammam, Saudi Arabia |
| 6  | How artificial intelligence is improving education                                      | Workshop | August 28, 2023      | Deanship of E-Learning and Distance Learning | IAU University, Dammam, Saudi Arabia |
| 7  | Utilizing Google extension in education   | Workshop | October, 5, 2022     | Deanship of E-Learning and Distance Learning | IAU University, Dammam, Saudi Arabia |
| 8  | Professional Guidance for The University Professor                                      | Workshop | May 21, 2021         | IAU University, Dammam, Saudi Arabia         | IAU University                       |
| 9  | Problem-Based Curriculum Design   | Workshop | March 30-31, 2021    | IAU University, Dammam, Saudi Arabia         | IAU University                       |
| 10 | Improvements of Graduation Projects   | Workshop | May 30-31, 2021      | IAU University, Dammam, Saudi Arabia         | IAU University                       |



|    |  |                 |                       |   |                            |
|----|--|-----------------|-----------------------|---|----------------------------|
| 11 | Basic Concepts and Strategies for Scientific Council System Services                       | Workshop        | March 18, 2021        | IAU University, Dammam, Saudi Arabia                                    | IAU University             |
| 12 | Preparing The Course File Using the Portfolio Tool   | Training Course | March 11, 2021        | IAU University, Dammam, Saudi Arabia                                    | IAU University             |
| 13 | Volunteering Platform  | Workshop        | March 1, 2021         | IAU University, Dammam, Saudi Arabia                                    | IAU University             |
| 14 | Universal Learning Tool (ALLY)   | Workshop        | February 25, 2021     | IAU University, Dammam, Saudi Arabia                                    | IAU University             |
| 15 | Academic Psychological Care Facilitators Program (AMCF)                                    | Workshop        | January 19, 2021      | IAU University, Dammam, Saudi Arabia                                    | IAU University             |
| 16 | Using the Academic Encyclopedia of Britannica for interactive teaching in the lecture hall | Workshop        | December 9, 2020      | IAU University, Dammam, Saudi Arabia                                    | IAU University             |
| 17 | Faculty Mentorship Certification Program (FMCP) (acting as a mentor)                       | Training Course | 08-12/2020 (3 months) | Deanship of Academic Development - IAU University, Dammam, Saudi Arabia | IAU University             |
| 18 | Facilitating Metacognitive Strategies in the Classroom                                     | Workshop        | December 7, 2020      | IAU University, Dammam, Saudi Arabia                                    | IAU University             |
| 19 | Tackling Racism on Campus:   | Workshop        | November 27, 2020     | Advance HE, United  | Advance HE, United Kingdom |



|    |  |                  |  |  |  |
|----|--|------------------|--|--|--|
|    | Decolonizing the Institution   |                  |  | Kingdom (Zoom)   |  |
| 20 | Activate volunteering through the volunteer work platform  | Workshop         | November 10, 2020                          | IAU University, Dammam, Saudi Arabia   | IAU University   |
| 21 | Methodology for preparing the operational plan   | Training Course  | October 14, 2020                           | IAU University, Dammam, Saudi Arabia   | IAU University   |
| 22 | Enhance teaching and learning using technology   | Training Course  | September 25, 2020                         | IAU University, Dammam, Saudi Arabia   | IAU University   |
| 23 | Review The Course Documents  | Workshop         | March 30-31, 2020                          | IAU University, Dammam, Saudi Arabia   | IAU University   |
| 24 | Certificate in Learning and Teaching in Higher Education   | Training Program | December 2-5, 2019 to February 17-20, 2020 | Advance HE, United Kingdom in collaboration with Deanship of Academic Development - IAU University | Advance HE, United Kingdom and Deanship of Academic Development - IAU University |
| 25 | Micro Gas Chromatography and Scanning Electron Microscopy – Important Tools for Today's Chemists | Workshop         | February 19, 2020                          | Meridien Hotel - Al-Khobar - Saudi Arabia  | Saudi Arabian International Chemical Sciences Chapter (SAICSC-ACS)               |



|    |   |                 |                      |  |  |
|----|---|-----------------|----------------------|--|--|
| 26 | Endnote Desktop   | Workshop        | February 2, 2020     | Girls Colleges Central Library - IAU University  | Girls Colleges Central Library - IAU University                              |
| 27 | Excellence in Undergraduate Education                             | Training Course | November 27, 2019    | Center of Academic Leadership  | Center of Academic Leadership  |
| 28 | Writing Course Specification and Course Report                    | Workshop        | November 26, 2019    | Vice Deanship for Studies, Development and Community Service, IAU University, Dammam, Saudi Arabia | Vice Deanship for Studies, Development and Community Service, IAU University |
| 29 | Boosting Innovation and Entrepreneurship in University Education  | Workshop        | November 13-14, 2019 | University of Turku, Finland and IAU University  | University of Turku and Deanship Academic Development - IAU University       |
| 30 | Using BrowZine Application for Browsing Scientific Articles       | Workshop        | November 5, 2019     | IAU University, Dammam, Saudi Arabia   | Unit of Learning Recourses and Scientific Research - IAU University          |
| 31 | Chemist In the Kingdom Needs to Meet Future Industrial Challenges | Workshop        | September 16, 2019   | Le Meridian Hotel - AlKhobar, Saudi Arabia   | ACS Saudi Arabian branch   |
| 32 | Using Sci-Finder for Scientific Purposes                          | Workshop        | May 28, 2019         | IAU University, Dammam, Saudi Arabia   | Scientific Research Committee in Chemistry Department,                       |



|    |  |                    |                            |   |   |
|----|--|--------------------|----------------------------|---|---|
|    |  |                    |                            |   | IAU<br>University   |
| 33 | How to Use<br>Britannica<br>Encyclopedia                         | Workshop           | March 5,<br>2019           | IAU<br>University,<br>Dammam,<br>Saudi Arabia   | Unit of<br>Learning<br>Recourses<br>and Scientific<br>Research -<br>IAU<br>University       |
| 34 | Key Performance<br>Indicator (KPI)                               | Workshop           | January 10,<br>2019        | IAU<br>University,<br>Dammam,<br>Saudi Arabia   | Deanship of<br>Academic<br>Development<br>- IAU<br>University                               |
| 35 | Faculty<br>Mentorship<br>Certification<br>Program (FMCP)         | Training<br>Course | Sep-<br>Dec,2018           | Deanship of<br>Academic<br>Development<br>- IAU<br>University,<br>Dammam,<br>Saudi Arabia | Deanship of<br>Academic<br>Development<br>- IAU<br>University                               |
| 36 | Implementing<br>Project-Based<br>Learning in Higher<br>Education | Training<br>Course | November<br>14-15,<br>2018 | University of<br>Turku,<br>Finland and<br>IAU<br>University                               | University of<br>Turku and<br>Deanship of<br>Academic<br>Development<br>- IAU<br>University |
| 37 | Managing your<br>IAU library<br>account using<br>Bookmyne        | Workshop           | November<br>4, 2018        | IAU<br>University,<br>Dammam,<br>Saudi Arabia   | Unit of<br>Learning<br>Recourses<br>and Scientific<br>Research -<br>IAU<br>University       |



|    |  |                 |                       |   |  |
|----|--|-----------------|-----------------------|---|--|
| 38 | Searching Using OPAC in IAU Library  | Workshop        | December 12, 2018     | IAU University, Dammam, Saudi Arabia                                  | Unit of Learning Recourses and Scientific Research - IAU University          |
| 39 | Measuring Learning Outcomes  | Workshop        | October 9, 2018       | IAU University, Dammam, Saudi Arabia                                  | Deanship of Studies, Development and Community Service, IAU University       |
| 40 | Effective Usage of Books Electronic Database in IAU Libraries                                | Workshop        | October 7, 2018       | IAU University, Dammam, Saudi Arabia                                  | Unit of Learning Recourses and Scientific Research - IAU University          |
| 41 | Excellence in Undergraduate Education  | Training Course | September 27-28, 2018 | Academic Leadership Center, Ministry of Education, Saudi Arabia       | Academic Leadership Center, Ministry of Education, Saudi Arabia              |
| 42 | Preparing Self-Study Report  | Workshop        | September 11, 2018    | IAU University, Dammam, Saudi Arabia                                  | Vice Deanship for Studies, Development and Community Service, IAU University |
| 43 | Improving The Quality of Scientific Research in Preparation for Scientific Publication Using | Workshop        | February 25, 2018     | Girls Colleges Central Library - IAU University, Dammam, Saudi Arabia | Girls Colleges Central Library - IAU University                              |



|    |  |                 |                      |   |   |
|----|--|-----------------|----------------------|---|---|
|    | The Web Of Science And Scopus Database   |                 |                      |   |   |
| 44 | Developing The Basic Competencies in Teaching and Learning for The University Professor      | Training Course | February 20-23, 2018 | Deanship of Academic Development - IAU University, Dammam, Saudi Arabia | Deanship of Academic Development - IAU University |
| 45 | The Use of Assessment in The Teaching Process and How to Build Test Specification Table      | Workshop        | February 6, 2018     | Deanship of Academic Development - IAU University, Dammam, Saudi Arabia | Deanship of Academic Development - IAU University |
| 46 | Identification Of Researchers in Scientific Databases and Networks                           | Workshop        | December 19, 2017    | Girls Colleges Central Library - IAU University                         | Girls Colleges Central Library - IAU University   |
| 47 | Introduction To X-Ray Photoelectron Spectroscopy (XPS) Data Analysis Using Casa XPS Software | Workshop        | March 11, 2017       | Cardiff University, Cardiff - United Kingdom                            | Cardiff University                                |
| 48 | Open Access and Citations: Essential Information for Researchers                             | Workshop        | January 27, 2016     | Cardiff University, Cardiff - United Kingdom                            | Cardiff University                                |
| 49 | Seven Secrets of Highly Successful Researchers for Supervisors                               | Workshop        | January 18, 2016     | Cardiff University, Cardiff - United Kingdom                            | Cardiff University                                |



|    |   |                 |                      |   |   |
|----|---|-----------------|----------------------|---|---|
| 50 | MP-AES  | Training Course | January 14, 2016     | Cardiff Catalysis Institute, Cardiff - United Kingdom                         | Cardiff Catalysis Institute                                   |
| 51 | On the Pathway for Quality Assured Research                     | Workshop        | March 8, 2015        | University of Dammam  | University of Dammam and Thomson Reuter                       |
| 52 | Unlocking the Potential of Mobile Technology in Education       | Workshop        | March 1-2, 2015      | National Center for E-Learning in Saudi Arabia in cooperation with Apple U.K. | National Center for E-Learning in Saudi Arabia and Apple U.K. |
| 53 | Enhancing teaching with OER                                     | Workshop        | February 28, 2015    | National Center for E-Learning in Saudi Arabia                                | National Center for E-Learning in Saudi Arabia                |
| 54 | Effective assessment strategies                                 | Workshop        | January 28, 2014     | Deanship of Development, University of Dammam - Saudi Arabia                  | Deanship of Development, University of Dammam - Saudi Arabia  |
| 55 | Leading Discussions for The Development of High Thinking Skills | Workshop        | January 27, 2014     | University of Dammam - Saudi Arabia   | University of Dammam - Saudi Arabia                           |
| 56 | Nanotechnology  | Workshop        | April 10, 2013       | Department of Physics, University of Dammam, Saudi Arabia                     | Department of Physics, University of Dammam, Saudi Arabia     |
| 57 | Higher Order Thinking Skills                                    | Workshop        | November 18-19, 2013 | The University of Melbourne, Australia  | The University of Melbourne, Australia                        |



|    |  |                  |                      |  |  |
|----|--|------------------|----------------------|--|--|
| 58 | Building Your Course Portfolio   | Workshop         | April 8, 2013        | Quality Assurance Office - University of Dammam                              | Quality Assurance Office - University of Dammam                              |
| 59 | Teaching Skills in the 21st Century  | Workshop         | February 17-18, 2013 | National Institute of Education, Nanyang Technological University, Singapore | National Institute of Education, Nanyang Technological University, Singapore |
| 60 | Improving Your Communication Skills with Students  | Training Program | January 27-31, 2013  | Deanship of Academic Development, University of Dammam - Saudi Arabia        | Deanship of Academic Development, University of Dammam - Saudi Arabia        |
| 61 | Course Specification and Design  | Workshop         | January 27, 2013     | University of Dammam - Saudi Arabia  | University of Dammam - Saudi Arabia  |
| 62 | Training For Blackboard System   | Workshop         | November 26, 2012    | E-Learning Centre, University of Dammam - Saudi Arabia                       | E-Learning Centre, University of Dammam - Saudi Arabia                       |
| 63 | E-Course Specification and Design  | Workshop         | November 19, 2012    | E-Learning Centre, University of Dammam - Saudi Arabia                       | E-Learning Centre, University of Dammam - Saudi Arabia                       |
| 64 | Using The University of Dammam Online Library Catalogue and The Unified Search Engine 'Summon' | Workshop         | October 15, 2012     | Quality Assurance Office, University of Dammam - Saudi Arabia                | Quality Assurance Office, University of Dammam - Saudi Arabia                |
| 65 | Searching Information Databases on The   | Workshop         | March 10-14, 2012    | University of Dammam - Saudi Arabia  | University of Dammam - Saudi Arabia  |



|    |   |          |                      |  |  |
|----|---|----------|----------------------|--|--|
|    | New Saudi Digital Library   |          |                      |  |  |
| 66 | Scientific Workplace  | Workshop | February 13-16, 2011 | King Fahad University of Petroleum and Minerals - Saudi Arabia                                     | King Fahad University of Petroleum   |
| 67 | Searching Mechanism in International Libraries                    | Workshop | December 28-29, 2009 | Deanship of Scientific Research, University of Dammam - Saudi Arabia                               | Deanship of Scientific Research, University of Dammam - Saudi Arabia                               |
| 68 | Effective English Communication Skills Via Self-Directed Learning | Workshop | July 2, 2008         | Saudi Aramco, University of Dammam - Saudi Arabia  | Saudi Aramco, University of Dammam - Saudi Arabia  |
| 69 | Zeta Potential Device   | Workshop | April 8, 2008        | College of Science - University of Dammam  | College of Science - University of Dammam  |
| 70 | The Social and Psychological Needs of Creative People             | Workshop | August 26-27, 2006   | King Abdul-Aziz and his Companions Foundation for Giftedness and Creativity, Jeddah - Saudi Arabia | King Abdul-Aziz and his Companions Foundation for Giftedness and Creativity, Jeddah - Saudi Arabia |
| 71 | Emotional Intelligence  | Workshop | February 13-15, 2005 | Life Skills Training Centre - Dammam   | Life Skills Training Centre - Dammam   |
| 72 | Fourth Training Course on Academic Advising                       | Workshop | February 12-14, 2005 | College of Arts, University of Dammam - Saudi Arabia   | College of Arts, University of Dammam - Saudi Arabia   |



|    |                                       |          |                |   |   |
|----|---------------------------------------|----------|----------------|---|---|
| 73 | How To Be a Proactive Student Adviser | Workshop | May 8-10, 2004 | College of Science, University of Dammam - Saudi Arabia | College of Science, University of Dammam - Saudi Arabia |
|----|---------------------------------------|----------|----------------|---|---|

## Awards

1. Excellence in Scientific Research awarded by IAU University-Saudi Arabia for an article entitled (Efficient and stable low-temperature CO oxidation over Pt/In-SnO<sub>2</sub> composite triggered by abundant oxygen vacancies and adsorption sites), published on 12/4/2021, application number: 12136716.
2. Excellence in Scientific Research awarded by IAU University-Saudi Arabia for an article entitled (Fabricating M/Al<sub>2</sub>O<sub>3</sub>/cordierite (M = Cr, Mn, Fe, Co, Ni and Cu) monolithic catalysts for ethyl acetate efficient oxidation: Unveiling the role of water vapor and reaction mechanism.), published on 1/11/2021, application number: 551733715.
3. Excellence in Scientific Research awarded by IAU University-Saudi Arabia for an article entitled (Remarkable promotion effect of lauric acid on Mn-MIL-100 for non-thermal
4. plasma-catalytic decomposition of toluene), published on 15/2/2020, application number: 377482449
5. Excellence in Scientific Research awarded by IAU University-Saudi Arabia for an article entitled (Low temperature design of titanium dioxide anatase materials decorated with cyanuric acid for formic acid photodegradation), published on 13/2/2020, application number: 21593955.
6. Excellence in Scientific Research awarded by IAU University-Saudi Arabia for an article entitled (Revealing the unexpected promotion effect of diverse potassium precursors on  $\alpha$ -MnO<sub>2</sub> for the catalytic destruction of toluene), published on 16/2/2020, application number: 66846722
7. Excellence in Scientific Research awarded by IAU University-Saudi Arabia for an article entitled (Efficient propane low-temperature destruction by Co<sub>3</sub>O<sub>4</sub> crystal facets engineering: Unveiling the decisive role of lattice and oxygen defects and surface acid-base pairs), published on 22/10/2020, application number: 872779871.
8. Excellence in Scientific Research awarded by IAU University-Saudi Arabia for an article entitled (Pd-based catalysts promoted by hierarchical porous Al<sub>2</sub>O<sub>3</sub> and ZnO
9. microsphere supports/coatings for ethyl acetate highly active and stable destruction), published on 22/6/2020, application number: 127440455.
10. Excellence in Scientific Research awarded by IAU University-Saudi Arabia for an article entitled (Efficient propane low-temperature destruction by Co<sub>3</sub>O<sub>4</sub> crystal facets engineering: Unveiling the decisive role of lattice and oxygen defects and surface acid-base pairs), published on 22/10/2020, application number: 872779871.
11. Excellence in Scientific Research awarded by IAU University-Saudi Arabia for an article entitled The Selective Hydrogenation of Furfural over Supported Palladium Nanoparticle



- Catalysts Prepared by Sol-Immobilisation: Effect of Catalyst support and Reaction Conditions), published on 15/11/2017, application number: 390977483.
12. Excellence in Scientific Research awarded by IAU University-Saudi Arabia for an article entitled (Efficient capture of CO<sub>2</sub> over ordered micro-mesoporous hybrid carbon nanosphere), published on 6/1/2018, application number: 247080321
  13. Excellence in Scientific Research awarded by IAU University-Saudi Arabia for an article entitled (Transfer Dehydrogenation of 1-Phenylethanol Over Pd/C Under Mild Conditions: Effect of Reaction Conditions and Optimization of Catalytic Performance), published on 20/7/2017, application number: 996579699
  14. (Testahel) Initiative Award for outstanding achievement in scientific research for IAU female staff awarded by IAU University in the national day of Saudi Arabia 2020

### Volunteering Work

|   | From       | To         | Type of Volunteer   | Organization   |
|---|------------|------------|---|--|
| 1 | 12/2023    | 12/2023    | A jury member in 14 <sup>th</sup> Annual International Conference on Industrial Engineering and Operations Management                   | Khalifa University- Dubai, UAE                             |
| 2 | 31/10/2023 | 31/10/2023 | Participated in three corners during the Arab Chemistry Week: scientific exhibition, scientific posters, and play with chemistry.       | College of Science- Imam Abdulrahman Bin Faisal University |
| 3 | 26/10/2022 | 26/10/2022 | Participated in three corners during the Arab Chemistry Week: scientific experiments, scientific posters, and educational videos.       | Imam Abdulrahman Bin Faisal University                     |
| 4 | 11/12/2022 | 11/12/2022 | Participation in the Scientific Researcher Program as presenter of workshop entitled Using Mendeley program for manging your references | Imam Abdulrahman Bin Faisal University                     |
| 5 | 2022       | Present    | Reviewer for scientific research papers in Q1 Journal ( Chemical Engineering Journal)   | Chemical Engineering Journal-Elsevier                      |



|    |           |            |  |   |
|----|-----------|------------|--|---|
| 6  | 2018      | 2021       | I collaborated with the Alumni and Career Development Center at Imam Abdulrahman Bin Faisal University in training of the graduate students, I have supervised the training of 6 graduate students during this period.   | Imam Abdulrahman Bin Faisal University  |
| 7  | 9/2020    | 1/2021     | I acted as a mentor and collaborate with the Deanship of academic Development at Imam Abdulrahman Bin Faisal University in the (Faculty Mentorship Certification Program). A program which aims to familiarize new faculty members from all academic departments with the university's rules and regulations and to provide them - through workshops and professional mentoring meetings - with the tools necessary for success in academia. | Imam Abdulrahman Bin Faisal University  |
| 8  | 12/2020   | 5/2021     | I have completed 40 hours volunteering work at IAU University in supporting faculty members to enhance their teaching and learning skills  | Imam Abdulrahman Bin Faisal University  |
| 9  | 2014      | 2016       | Volunteering member in (Mawhiba) program   | King Abdulaziz and his Companions Foundation for Giftedness and Creativity in cooperation with the IAU University |
| 10 | 8/10/2017 | 10/10/2017 | Volunteering to work with the Royal Society of Chemistry in Swansea Science Festival   | National Waterfront Museum- Swansea, United Kingdom   |
| 11 | 7/2009    | 9/2009     | Volunteering in self-development training sessions   | Prince Mohammed bin Fahad Program for Saudi Youth Development   |
| 12 | 6/2007    | 9/2007     | Volunteering member in (Mawhiba) program   | King Abdulaziz and his Companions Foundation for Giftedness and Creativity  |



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

|   |  |
|---|--|
| 1 | Highly responsible, independent, critical thinking, ability to teamwork, creative thinking, problem solving and making decisions, good communication skills. |
| 2 | Computer skills: Networking, Microsoft Office, able to work with different scientific software such as Origin, Chem draw, Casa XPS and many other software.  |

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