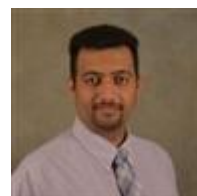


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Associated Prof. Dr. Hayder A. Alalwan

Education

PhD	Chemical Engineering, the University of Iowa, USA	2018
MSc	Chemical Engineering, the University of Technology, Iraq	2005
BSc	Chemical Engineering, the University of Baghdad, Iraq	2003



Work Experiences

- Head of the Dept. of Petrochemical Techniques, Al-Kut Technical Institute, 2019 to Present
- Head of the Dept. of Mechanical Techniques, Al-Kut Technical Institute, 2018 to 2019.
- Adjunct Instructor at Al-Kut Technical Institute – Kut- Iraq - 2011 to 2018.
- Instructor at Al-Kut Technical Institute (<http://kti.mtu.edu.iq>) – Kut- Iraq - 2006 to 2011.
- Chemical Engineer at the Center of Chemical Research; Ministry of Science and Technology, Iraq - 2003 to 2006

Training Received

- Certificate of professional development in chemical process safety for faculty members organized by American Institution of Chemical Engineering (AIChE) and BASF in MI, USA, July 2018
- Certificate Chemical and Biological Security Training program sponsored by the United States Department of State, Sandia National laboratories – USA, December 2017
- Certificate program Engaging Across Culture, A Professional Development Series for International and Domestic Graduate and Professional Students at the University of Iowa – USA - November 2017
- Certificate of Achievement at the Associated level, University of Iowa Center for the Integration of Research, Teaching and Learning (CIRTL) – USA - June 2017
- Professional Academic English courses - Iowa Intensive English Program (IIEP) - University of Iowa – USA - Aug. 2011 - May 2012
- Faculty Development Program, Iraqi Foundations of Technical Education – April 2006: Teaching methods, development of workers, importance of communication with both students and coworkers, and ethics of scientific research

Academic Honors and Awards

- Research excellent award from the Governor of Wasit – Iraq - 2019
- An International Student Advocate certificate from the International Student Office at The University of Iowa for supporting and promoting intercultural awareness - June 2018
- Ballard and Seashore Dissertation Fellowship - University of Iowa, Spring 2018
- Digital Scholarship and Publishing Studio Summer Fellowship - University of Iowa, 2017
- PhD scholarship from the Higher Committee of Education Development (HCED) in Iraq – awarded for top Iraqi students, from Aug. 2011 to May 2017
- Several appreciation letters from the president's offices of the Foundation of Technical Education and Middle Technical University/Iraq, 2006-2020

- Several appreciation letters for outstanding work from the dean's office of Al-Kut Technical Institute – Middle Technical University, Al-Kut, Wassit, Iraq, 2009-2020
- Nominated for the 2017 Hancher Finkbine Medallion, a prestigious award presented annually to four outstanding students who have attained special distinction in leadership, learning, and loyalty at the University of Iowa.

Publication's list

1. CO₂ Capturing Methods: Chemical Looping Combustion (CLC) as a Promising Technique, **Science of The Total Environment**, 788, (2021), 147850 (Elsevier)
2. Linking Solid State Reduction Mechanisms to Size-Dependent Reactivity of Metal Oxide Oxygen Carriers for Chemical Looping Combustion, **ACS Applied Energy Materials**, 2021, 4, 1163–1172
3. Adsorption of Methyl Green Stain from Aqueous Solutions using Non-conventional Adsorbent Media: Isothermal Kinetic and Thermodynamic Studies, **Bioresource Technology Reports** 14 (2021) 100680 (Elsevier)
4. Effect of COVID-19 on air quality and pollution in different countries, **Journal of Transport & Health** 21 (2021) 101061(Elsevier)
5. Aldol Condensation Reaction of Acetone on MgO Nanoparticles Surface: An in-Situ Drift Investigation, **Molecular Catalysis journal**, 501 (2021) 111333 (Elsevier)
6. The Impact of Methanol-Diesel Compound on the Performance of a Four-Stroke CI Engine, **Material Today Proceeding** (Elsevier). <https://doi.org/10.1016/j.matpr.2020.12.247>
7. Removal of Dyes by Agricultural Waste, **Sustainable Chemistry and Pharmacy** (Elsevier), 2020,16 ,100259.
8. Removal of Heavy Metals from Wastewater using Agriculture Byproducts”, **Journal of Water Supply: Research and Technology – AQUA (IWA Publishing)**, 2020 69 (2), 99-112.
9. Isotherm and Computational Fluid Dynamics Analysis of Nickel Ions Adsorption from Aqueous Solution using Activated Carbon, **South African Journal of Chemical Engineering** (Elsevier), 2020, 32, 5-12
10. An in-situ DRIFTS Study of Acetone Adsorption Mechanism on TiO₂ Nanoparticles, **Spectrochim. Acta Part A: Mol. and Biomolecular Spectroscopy**, 2020, 229, 117990. (Elsevier)
11. Isotherm and Kinetic Studies of the Adsorption Removal of Pb(II), Cu(II), and Ni(II) Ions from Aqueous Solutions Using Modified Chara Sp. Algae, **Korean Chem. Eng. Res. Journal** 2020, 58 (2), 301-306.
12. Uptake of Cyanide Compounds from Aqueous Solutions by Lemon Peel with Utilizing the Residue Absorbent as Rodenticide, **Indian Chemical Engineer journal**, 2020, 62, 41-50. (Taylor & Francis)
13. Catalytic Oxidative and Adsorption Desulfurization of Heavy Naphtha Fraction, **Korean Chem. Eng. Res. journal**. 2019, 57 (2), 283-288
14. Promising Evolution of Biofuel Generations. Subject Review, **Renewable Energy Focus**, 2019, 28, 127-139 (Elsevier)
15. Adsorption of Thallium Ion (Tl⁺³) from Aqueous Solutions by Rice Husk in a Fixed-bed Column: Experiment and Prediction of Breakthrough Curves, **Environmental Technology and Innovation**, 2018, 12, 1-13. (Elsevier)
16. α-Fe₂O₃ Nanoparticles as Oxygen Carriers for Chemical Looping Combustion: A Material Characterization Approach to Understanding Mechanisms and Size Effects in Oxygen Carrier Performance, **Energy and Fuels journal (ACS)**, 2018, 32, 7959-7970.
17. Co₃O₄ Nanoparticles as Oxygen Carriers for Chemical Looping Combustion: A Materials Characterization Approach to Understanding Oxygen Carrier Performance, **Chem. Eng. J.**, 2017, 319, 279–287. (Elsevier)
18. Conversion of Ethanol to Acetaldehyde by using NiO/Al₂O₃ as a Catalyst, **Journal of Wassit for Science and Medicine**, 2011, 4 (1), 92-102.
19. Determination of Ephedrine Hydrochloride in its Pharmaceutical Preparations by using molecular absorption (UV-Visible) technique” **Journal of Wassit for Science and Medicine**, 2011, 4(1), 19-31.
20. Design of Controlling System on Distillation Tower by Using Fuzzy Logic” **The Third Scientific Conference Journal of Wassit University**, 2010, 909- 921.

21. Production of Acetone from ethanol". The Third Scientific Conference of Wassit University, 2009, 723-735.

Lab skills - Instrumental analytical techniques:

- Gas Chromatography (GC)
- Powder X-Ray Diffraction (XRD)
- Diffuse Reflectance Infrared Fourier Transform Spectroscopy (DRIFTS)
- X-ray Photon Spectroscopy (XPS)
- Transmission Electron Microscopy (TEM)
- Thermal Gravimetric Analysis (TGA)

Activities and Affiliations

- Organizer and Co-Chair for the First International Conference of Chemistry and Petrochemical Techniques (ICCPT2021), Wasit University, Iraq, June 2021.
- Editor for AIP Conference proceeding special issue for ICCPT2021.
- Participating and a scientific committee member of The Second Conference of the Iraqi Society of Clinical Biochemistry, Comar University, Iraq, Sep. 2021
- Establishing the Dept. of Petrochemical Techniques in Al-Kut Technical Institute – 2019
- Participating in several scientific conferences such as
 - 3rd International Conference on Materials Engineering & Science, Malaysia, 2020
 - American Chemical Society (ACS) Annual Meeting, LA, 2018
 - American Institution of Chemical Engineering (AIChE) Annual Meeting, Mn, 2017
 - Iowa Academy of Science Annual Meeting, University of Iowa, Iowa City, IA, April 2015
 - American Chemical Society (ACS) Midwest Regional Meeting, University of Missouri, Colombia City, Missouri, Nov. 2014
 - Wassit Conference for Science and Medicine, Wassit University, Al-Kut, Iraq, April 2010
- Member of American Institute of Chemical Engineers (AIChE)
- Member of American Chemical Society (ACS)
- Member of Iraqi Engineers Union since 2004
- Independently designed and taught three courses in training programs jointly offered by the Iraqi Engineers Union in Wassit in conjunction with The US Army Corps of Engineers through "Iraqi Engineer Development Programs," training Iraqi Engineers to use AutoCAD software in map design and drawing for three two-week courses in 2008
- Reviewer for several journals see my account on <https://publons.com> -Hayder A. Alalwan
- Editorial board member of Science Journal of Chemistry (SJC)
- Designed and building a biogas plant in Alkut Technical Institute

LANGUAGES: English and Arabic (high level reading, writing, speaking)

ePortfolio Site: <https://sites.google.com/view/drhayderaalalwan/home>