College of Engineering

Mohammed Al-Abri
Professor

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EDUCATION:

- **PhD: Chemical Engineering**
University of Nottingham, UK
- **BEng: Chemical Engineering**
University of Nottingham, UK

HONORS & AWARDS:

- **Arab Water Council Prize for Creativity and Innovation in the field of Water Science", Arab Water Council, Egypt, 2021**

PROFILE

Experienced academic and research leader with over 15 years of service in higher education, specializing in chemical engineering, nanotechnology, and water treatment. Currently serving as Professor of Chemical Engineering and Director of the Nanotechnology Research Center at Sultan Qaboos University. Proven ability to lead multidisciplinary research teams, manage funded projects, and deliver impactful research in membrane technology, wastewater treatment, CO_2 valorization, and green hydrogen production.

Extensive teaching background across undergraduate and postgraduate levels, with a strong record in course development, curriculum design, and student mentoring. Instrumental in launching new programs, enhancing industry linkages through cooperative training, and promoting student innovation. Recognized for applying strategic thinking to research planning, academic program development, and national science policy initiatives.

WORK EXPERIENCE

- **2024 – Present: Professor**
Department of Petroleum and Chemical Engineering
Sultan Qaboos University.

- **2017 – Present: Director**
Nanotechnology Research Center
Sultan Qaboos University.

- **2021 – Present: Board of Directors**
Barka Desalination Company, Oman.

- **2022 – 2023: Senior Non-Conventional Water Resources Expert**
Food and Agriculture Organization (FAO), United Nations

- **2019 – 2024: Associate Professor**
Department of Petroleum and Chemical Engineering
Sultan Qaboos University.

- **2015 – 2017: Assistant (and Acting) Chair in Nanotechnology for Desalination**
Water Research Center, Sultan Qaboos University.

- **2008 – 2019: Assistant Professor**
Department of Petroleum and Chemical Engineering
Sultan Qaboos University.

Professional Credentials, Certifications, or Licensing

- Certificate of Specialization in Leadership and Management, Harvard Business School Online, 2023
- Certificate in Power and Influence for Positive Impact, Harvard Business School Online, 2023
- Certificate in Negotiation Mastery, Harvard Business School Online, 2023
- Certificate in Organizational Leadership, Harvard Business School Online, 2022

Membership in Professional Organization

- International Water Association (IWA)
- International Desalination Association (IDA)
- Sigma Xi: The Scientific Research Honor Society
- Water Sciences & Technology Association (WSTA)
- Oman Water Society (OWS)

Professional Development Activities

- Certificate as Innovation Specialist, Industrial Innovation Center, Oman, 2018

Selected Journal Publications

1. Al-Saidi S., Kyaw H.H., Myint M.T.Z., Al-Hajri R., Al-Abri M. (2025) "Enhanced desalination of produced water using graphene oxide-coated activated carbon cloth via capacitive deionization" Desalination, . https://doi.org/10.1016/j.desal.2025.118668
2. Irshad H., Zia M., Al-Hajri R., Khattak Z.A.K., Al-Abri M., Ahmad N., Younus H.A. (2025) "Electrocatalysts for hydrogen and oxygen evolution reactions under neutral/near-neutral conditions: Summary and challenges" International Journal of Hydrogen Energy, . https://doi.org/10.1016/j.ijhydene.2025.02.246
3. Younus H.A., Al Hinai M., Al Abri M., Al-Hajri R. (2025) "Hierarchical Core-Shell Cu@Cu-Ni-Co Alloy Electrocatalyst for Efficient Hydrogen Evolution in Alkaline Media" Energies, . https://doi.org/10.3390/en18061515
4. Al-Saidi S., Kyaw H.H., Myint M.T.Z., Al-Hajri R., Al-Abri M. (2025) "Capacitive deionization for water desalination: Optimizing operational parameters and validating the model across concentrations variant" Electrochimica Acta, . https://doi.org/10.1016/j.electacta.2024.145614
5. Younus H.A., Emam H., Ahmad N., Negm M., Alomar M., Elantabli F.M., El-Rabiei M.M., Al Hajri R., Zhang S., Al Abri M. (2024) "Dinuclear Copper Complex for High-Rate Hydrogen Evolution Under Neutral Aqueous Conditions" ChemElectroChem, . https://doi.org/10.1002/celc.202300710
6. Younus H.A., Al Hinai M., Al Abri M., Al Hajri R. (2024) "Copper-promoted growth of hierarchical Cu–Co–Ni alloys on copper nanodendrites for enhanced hydrogen evolution in a wide pH range" International Journal of Hydrogen Energy, pp. 247-259.
7. https://doi.org/10.1016/j.ijhydene.2024.10.139
8. Al-Abri M., Kyaw H.H., Myint M.T.Z., Al-Ghafri B., Dobretsov S. (2024). "Nanomaterial grafted polymorphous activated carbon cloth surface for antibacterial, capacitive deionization and oil spill cleaning applications." *Chemosphere*. https://doi.org/10.1016/j.chemosphere.2023.141053
9. Al-Abri M., Al-Harthi A., Younus H.A., Al-Hajri R. (2024). "Criteria and cutting-edge catalysts for CO2 electrochemical reduction at the industrial scale." *Journal of CO2 Utilization*. https://doi.org/10.1016/j.jcou.2024.102819
10. Al-Abri M., Denman C., Al-Alawi M., Al-Ajmi M. (2024). "Enhancing employability through university-industry linkages: Omani engineering students' perspectives of the Eidaad internship

programme." *Humanities and Social Sciences Communications*. https://doi.org/10.1057/s41599-024-02779-y

11. Khattak Z.A.K., Younus H.A., Ahmad N., Alomar M., Ullah H., Al-Abri M., Al-Hajri R., Kao C.-M., Verpoort F. (2024) "Tuning CoPi stability in electrochemical water oxidation via surface modification with an organic ligand shell" International Journal of Hydrogen Energy, pp. 141-151. https://doi.org/10.1016/j.ijhydene.2024.02.188
12. Emam H., Al Hajri R., Ahmad N., Elantabli F.M., El-Rabiei M., Hassan A., Al Abri M., Younus H.A. (2024) "Bio-Inspired histidine-based copper complex: An efficient and robust electrocatalyst for electrochemical hydrogen evolution" International Journal of Hydrogen Energy, . https://doi.org/10.1016/j.ijhydene.2024.07.386

Selected Conference Participations

1. Advancing Renewable Energy Through Nanomaterials and Catalytic Innovations, Mohammed Al-Abri, Keynote Speaker, Nano-Frontiers: Bridging Research, Applications, and Innovation Symposium, April 16–17, 2025 – Al Buraimi, Oman.
2. Advanced Wastewater Treatment using Functionalized Membranes, Mohammed Al-Abri, Invited Speaker, National University, Muscat, April 29, 2025– Muscat, Oman.
3. Green Hydrogen and CO_2 Valorization: Nanomaterials at the Frontier of Clean Energy, Mohammed Al-Abri, Keynote Speaker, VEETA 2025 Symposium, May 13, 2025 – UTAS Shinas, Oman.
4. Optimal Placement and Sizing of Photovoltaics to Supply Water Pumping Stations, Alireza Zakariazadeh, Razzaqul Ahshan, Mohammed Al-Abri, Rashid Al Abri, 2024 21st International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON), IEEE, (2024).
5. Highly Efficient 3D Branched Copper-Based Catalysts for Hydrogen Evolution Reactions in Both Neutral and Acidic Condition, Rashid Al-Hajri, Hussein A. Younus, and Mohammed Al-Abri, HYPOTHESIS XVIII, OCTOBER 23-25, 2023 – Muscat, Oman.
6. Catalyst Transformation During Electrochemical Water Oxidation Using Cobalt Oxyhydroxide under Neutral Conditions, Hussein A. Younus, Rashid Al-Hajri, Shiguo Zhang, and Mohammed Al-Abri
7. Frontiers in Materials Science and Engineering, (FMSE), UAE 2024.
8. Advancements in Metal-Organic Frameworks (MOFs) For Gas Storage, Separation, and Catalytic Applications, Hussein A. Younus, Mohammed Al-Abri, AMPP Nonmetallics Conference, September 4-6, 2023, Muscat, Oman

Service Activities

- Director of Nanotechnology Research Center (August 2017–present)
- Chair of the Department's Appointment Committee (2024-present)
- Member of the joint committee between the Ministry of Higher Education, Research and Innovation and Sultan Qaboos University (2023 - current)
- Member of the national group to study solutions, methods, and opportunities for reusing water associated with oil production lead by H.E. the Undersecretary of Ministry of Agricultural, Fisheries Wealth and Water Resources (2021 - current)
- Member of SQU Research Council (2021–2023)
- Member of Research Centers Research Committee (2021–present)
- Member of Committee to Promote Entrepreneurial Orientation in Colleges, College of Engineering, SQU (2023-2024)
- Member of Research Center Development Committee, SQU (2022-2024)
- Chair of the Department's Industrial Outreach and Community Services (2015–2024)
- Department's In-house Industrial Training Coordinator (2008-2009, 2012-2014, 2016–present).