

Dr. Osama Al-Rashed

1. Name & Contact Information

Name: Osama Abdulaziz Al-Rashed
Rank: Associate Professor
Address: Chemical Engineering Department, Kuwait University, P.O. Box 5969, Safat 13060, Kuwait
E-mail: osama.alrashed@ku.edu.kw
Telephone: 249-85856

2. Education

Degree	Discipline	Institution	Year
Ph.D.	Chemical and Petroleum Refining Engineering	Colarodo School of Mines, USA.	2001
M.Sc.	Chemical and Petroleum Refining Engineering	Colarodo School of Mines, USA.	1998
B.Sc.	Chemical Engineering	Kuwait University	1995

3. Academic Experience

Institution	Designation	Year	FT/PT
Kuwait University, College of Eng. and Petroleum, Chem. Eng. Dept.	Acting Department Head	Fall 2021-2022 present	FT
Kuwait University	Assistant Professor	2002	FT
Kuwait University	Associate Professor	2020	FT
Kuwait University College of Eng. and Petroleum	Director: Petroleum refining and petro-chemical research center	2013-2014 2018-2022	FT
Kuwait University, College of Eng. And Petroleum, Chem. Eng. Dept.	Acting Department Head	Summer 2002 Summer 2018	FT
University of Waterloo (Canada)	Visiting professor	2005	PT
Kuwait University	Scholarship for M.Sc. and Ph.D. degrees	1995-2001	FT
Kuwait University, College of Eng. And Petroleum, Chem. Eng. Dept.	Laboratory Engineer	1995	FT

4. Membership in Professional Organization

- Kuwait Society of Engineers
- Chemical Engineering Student Society (ChESS)
- Faculty Member Association
- AIChE, USA

5. Honors and Awards:

- Research Award for the paper entitled, “Ionic liquid-assisted production of hydrophobic nanocomposite coating for mild steel corrosion prevention in saline medium” , 2022.
- Research Award, Ionic liquids with superior protection for mild steel in acidic media: Effects of anion, cation, and alkyl chain length 2019.
- Research Award, Extraction of Thiophenes from Fuels Using Some New Ionic Liquids, 2015.
- Research Award, Modeling the Solubility of CO₂ and H₂S in DEA-MDEA Alkanolamine Solutions using the Electrolyte-UNIQUAC model, 2012.
- Research Award, Potential Biofuel Additive from Renewable Sources - Kinetic Study of Formation of Butyl Acetate by Heterogeneously Catalyzed Transesterification of ethyl acetate with butanol, 2012.
- Research Award, Opportunities for Faster Carbon dioxide Removal A Kinetic Study on the Blending of Methyl Monoethanolamine and Morpholine with 2-amino-2-methyl-1-propanol, 2011.
- Scholarship for M.Sc. and Ph.D. degrees, 1995 – 2001.
- Distinguish student awards, Chemical Engineering Department, College of Engineering, Kuwait University, 1991 – 1995.

6. Research Interest:

- Thermodynamics and Kinetics of acid gases in alkanolamine solutions.
- Phase Equilibria of Aromatics.
- Extraction by ionic solvents.
- Biodiesel production using ionic liquids.
- Control of Asphaltene Precipitation by ionic liquids.
- Control of corrosion by ionic liquids.

7. Service Activities (within and outside of the institution) (Most recent):

- Reviewer for several papers for ACS journals 2011- 2022.
- Reviewer for several papers for Elsevier journals 2013- 2022.
- Kuwait inventors Forum, Kuwait Science Club, Jury, 2012 – 2017.
- Referee committee, Kuwait oil and gas conference, Chair, 2015.
- 10th chemical Eng. Symposium, Kuwait University, Referee, 2012.
- 9th chemical Eng. Symposium, Kuwait University, Referee, 2011.

8. Publications and Presentations (Most recent)

Journal Papers

- Osama A. Al-Rashed, Ahmed Abdel Nazeer, Effectiveness of Some Novel Ionic Liquids on Mild Steel Corrosion Protection in Acidic Environment: Experimental and Theoretical Inspections, *Materials*, 15 (2022) 2326.
- Osama A. Al-Rashed, Ahmed Abdel Nazeer, Ionic liquid-assisted production of hydrophobic nanocomposite coating for mild steel corrosion prevention in saline medium, *J. of Materials Research and Technology*, 18 (2022) 5087.
- Osama A. Al-Rashed, Ahmed Abdel Nazeer, Ionic liquids with superior protection for mild steel in acidic media: Effects of anion, cation, and alkyl chain length, *Journal of Molecular Liquids*, 288, (2019) 111015.

- Fadhel A. Azeez, Osama A. Al-Rashed, Ahmed Abdel Nazeer,” Controlling of mild-steel corrosion in acidic solution using environmentally friendly ionic liquid inhibitors: Effect of alkyl chain”, Journal of Molecular Liquids 265 (2018) 654–663.
- Osama A. Al-Rashed, Mohamd A. Fahim and Mohammed Shaaban, Prediction and Measurement of Phase Equilibria for the Extraction of BTX from Naphtha Reformate using BMIMPF₆ Ionic Liquid, Fluid Phase Equilibria 363 (2014) 248–262
- Osama Al-Rashed and Sami H. Ali, Modeling the Solubility of CO₂ and H₂S in DEA- MDEA Alkanolamine Solutions using the Electrolyte-UNIQUAC Model, Separation and Purification Technology 94 (2012) 71-83.
- Sami H. Ali, Osama Al-Rashed, Fadhel A. Azeez, Sabiha Q. Merchant, “Potential biofuel additive from renewable sources – Kinetic study of formation of butyl acetate by heterogeneously catalyzed transesterification of ethyl acetate with butanol, Bioresource Technology 102 (2011) 10094–10103.
- Sami H. Ali, Osama Al-Rashed and Sabiha Q. Merchant, “Opportunities for faster carbon dioxide removal: A kinetic study on the blending of methyl monoethanolamine and morpholine with 2-amino-2-methyl-1-propanol , Separation and Purification Technology, 74 (2010) 64–72
- Sami H. Ali, and Osama A. Al-Rashed, Solubility of pyrene in simple and mixed solvent systems, Fluid phase Equilibria, (2009) 133-143.

9. Recent Professional Development Activities (Most recent)

- Kuwait LNG Terminal workshop, KIPIC, Alzoor, Kuwait, 2018
- Sulphur R&D Large Scale Usage Initiatives Enersul Introductory and Potential proposals, workshop, 2017.
- Enhance your courses using e-learning tools, Workshop, 2007

10. Funded Research

- Prediction of the solubility of CO₂ and H₂S in DEA-MDEA alkanolamine solutions using the electrolyte-UNIQUAC model (EC 03/07), Feb. 2008.
- Kinetics of Carbon Dioxide Reaction with Single/Mixed Amines in Aqueous/Non Aqueous Systems for Acid Gas Cleaning Using the Stopped Flow Technique (EC 01/07), Feb. 2008.
- Extraction of Thiophenes from Fuels using Some new ionic liquids (EC 01/12) Oct. 2012.
- Impact of Eco-Friendly Solvents on the Kinetics of Carbon Dioxide with Methylmonoethanolamine (MMEA) as a Superior Amine: Role of Chain Length and Branching of Solvents (EC 03/14) July 2014.

11. Supervised Thesis/Project

- Azel Almutari, Solubility of CO₂ in alkanolamine solutions, MSc Project, Advisor, Department of Chemical Engineering, Kuwait University, 2003/2004
- Hawraa Almosawi, Absorption of CO₂ and H₂S by alkanolamine Solutions, MSc Project, Advisor, Department of Chemical Engineering, Kuwait University, 2006/2007
- Hanan Al-Sumait, Extraction of sulphur by ionic liquids, MSc Project, Advisor, Department of Chemical Engineering, Kuwait University, 2011/2012
- Meshari Al-Hasan, Extraction of aromatics by ionic liquids, MSc Project, Advisor, Department of Chemical Engineering, Kuwait University, 2011/2012

- Anwar Mezher, Study of biodiesel production using green ionic liquid as catalyst, MSc Project, Advisor, Department of Chemical Engineering, Kuwait University, 2015/2016
- Sara Aba AlSafi, Production of biodiesel by 1-Methyl-1-octyl-pyrrolidinium hydrogen sulphate [OctMPyr][HSO₄] ionic liquid, MSc Project, Advisor, Department of Chemical Engineering, Kuwait University, 2016/2017
- Abrar Alawadhi, Liquid-liquid extraction of thiophene and pyridine from synthetic gasoline using 1-butyl -1-methylpyrrolidinium dicyanamide ionic liquid, MSc Project, Advisor, Department of Chemical Engineering, Kuwait University, 2016/2017
- Ahmad Ali, Extraction of THFA from water by hexanol, BSc Project, Advisor, Department of Chemical Engineering, Kuwait University, 2018/2019
- Hanin Abduljalil, New ionic liquids for corrosion prevention, 2022
- Shouq Alsubaie, Modeling and optimization of renewable energy for waste water treatment: case study in Kuwait, 2022
- Maryam Hussain, Modeling and optimization of thermophotovoltaic systems in Kuwait, 2022

12. Consultations

- Consultation for Gulf cooperation council (GCC) construction and chemical products specifications 2022
- Court Consultation, ministry of justice 2016-2020
- Consultation for Foreigner Engineers evaluation, Kuwait engineering society 2017-2019.
- Consultation for Public Authority for Applied Education and Training – National assembly 2018.
- National Guards consultation for hiring new engineers 2018.
- KNPC consultation for hiring new engineers 2017.
- Consultation for Kuwait Fire Department for the establishment of safety and Fire Academy 2016.

13. Conference organization, session chair, invited speaker (Most recent)

- Green solvent conference, Boppard, Germany, 8-10 Oct. 2012.
- 2nd Post Combustion Capture Conference, Bergen, Norway, 17-20 September 2013.
- 3rd International Congress on Energy Efficiency and Energy Related Materials (ENEFM 2015), Oludeniz, Fethiye / Mugla, TURKEY, October 19-23, 2015.
- Sulphur R&D Large Scale Usage Initiatives: Enersul Introductory and Potential Proposals Discussion Workshop, Kuwait Petroleum Company, Kuwait, 9 October, 2017.
- Kuwait LNG Terminal workshop, KIPIC, Alzoor, Kuwait, March 2018.
- 27th Conference on Molten Salts and Ionic Liquids, Lisbon, Portugal, 7-12 October 2018.
- 13th Annual GPCA Forum, Dubai, UAE, 24 - 28 October 2018.
- Kuwait oil and gas conference, Meshref, Kuwait, 13-16 October 2019.