



FAROUK SABRI MJALLI

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EDUCATION, EMPLOYMENT AND CAREER DEVELOPMENT

Education Background:

1. Doctor of Philosophy, Chemical Engineering, Aston University, Birmingham, UK, 2003.
2. Bachelor of Science, Chemical Engineering, Kuwait University, Kuwait, 1985.

Employment History:

2016-date:	Professor: Sultan Qaboos University, Petroleum & Chemical Engineering Department, Muscat, Oman.
2010-2016:	Associate Professor: Sultan Qaboos University, Petroleum & Chemical Engineering Department, Muscat, Oman.
2008-2010:	Associate Professor: University of Malaya, Chemical Engineering Department, Kuala Lumpur, Malaysia.
2006-2008:	Assistant Professor: University of Malaya, Chemical Engineering Department, Kuala Lumpur, Malaysia.
2003-2006:	Instructor: Qatar University, Chemical Engineering Department, Doha, Qatar.
1997-1998:	Scientific research assistant: Chemical Engineering Department, Jordan University for Science and Technology (JUST), Irbid, Jordan.
1991-1996:	Industrial consultant engineer: Al-Najah Company, Baghdad, Iraq
1986-1990:	Lab engineer: Chemical Engineering Department, Kuwait University, Kuwait.

Research Interests:

- Ionic Liquids applications as green solvents for chemical processes.
- Synthesis of CNT and their application in membrane distillation.
- Developments in redox flow batteries using green solvents.
- Carbon dioxide capture and utilization.
- Adsorptive natural gas storage using bio-raw material.



- Application of advanced model-based process control strategies for chemical engineering processes.

Membership of Professional Bodies:

- Member in the *Kuwaiti Society of Engineers* (KSE)
- Member in the *Institute of Chemical Engineering* (IChemE)
- Member in the *University of Malaya Center for Ionic Liquids* (UMCiL)

AWARDS AND RECOGNITION

- **Top 2% most influential researchers worldwide:** Stanford University registered list, Scopus, Dec 2019-2023, Stanford, CA, USA.
- **100 Most Dedicated Professors Award 2019:** Word Education Congress, July 2019, Mumbai, India.
- **Research and Innovations Award for Water Technology 2019:** The Research Council, March 2019, Oman.
- **Best Researcher Award 2018:** College of Engineering, Sultan Qaboos University, May 2018, Oman.
- **Best Professor in Petroleum and Natural Gas Award 2014 :**
Asian Leadership Awards 2014, 24 September 2014, Dubai, UAE
- **Best Researcher Award 2013:** College of Engineering, Sultan Qaboos University, May 2013, Oman.
- **Sciencedirect Top 25, List of most downloaded articles:** “Glucose-based deep eutectic solvents: physical properties”, journal of molecular liquids – January to March 2013.
- **Gold Medal Award:** “Purification of Biodiesel Using Deep Eutectic Solvents, 22nd International Invention Innovation & Technology Exhibition **ITEX 2011**, 20-22 May 2011, KL, Malaysia.
- **Gold Medal Award:** “A Novel Process for the Destruction of Hazardous Materials using Superoxide, 22nd International Invention Innovation & Technology Exhibition **ITEX 2011**, 20-22 May 2011, KL, Malaysia.
- **Best Scientific Paper Award:** "An Empirical Method for the Calculation of Deep Eutectic Solvents Densities at Different Temperatures", the Chemical & Environmental Engineering at UK-Malaysia-Ireland engineering science conference UMIES 2011, 12-14 July 2011, KL, Malaysia.
- **Best Invention Award and Gold Medal:** “Purification of Biodiesel Using Deep Eutectic Solvents”, Malaysian Technology Expo MTE 2012, 16-18 February 2012, KL, Malaysia.



- **Gold Medal Award:** "A Novel Method for the Synthesis of 2-imidazolones and Compounds Thereof", 23rd International Invention Innovation & Technology Exhibition ITEX 2012, 16-18 May 2012, KL, Malaysia.
- **Best Scientific Paper Award:** "Application of Deep Eutectic Solvents Based on Ethylene glycol and Sulfolane for the Extraction of Toluene/Heptane Mixtures", International Conference on Process Engineering and Advanced Materials (ICPEAM 2012), 12-14 June 2012, KL, Malaysia.
- **Best Scientific Paper Award:** "Potassium Carbonate as a Salt for Deep Eutectic Solvents", International Conference on Chemical and Process Engineering (ICCPE 2013), 8-9 June 2013, KL, Malaysia.

TEACHING, SUPERVISION AND RELATED ACTIVITIES

Course Instruction

- **Undergraduate courses:**

Course Code, and place	Course Title
PNGE 3111, SQU	Chemistry for Petroleum Engineering
PNGE 3202, SQU	Numerical Methods
CHPE 5112, SQU	Process Dynamics and Control
CHPE 5212, SQU	Chemical Engineering Lab III
CHPE 3402, SQU	Heat Transfer
CHPE 3102, SQU	Chemical Engineering Thermodynamics
KKEK 4244, UM	Process Dynamics and Control
KKEK 4245, UM	Process Control Laboratory
KKEK 3152, UM	Process Modelling
KKEK 3153, UM	Process Simulation
KKEK 2154, UM	Process heat transfer
KKEK 2232, UM	Applied Physical Chemistry
CHME 324, QU	Chemical Engineering Lab I
CHME 325, QU	Chemical Engineering Lab II

- **Postgraduate courses:**

Course Code, and place	Course Title
CHPE6900, SQU	Special Topics: Computational Aspects in Chemical Engineering
KKEK 6013, UM	Advanced Process Control



KKEK 6112, UM

Advanced Process Modelling

- Coordinating Courses:**

Course Code, and place	Course Title
CHPE 5312, SQU	Project I
CHPE 5512, SQU	Project II
ENGR 3006, SQU	Industrial Training, I

Students Projects Supervision

- Undergraduate Students Supervision**

1. Project Title: Production of Blue Hydrogen from Rich Flare Gas'
Students Names: Nawaf Nasser Abdullah Al Amri, Ali Abdul Aziz Zahir Al Kindi, Jaifar Said Mohamed Al Mamari, Taha Rabia Khalfan Al Awidi
Status: (2024)
2. Project Title: 'Formic Acid Production via Methanol'
Students Names: Mohammed Saif Hamood Al Muqaimi, Abdallah Juma Musallam Al Hashemi, Asim Suhail Said Al Rahbi
Status: (2023)
3. Project Title: 'Conversion of CO₂ to Value-Added Products in Oman'
Students Names: Mohammed Yousuf Al Oraimi, Hamed Saif Al Harthi, Zaid Salim Al Kiyumi, Salim Amur Al Gheilani
Status: (2022)
4. Project Title: 'Production of Cumene'
Students Names: Abdullah Mohammed Ibrahim Al Shezawi, Rashid 'Abdallah Rashid Al Maskari, Nouh Rashid Sultan Al Sultani, Rashid Salim Rashid Al Maqbali
Status: (2021)
5. Project Title: 'Production of Ethylene Glycol from Ethylene'
Students Names: Aaisha 'Abdallah M, Al Jabri, Namarq Humaid S. Al Lamki, Masooma Hamdan S. Al Ajmi, Noof Abdul R. A. Al Balushi
Status: (2020)
6. Project Title: 'Production of Formaldehyde from Methanol'
Students Names: Ahmed Ali Nasser Al Mushaiqri, Waleed Humoud Abdullah Al Harrasi, Jaifar Ahmed Mubarak Al Julandani, Sultan Mohammed Moosa Al Kendi, Mustafa Badar Muhanna Al Rujaibi
Status: (2019)
7. Project Title: 'Deep Desulfurization of Liquid Fuels'
Students Names: Khalifa Al Shamsi, Yousef Al Sheili, Mohammad Al Moqbali Abdullah Al Badi
Status: (2018)
8. Project Title: 'Urea production from natural gas'



- Students Names: Hamed Salim Al Aamri, Osama Hassan Yousef, Khalid Saoud Saif Ali Al Habsi, Muataz Nasser Said Al Sinani, Majed Awadh Al Hatmi
Status: (2017)
9. Project Title: 'Electricity production using solid biomass via fuel cells'
Students Names: Mazen Hamood Hamdan Al Qasmi, Abdullah Humaid Ali Al Shueili, Abdulaziz Ali Said Al Moqbali, Asaad Mubarak Saad Al Busaidi
Status: Completed (2015)
10. Project Title: 'Production of ethyl benzene'
Students Names: Saud Afaq Ahmed Al Khan, Ammar Nasser Al Hadidi Hamed Hamood Al Jabri
Status: Completed (2014)
11. Project Title: 'electricity generation with a fuel cell using byproduct hydrogen'
Students Name: Said Salim Al Rahbi, Salim Sulaiman Al Rubkhi, Feras Abdulhussein Al Ajmi, Mahamood Nasser Al Rawahi
Status: Completed (2014)
12. Project Title: 'Design a chemical plant to produce biofuel from biomass'
Students Names: Murtadha Moosa Taqi Al Lawati, Aadil Hashil Khamis Al Hashemi, Said Rashid Said Al Mashrafi, Abdullah Khalfan Salim Al Musalhi
Status: Completed (2013)
13. Project Title: 'Design a chemical plant to produce electrical power and synthetic fuels starting from coal'
Students Names: Khalid Hamdan Nasser Al Hatmi, Sulaiman Mohamed S. Al Toobi Mohammed Khalfan Al-Qasmi, Yaaqoob Khalifa Said Al Adawi
Status: Completed (2012)
14. Project Title: 'Production of Acrylic Acid'
Students Names: Iman Al-Wahaibi, Houda Al-Farsi, Siham Al-Abri
Status: Completed (2011)
15. Project Title: 'Green applications of the superoxide ion in ILs'
Students Names: Xue Mei Tan, Kim Lam Chooi
Status: Completed (2010)
16. Project Title: 'Separation of sodium from its salts at room temperature'
Students Names: Mohd Ali Saad, Salina Mohd Aseeri
Status: Completed (2010)
17. Project Title: 'Advanced control of biodiesel reactors'
Students Names: Lee Kim San, Kiew Chai Yin
Status: Completed (2009)
18. Project Title: 'A novel technique for processing palm oil using superoxide ion in ionic liquids'
Students Names: Mohammad Shahimi, Ali Hassan Ali
Status: Completed (2008)
19. Project Title: 'Thermal characterization of eutectic fluids '
Student Names: Rico Lorenz
Year: (2014)
20. Project Title: 'Desulfurization of Diesel '
Student Names: Vahid Alizadeh
Year: (2013)
21. Project Title: 'Thermal analysis of green solvents '
Student Names: Ali Vakili-Nezhaad



Year: (2013)



• Graduate Students Supervision

#	St. Name	Degree	Title	Main Supervisor	Co-Supervisor	Univ.	Years
1.	Manahil Musallam Mohammed AL Khusaibi	PhD	Ultrasonic assisted removal of carbon dioxide	Dr. Ghulam Murshid	Prof. Farouk S. Mjalli	SQU	2024
2.	Suhaib Saif Hamed Al Maawali	MSc	Carbon capture in Micro- contactors	Prof. Farouk S. Mjalli	Dr. Ghulam Murshid	SQU	2024
3.	Al Saud Khalifah Saoud Khamis Al Ismaili	MSc	Polymeric Eutectic Solvents for Energy Efficient Flue Gas Treatment System	Dr. Jamil Naser	Prof. Farouk S. Mjalli	SQU	2024
4.	Fatema Sulaiman Ali AL Farsi	PhD	Removal of Microplastics Using Biomass-Based Carbon Nanotubes (CNTs)	Dr. Belal Abu Tarboosh	Prof. Farouk S. Mjalli	SQU	2024
5.	Khamis Al-Jaafari	MSc	Novel imidazol-based absorbents for CO2 capture	Prof. Farouk S. Mjalli	Dr. Mohd. Qyyum, Dr. Ghulam M.	SQU	2023
6.	Layali Al Mushaifri	MSc	Enhanced Nanofluids properties	Prof. Farouk S. Mjalli	Dr. Nabeel Al-Rawahi	SQU	2022
7.	Nasiyba Said Ahmed Al- Hosni	MSc.	Solubility of CO2 in Novel Eutectic Solvents	Dr. Jamil Naser	Prof. Farouk S. Mjalli Dr. Ghulam M.	SQU	2022
8.	Noor Al Huda Al Jahwari	MSc	Effect of injected hydrogen on the properties of crude well wall	Dr. Hamoud Al- Hadrami	Prof. Farouk S. Mjalli	SQU	2022
9.	Muhrah Abdul Baqi	MSc	Medical waste treatment using CNT	Dr. Belal Abu Tarboosh	Prof. Farouk S. M.	SQU	2021
10.	Shabnam Gharibi	PhD	Catalytic upgrading of heavy oil (petroleum residue) using nano structures and/or nano	Prof. Shohreh Fatemi	Prof. Farouk S. M.	Tehran	2020



particles

11.	Fatma Al-Fazari	MSc	Imidazol-based eutectic solvent for CO ₂ capture	Prof. Farouk S. Mjalli	Dr. Belal Abu Tarboosh	SQU	2020
12.	Said Al-Saidi	MSc	Intensified removal of antibiotics from medical waste	Prof. Farouk S. Mjalli	Dr. Jamil Naser Dr. Ghulam M.	SQU	2020
13.	Magd Gehad Saleh Ahmed	MSc	Plant Wide Control of the Gas Sweetening Process	Dr. Ashish Gugrathi	Prof. Farouk S. M.	SQU	2019
14.	Shaikha M. A. Al Balushi	MSc	Absorption of CO ₂ in Aqueous b-Alanine Based Hybrid Solutions	Dr. Ghulam Murshid	Prof. Farouk S. M.	SQU	2018
15.	Alaa Haidar Amin	MSc	CO ₂ Capture Using Amino Acids Based Systems	Dr. Jamil Naser	Prof. Farouk S. M. Dr. Ghulam M.	SQU	2018
16.	Aisha Abdullah Al-Harthi	MSc	Modeling CO ₂ Solubility Data for Novel Green Solvents	Prof. Farouk S. Mjalli	Dr. Jamil Naser Dr. Ghulam M.	SQU	2018
17.	Nasser Yahya Al Subhi	MSc	Optimization of Membrane Distillation Desalination Unit	Prof. Farouk S. Mjalli	Dr. Mohd. Al-Saadi	SQU	2018
18.	Kamla Saleh Al-Maawali	MSc	Metal Organic Frameworks (MOFs) for production of biofuels	Dr. Alaa Al-Muhtasib	Prof. Farouk S. M.	SQU	2018
19.	Amira Al-Ghareebi	PhD	Functionalized Carbon Nanotubes from Local Biomass for Improving the Performance of Membrane Distillation	Prof. Farouk S. Mjalli	Dr. Mohd. Al-Saadi	SQU	2018
20.	Ahmed Adil M. Saeed	PhD	High performance AC from local biomass	Dr. Mohd. Al-Saadi	Prof. Farouk S. Mjalli	UM	2017
21.	Mohaned Ahmed Elbasheer	PhD	Utilization of Ionic Liquids in Enhanced Oil Recovery of Tight Oil Reservoirs	Prof. Basim Abu-Jdayil	Prof. Farouk S. Mjalli	UAEU	2017- Date
22.	Walaa S. R. Mohammed	MSc	Using Surfactants-based Eutectic Solvents for Deep Desulfurization of Liquid	Prof. Farouk S. Mjalli	Dr. T.Al-Wahaibi, Dr. A. A. Al-Hashmi	SQU	2015- 2016



23.	Zainab A. J. Al-Aani	MSc	Fuels Desulfurization of Liquid Fuel by Deep Eutectic Solvent Using Small channels	Dr. Talal Al-Wahaibi	Prof. Farouk S. Mjalli, Dr. Abdul Aziz Al-Hashmi	SQU	2014-2015
24.	Bader Hamed Saif Al-Busaid	MSc	Unified Model for Predicting Flow Patterns and Pressure Gradient in Horizontal Oil-Water Flow	Dr. Talal Al-Wahaibi	Prof. Farouk S. Mjalli, Dr. Yahya Al-Wahaibi	SQU	2013-2014
25.	Marwah Al-Azzawi	PhD	Extractive Desulfurization in Mini-channels using Deep Eutectic Solvents	Prof. Farouk S. Mjalli	Dr. Talal Al-Wahaibi, Dr. Abdul Aziz Al-Hashmi	SQU	2016-Date
26.	Khatera Ali Pishro	PhD	Enhancing Carbon Dioxide Capture using Green Solvents	Dr. Ghulam Murshid	Prof. Farouk S. Mjalli, Dr. Jamil Naser	SQU	2016-Date
27.	Omar Ahmad Umar	PhD	Ionic Liquids-based Deep Oxidative Desulfurization of diesel	Prof. Farouk S. Mjalli	Dr. Talal Al-Wahaibi, Dr. Yahya Al-Wahaibi	SQU	2012-2015
28.	Zaharaddeen S. Gano	PhD	Green Solvents for Desulfurization of diesel and Fuel Oils	Prof. Farouk S. Mjalli	Dr. Talal Al-Wahaibi, Dr. Yahya Al-Wahaibi	SQU	2012-2015
29.	Majda Al Balushi	MSc	Predicting Viscosity of Undersaturated Omani Crude Oil	Prof. Farouk S. Mjalli	Dr. Talal Al-Wahaibi, Dr. Abdul Aziz	SQU	2012-2013
30.	Mashail Al-Rahbi	MSc	Prediction of Saturated Omani Crude Oil Viscosity	Dr. Talal Al-Wahaibi	Dr. Yahya Al-Wahaibi, Prof. Farouk S. Mjalli, Dr. Abdul Aziz	SQU	2012-2013
31.	Rabha Al-Omairi	MSc	Prediction of Dead Crude Oil Viscosity	Dr. Abdul Aziz Al-Hashmi	Dr. Talal Al-Wahaibi, Dr. Yahya Al-Wahaibi, Prof.	SQU	2012-2013



					Farouk S. Mjalli			
32.	Arash Aramenya	MSc	Adsorptive natural gas storage using Palm shell raw material	Prof. Farouk S. Mjalli		UM		2007-2008
33.	Anwar Hussain	MSc	Modeling and control of ploysyrene reactor	Prof. Farouk S. Mjalli		UM		2008-2009
34.	Ho Yu Ku	MSc	Stabilization and control of coflowing micro-mixers	Prof. Farouk S. Mjalli		UM		2007-2008
35.	Maan Hayyan	PhD	Novel reactions for the palm oil in ionic liquids using electrochemically generated superoxide ion	Prof. Farouk S. Mjalli	Dr. Mohd. Hashim	Ali	UM	2005-2008
36.	Mukhtar Aziz	PhD	Separation of Aromatic and Aliphatic compounds from petroleum streams using ionic liquids	Prof. Farouk S. Mjalli	Dr. Mohd. Hashim	Ali	UM	2009-2013
37.	Kaveh Shahbaz	PhD	Novel technique for purifying palm shell-based biodiesel	Prof. Farouk S. Mjalli	Dr. Mohd. Hashim	Ali	UM	2009-2013
38.	Ahmed Shameri	PhD	Modeling three phase fluidized bed polypropylene reactors	Prof. Farouk S. Mjalli	Dr. Mohd. Husain	Azlan	UM	2009-2013
39.	Fatimah Saadat	PhD	Separation sodium from its salts using deep eutectic solvent	Prof. Farouk S. Mjalli	Dr. Mohd. Hashim	Ali	UM	2010-2014
40.	Laleh Bahadori	PhD	Undivided Redox Flow Battery Reactor Employing Porous Flow through electrodes and Deep Eutectic Solvents	Prof. Farouk S. Mjalli	Dr. Mohd. Hashim	Ali	UM	2011-2015



- **Served as a Member in a PhD or MSc Examination Committee (At Sultan Qaboos University, Oman)**

Thesis Title	Student Name	Exam Date	University
Prediction, Analysis, and Implementation of Beam Pump failures using Machine learning tools: Case Study in Oman Field	Fahmi Al Shidhani	13 th June 2024	SQU
Evaluation of Utilizing Methanol as a Fuel Source for Electricity Generation in Oman. Application to Rural Areas and Remote Locations	Khalid Ahmed Abdullah Al-Busaidi	3rd Jan. 2024	SQU
Techno-economic Analysis of PEGylated Bio-pharmaceutical Recombinant Protein Production: Alpha Antitrypsin Model Case	Abdullah Al-Sallal	20 th April 2023	KU
Heat Transfer Enhancement in Heating Air Channel by Inclined Permeable Aluminum Foam Baffle	Fajer Shabkouh	11 th June 2023	KU
Chemical Treatment of Rubberized Concrete	Marya Afiouni	18 th April 2023	KU
Concentrated Solar Power and Multi-Stage Flash Desalination	Hessah Al-Ajmi	9 th March 2023	KU
Assessment of Refinery capabilities for Meeting Ultra Low Sulfur Diesel Specification	Abdulwahab Bin Naser	1 st Dec. 2022	KU
Modeling and costing of membrane desalination system powered by renewable energy	Bader Buhamad	11 th Sep. 2022	KU
Multi-Objective Optimization of Gas Sweetening Unit: Real Case Study from Omani Oil & Gas Field	Sulaiman Al Toobi	9 th Sep. 2020	SQU
Measurement and modeling of densities for crude oil systems	Sultan Al Abri	27 th Jun. 2019	SQU
Rheological behavior of natural deep eutectic solvents used in CO ₂ Capture	Yousef Adel Elhamarnah	21 st April 2019	QU
Impact of Different Carboxylic Acids and Asphaltene on Wettability of Calcite Surfaces	Intisar Khalifa Al-Busaidi	6 th Sep. 2018	SQU
Optimization of Processing Framework of High-Performance	Mahmoud M.A.	20 th May 2018	SQU



Eco-Sustainable Date Palm Plastic Composites (DPPCs)	Nassar		
Impact of Different Carboxylic Acids and asphaltine of the Wettability of Calcite Surfaces	Intisar Khalifa Al Busaidi	6th Sep. 2018	SQU
Analyzing the Effects of Operating Conditions on the Steam flood Performance using Artificial Neural Networks	Naser Al-Qasabi	10th July 2013	SQU
Mechanical Degradation of High Molecular Weight Partially Hydrolyzed Polyacrylamide used in EOR	Ali Abdulaziz Mohammed	1st July 2013	SQU
Rheology and Mechanical Degradation of Enhanced Oil Recovery Polymers	Ahmed Mohamed El-Hasan Mansoor	5th July 2012	SQU
Development and online implementation of advanced strategies to control temperature of a partially simulated chemical reactor plant	Ahmad Khairi Abdul Wahab	10th Oct. 2010	UM
Modeling and advanced control for polyethylene production in a fluidized bed catalytic reactor	Ahmad S. Ibrahim	2nd May 2010	UM
Modeling and Advanced Control for a Fire-tube Shell Boiler System	Tarmidi Abu Bakar	12th July 2008	UM

SERVICES

Departmental Activities

- CHPE Postgraduate program coordinator (2022-date).
- Member of the PCED Postgraduate Studies and Research Committee (2019-date)
- Member of the Department Academic and Promotion Committee (2018)
- Member of the PCED recruitment committee (2018)
- Chairing the PCED strategic committee (2016-2018)
- Participated in the retreat conducted by the Petroleum and Chemical Engineering Department for the Engineering College members on "Lessons Learnt from the 2013 ABET Accreditation Process", 10th May 2014, Muscat, Oman.



- Participated in the Department Retreat Day “Developing Integrated Curriculum for both Chemical and Petroleum Programs” held on 22nd Feb 2009, Muscat, Oman.
- Acting Head, Department of Petroleum and Chemical Engineering (30th July – 29th August 2013, 6th January – 9th January 2013, 11th June – 12th August 2012, 10th July – 15th August 2011)
- Timetabling officer, Department of Petroleum and Chemical Engineering (2012 – Sept 2014)
- Member, ABET Self Study Report Committee (2012 – 2013)
- Coordinator, Final Year Project I and II (2011-2013)
- Coordinator, In-house Training (2011 – 2013)
- Member and head of the unit operations focus group as part of the PCED curriculum review committees (2012, 2013)
- Member of the PCED Promotion Committee, (2012, 2013)
- Served as a PCED secretary for the ABET accreditation update meeting held on March 2013
- Served in many occasions as a secretary for the PCED meetings.
- Served as a member in eight MSc and PhD Examination Committees both at SQU and abroad.
- Delivered public talks during the SQU open day 2012, and HM research funds screening 2011.
- Served in a regular basis as a technical reviewer for the Journal of Engineering Research (TJER) at SQU.
- Involved in many peer-to-peer reviews activities of scientific articles in highly ranked scientific journals such as: Journal of Hazardous Materials, Chemical Engineering Science, Thermocimica Acta, and Canadian Journal of Chemical Engineering.
- Served as peer reviewer to the Research Council of Oman.
- Serving as advisor for the chemical engineering student society (Scheme).

College Activities

- Member of the SQU Environmental Research Ethics Committee (2022-date)
- Editor in chief for the Engineering Research Journal (2021-date)
- Editor for the Engineering Research Journal (2017-date)
- Member, College Research Committee (2022)
- Member, College Publication Committee (2017-2019)
- Member, College Students Societies Committee (2014 - 2017)
- Member, College Curriculum Committee (2012 – 2014).
- Member, College HSE and Security Committee (2011 – 2014).
- Member, Temporary college interactive display committee (2013).
- Coordinator for revising the PCE part in the College of Engineering Bulletin for School Year 2013-2014.



Invited Lectures and Seminars (other than international conferences participation)

- Participation in the Awareness Forum Entitled - Professional Certificate or Academic Certificate, 21 Feb. 2024.
- Invited guest speaker for the special dialogue titled: *Designer solvents: Recent Findings and Challenges*, held at the University of Technology, Baghdad, Iraq 15th June 2019.
- Invited keynote speaker at the *International Conference on Thermal Engineering Theory and Applications*, ICTEA2017, 26-28 Feb. 2017, Muscat, Oman.
- Invited speaker at the SQU Open day, college of engineering ceremony, Muscat, May 2012, Muscat, Oman.
- Invited speaker at the International Conference on Ionic Liquids 2011 (ICIL 11), 11-13 May, 2011 Langkawi Island, Malaysia.
- Presentation given to college of engineering committee for the HM grant, March 2011. *Separation of sugars using green solvents*, Muscat, Oman
- Invited talk, in the ionic liquids group gathering, University of Malaya, June 2010, *Destruction of hazardous compounds*, , Kuala Lumpur, Malaysia.
- Received invitation as a speaker at the 6th Annual Global Congress of Catalysis, with the theme of *Efficiency, Productivity, and Sustainable Development*, August 20-21, 2015 in Xi'an, China.
- Received invitation as a speaker at the 4th International Conference on Industrial Engineering and Operations Management (IEOM) Grand Hyatt Bali, Indonesia January 7-9, 2014.
- Received invitation as a speaker at the 3rd International Conference on Water, energy and Environment (ICWEE2015) , the American University of Sharjah, United Arab Emirates on 24-26 March 2015.
- Received invitation as a speaker at the National Commission for Scientific and Technological Research (CONICYT) for technical collaboration , 1st Sept. 2015, Chile
- Invited talk, in the ionic liquids group gathering Feb 2010, *Applications of deep eutectic solvents*, University of Malaya ionic liquid group, Kuala Lumpur, Malaysia.
- Invited talk, in the ionic liquids group gathering, June 2009, *Utilization of Ionic Liquids for the Separation of Glucose and Fructose*, University of Malaya ionic liquids group, Kuala Lumpur, Malaysia.
- Invited speaker at the University of Malaya ionic liquids center, Feb 2009, *Progress of the deep eutectic solvents research group*, green solvents research group, Kuala Lumpur, Malaysia.
- Invited speaker by the Solution4u co., March 2008, *Graphics in engineering, One day presentation*, Kuala Lumpur, Malaysia.
- Invited talk for the Qatar-Gas research and development committee May 2006, *Separation of sulfur from waste soil*, Qatar University, Qatar.

Service to the Profession



- Technical Committee Member in the following conferences:
 - 1st International Conference on Advanced Research in Engineering Sciences and Technology” Babil, Iraq, 6th - 8th April 2021
 - The 2nd International Conference on Purity, Utility Reaction and Environmental Research- PURE2015, Kuala Lumpur-Malaysia from 9 to 11 November 2015.
 - The AIChE Middle East Regional Chem-E-Car competition for undergraduate students, September 2014, Manamah, Bahrain.
 - The 27th Symposium of Malaysian Chemical Engineers, SOMChE 2014, September 2014, Kuala Lumpur, Malaysia.
 - The International Conference of Ionic Liquids, (ICIL 2013), 14-16 Nov 2013, Langkawi, Malaysia.
 - The First Regional Conference of Ionic Liquids, University of Malaya Center of Ionic Liquid Research Center (UMCil), 2-4 May 2009, Kuala Lumpur, Malaysia.
 - The International technical committee for the First International Conference on Desalination and Water Reclamation (ICDWR/1), the American University of Sharjah in Sharjah, United Arab Emirates from March 16-18, 2008.
 - The First and Third International Conference on Water, energy, and Environment (ICWEE 2012, 2015) held in Sharjah, UAE.
- Reviewer for many peer reviewed journals including:
 - The Journal of Engineering Research
 - Industrial & Engineering Chemistry Research
 - Journal of Hazardous Materials
 - Chemical Engineering Science
 - Journal of Fluid Phase Equilibria
 - Journal of Chemical & Engineering Data
 - Journal of Molecular Liquids
 - Thermocimica Acta
 - Chemical Processing and Products
 - Canadian Journal of Chemical Engineering
 - Chemical Product and Process Modeling
 - ASM Science Journal
 - Asia-Pacific Journal of Chemical Engineering
 - Desalination Journal
 - Korean Journal of Chemical Engineering

SCHOLARLY ACHIEVEMENTS

Research Grants

- Research Fund Grant: “Efficient Hydrogen/Vanadium Flow Batteries Enhanced by MXene, Nitrogen Doped Carbon Nanomaterials and Deep Eutectic Solvents” Code: 1001BF-01



PI: **Dr. Barun Chakrabarti (SUNUM Univ.)**, Co-PI: **Prof. Farouq S. Mjalli**

Budget: US \$ 75,000

Sponsor: TÜBİTAK 1001, Turkey-S.Koria

Status: Ongoing (2024-2027)

- Research Fund Grant: “Facile and efficient bio-inspired route for an improved membrane-based treatment of oil produced water”

Code: FRG24-C-E68

PI: **Prof. Nabil Abdul Jabbar (AUS Univ.)**, Co-PI: **Prof. Farouq S. Mjalli**

Budget: US \$ 70,000

Sponsor: AUS

Status: Ongoing (2024-2027)

- Research Fund Grant: “Intensified ATPS technology for the treatment of medical wastewater”

Code: RF/ENG/PCED/23/02

Principal Investigator: **Prof. Farouq S. Mjalli**

Budget: US \$ 7,800

Sponsor: SQU, OMAN

Status: Ongoing

- Internal Grant: “Polymeric Eutectic Solvents for Energy Efficient Flue Gas Treatment System”

Code: IG/ENG/PCED/23/01

Principal Investigator: Dr. Jamil Naser

Co-investigators: **Prof. Farouq S. Mjalli**

Budget: US \$ 18,200

Sponsor: SQU, OMAN

Status: Ongoing

- Internal Grant: “Investigation of the Potential Application of Ultrasonic Assisted Reactor to Capture Carbon dioxide (CO₂) from Various Industrial Gas Processing Streams using Green Solvents”

Code: IG/ENG/PCED/23/02

Principal Investigator: Dr. Ghulam Murshid

Co-investigators: **Prof. Farouq S. Mjalli**, Khashayar Nasrifar

Budget: US \$ 18,200

Sponsor: SQU, OMAN

Status: Ongoing

- Internal Grant: “Enhanced CO₂ absorption in microchannels”

Code: IG/ENG/PCED/22/01

Principal Investigator: **Prof. Farouq S. Mjalli**

Co-investigators: Dr. Jamil Naser, Dr. Ghulam Murshid

Budget: US \$ 9,100

Sponsor: SQU, OMAN

Status: Ongoing



- Internal Grant: “Sustainable produced water treatment using miceller-enhanced ultrafiltration”
Code: IG/ENG/PCED/20/01
Principal Investigator: Dr. Belal J. Abu Tarboush
Co-investigators: **Prof. Farouq S. Mjalli**
Budget: US \$ 14,820
Sponsor: SQU, OMAN
Status: Ongoing
- The American University of Sharjah Grant: “Treatment of Spent Caustic Using Nanomaterials Functionalized with Ionic Liquids”, 2019
Proposal Code: FRG15-R-19
Principal Investigator: Prof. Talib Ibrahim
Co-investigators: **Prof. Farouk S. Mjalli**, Prof. Nabil Jabbar
Budget: US \$ 130,000
Sponsor: The American University of Sharjah, UAE
Status: Completed
- Internal Grant: “Carbon based nanomaterials from locally available waste hydrocarbon precursors”, 2019
Proposal Code: IG/ENG/PCED/19/02
Principal Investigator: **Prof. Farouq S. Mjalli**
Co-investigators: Dr. Abdul Aziz Al-Hashmi
Budget: US \$ 15,000
Sponsor: SQU, OMAN
Status: Completed
- The Competitive Internal Research Award (CIRA): “Water Treatment Using Novel Green Solvents”, 2019
Principal Investigator: Enas M. Nahsef
Co-investigators: Maaik Kroon, Shadi Hasan, Vincent Chan, Farouq S. Mjalli
Budget: US \$ 105,000
Sponsor: Khalifa University, UAE
Status: Completed
- The Research Council Grant: “Green Solvents for Desulfurization of diesel and Fuel Oils”
Proposal Code: RC/ENG/PCED/12/02
Principal Investigator: **Prof. Farouq Mjalli**
Co-investigators: Dr. Talal Al-Wahaibi, Dr. Yahya Al-Wahaibi
Budget: US \$ 469,300
Sponsor: The Research Council, OMAN
Status: Completed (2015)
- The American University of Sharjah Grant: “Electrochemical Studies on the Corrosion Behavior of Common Metals in Eutectic Ionic Liquids”
Proposal Code: FRG15-R-17
Principal Investigator: Prof. **Nabil Jabbar**



Co-investigators: Prof. Farouk S. Mjalli, Prof. Talib Ibrahim

Budget: US \$ 27,200

Sponsor: The American University of Sharjah, UAE

Status: In Progress

- Internal Grant: "Solar Desalination and Hot Water Production using A Falling Film Enhanced by Counter Current Air Flow"
Code: IG/ENG/PCED/14/04
Principal Investigator: Dr. Hassan Abdullatif
Co-investigators: **Prof. Farouq S. Mjalli**, Mohammad Alabri, Alaa Muhtasib
Budget: US \$ 18,200
Sponsor: SQU, OMAN
Status: Completed (2016)
- Internal Grant: "Comparison of Structural Packing performance with sieve type trays columns in Gas Industries"
Code: IG/ENG/PCED/11/04
Principal Investigator: **Prof. Farouq S. Mjalli**
Co-investigators: Dr. Jamshid Fathikalajahi
Budget: US \$ 9,295
Sponsor: SQU, OMAN
Status: Completed (2012)
- Internal Grant: "Supercritical Water Gasification of Biowastes (Sewage Sludges)"
Code: IG/ENG/PCED/13/02
Principal Investigator: **Prof. Farouq S. Mjalli**
Co-investigators: Dr. Alaa AlMuhtasib
Budget: US \$ 21,320
Sponsor: SQU, OMAN
Status: Completed (2015)
- High Impact Research Fund: "Chemically and Electrochemically generated Superoxide Ion in Deep Eutectic Solvents and Ionic Liquids and their Applications"
Code: HI-UM-2012-10
Principal Investigator: Prof. Mohd Ali Hashim
Co-investigators: **Prof. Farouq S. Mjalli**
Budget: US \$ 366,600
Sponsor: University Malaya
Status: Completed (2014)
- High Impact Research Fund: "Undivided Redox Flow Battery Reactor employing Porous Flow Through Electrodes and Deep Eutectic Solvents"
Code: HI-UM-2012-14
Principal Investigator: Dr. Mohammad Harun
Co-investigators: **Prof. Farouq S. Mjalli**
Budget: US \$ 391,200



Sponsor: University Malaya
Status: Completed (2016)

- Fundamental Research Grant: “Investigating the use of Green Solvents for the Extraction of Aromatics From Naphtha”
Code: FRGS-RG2010-1012
Principal Investigator: Prof. Mohd Ali Hashim
Co-investigators: **Prof. Farouq S. Mjalli**
Budget: US \$ 178,000
Sponsor: University Malaya
Status: Completed (2012)
- The National Plan for Sciences and Technology: “Desulfurization of diesel and Fuel Oils”
Principal Investigator: Dr. Inas Al-Nashef
Consultant: **Prof. Farouq S. Mjalli**
Budget: US \$ 538,000
Sponsor: King Saud University
Status: Completed (2014)
- MEDRC grant: “Simulation packages for the major desalination processes”
Principal Investigator: Prof. Hisham Ettony
Co-investigator: **Prof. Farouq S. Mjalli**
Budget: US \$ 160,000
Sponsor: The Middle East Desalination Research Center
Status: Completed (2008)
- The SQU-UAEU Collaborative Grant: “Deep desulfurization of liquid fuel in microchannels using deep eutectic solvents”
Principal Investigator: **Prof. Farouk S. Mjalli**
Co-investigators: Prof. Basim Abu Jdayil, Dr. Talal Al-Wahaibi, Dr. Abdul-Aziz Al-Hashmi,
Budget: US \$ 104,000
Sponsor: SQU and UAEU , OMAN and UAE
Status: Completed (2018)
- Internal Grant: “Eutectic Solvents for the Separation of Aromatic and Aliphatic Compounds”
Principal Investigator: **Prof. Farouq S. Mjalli**
Co-investigators: Dr. Jamil Naser
Budget: US \$ 26,000
Sponsor: SQU, OMAN
Status: Completed (2017)



Principal Publications

• International refereed accepted and published journal papers

- [1]. Al-Fazari, F.R., **Mjalli, F.S.**, Shakourian-Fard, M., Murshid, G., Ma'awali, S.A., Evaluation and Performance of Menthol–Polyethylene Glycol LTTM in Carbon Dioxide Capture, *Greenhouse Gases: Science and Technology*, 2025, In Press.
- [2]. Gharibi, S., Fatemi, S., **Mjalli, F.S.**, Upgrading vacuum residue in a supercritical CO₂ environment with polypropylene and steam: Insights into products distribution and characterization of liquid products, *Journal of Analytical and Applied Pyrolysis*, 2024, 183, 106797
- [3]. Al-Saidi, S., **Mjalli, F.S.**, Al-Azzawi, M., Al-Wahaibi, T., Abutarboosh, B., AlSaadi, M.A., Aqueous Two-Phase Extraction of Amoxicillin Using Miniaturization Technology, (2024) *Korean Journal of Chemical Engineering*, 41,1399–1413.
- [4]. Shakourian-Fard, M., Reza Ghenaatian, H., Kamath, G., **Mjalli, F.S.**, Trant, J.F., Pristine and vacancy defective boron nitride nanotubes absorb deep eutectic solvents (2023) *Chemical Physics Letters*, 830, art. no. 140814 .
- [5]. Al-Fazari, F.R., **Mjalli, F.S.**, Shakourian-Fard, M., Kamath, G., Naser, J., Murshid, G., Al Ma'awali, S., Imidazole-Monoethanolamine-Based Deep Eutectic Solvent for Carbon Dioxide Capture: A Combined Experimental and Molecular Dynamics Investigation (2023) *Journal of Chemical and Engineering Data*, 68 (5), pp. 1077-1090.
- [6]. Gharibi, S., Fatemi, S., **Mjalli, F.S.**, Al-Hajri, R., CO₂-H₂O assisted co-pyrolysis of petroleum vacuum residue and polypropylene to improve asphaltene reduction and coke suppression: A statistical approach (2023) *Journal of Analytical and Applied Pyrolysis*, 171, art. no. 105979, .
- [7]. Al Balushi, S.M., Nasser, J.T., Ghulam, M., Al Ma'Awali, S.S., **Mjalli, F.S.**, Synthesis and Characterization of β -Alanine Based Aqueous Solutions for CO₂ Capture, (2023) *Chemical Engineering Transactions*, 106, pp. 1297-1302.
- [8]. **Mjalli F.S.**, Shakourian-Fard M., Kamath G., Murshid G., Naser J., Al Ma'awali S., Experimental and theoretical study of the physicochemical properties of the novel imidazole-based eutectic solvent, *Journal of Molecular Graphics and Modelling*, (2023), 118,108319,
- [9]. Ghenaatian H.R., Shakourian-Fard M., Kamath G., Trant J.F., **Mjalli F.S.**, The interaction of deep eutectic solvents with pristine carbon nanotubes and their associated defects: A density functional theory study, *Journal of Molecular Liquids*, (2022), 363,119855.
- [10]. AlGharibi A.S.R., **Mjalli F.S.**, Tarboush B.A., Alnairi B., Al Saadi



M.A.H., Synthesis of carbon nanotubes on activated carbon using a metal-free NaCl catalyst: a novel and green approach, *Applied Nanoscience* (Switzerland), (2022), 12, 2643-2655.

- [11]. Hayyan A., Hizaddin H.F., Abed K.M., **Mjalli F.S.**, Hashim M.A., Abo-Hamad A., Saleh J., Aljohani A.S.M., Alharbi Y.M., Alhumaydhi F.A., Ahmad A.A., Yeow A.T.H., Aldeehani A.K., Alajmi F.D.H., Al Nashef I., Encapsulated deep eutectic solvent for esterification of free fatty acid, *Biomass Conversion and Biorefinery*, (2022), 12, 3725-3735.
- [12]. Al-Saidi S., **Mjalli F.S.**, Al-Azzawi M., Abutarboosh B., AlSaadi M.A., Al-Wahaibi T., Amoxicillin removal from medical wastewater using an eco-friendly aqueous two-phase extraction system, *Separation Science and Technology* (Philadelphia), (2022), In Press.
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- [20]. Al-Azzawi M., **Mjalli F.S.**, Husain A., Al-Dahhan M., A Review on the Hydrodynamics of the Liquid-Liquid Two-Phase Flow in the Microchannels, 2021, *Industrial and Engineering Chemistry Research*, 60, 14, 5049-5075.



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• Patents Filed

During the past five years, I managed to file the following patents in Malaysia

1. Patent Title: **Separation of sugars using deep eutectic solvents**, Filing Application No.: [PI 20094497](#) , 26 October 2009, Malaysia
2. Patent Title: **Method for the separation of aromatic and aliphatic hydrocarbons**, Filing Application No: [PI20095110](#), 1 December 2009-12-22, Malaysia
3. Patent Title: **Deep eutectic solvents as functionalizing agents for carbon nanomaterials** , Filing Application No: [PI 2010003936](#), 20 August 2010, Malaysia
4. Patent Title: **Novel phosphonium based deep eutectic solvents**, Filing Application No: [PI 2010700010](#), 1 March 2010, Malaysia
5. Patent Title: **Novel deep eutectic solvents with water and their uses**, Filing Application No.: [PI 2010700011](#), 1 March 2010, Malaysia
6. Patent Title: **A Method for Removing Glycerol from Biodiesel**, Filing Application No: [PI 2011004492](#), 22 September 2011, Malaysia
7. Patent Title: **A Method for Removing Residual Catalyst from Biodiesel**, Filing Application No: [PI 2011004493](#), 22 September 2011, Malaysia
8. Patent Title: **Novel Method for the Synthesis of 2-imidazolones and Compounds Thereof** , Filing Application No: [PI 2011700005](#), 30 Jan 2011, Malaysia
9. Patent Title: **A Method for Treating Free Fatty Acids of Crude Plant-Derived Oils to Obtain Fatty Acid Alkyl Esters**, Filing Application Number: [PI 2012700051](#), 5 March 2012, Malaysia
10. Patent Title: **Electrolysis Process for Producing Sodium Metal at a Low Temperature**, Filing Application Number: [PI 2012700369](#), 14th June 2012, Malaysia