



## **Curriculum Vitae**

**Name:** الأستاذ الدكتور قصي فاضل عبد الحميد الصالحي

**Professor Dr. Qusay F. Alsally (Prof. since 1<sup>st</sup> September 2013)**

**Date of Birth:** 8<sup>th</sup> of February 1969

**Nationality:** Iraqi

**Mailing Address:** Chem. Eng. Dep., University of Technology, Alsinaa Street No. 52, P.O. Box 35010, Baghdad-Iraq

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**h-index** 18 at Scopus

**h-index** 20 at Google scholar

**i10-index** 29

**Researchgate Score: 31.57** (higher than 87.5% of ResearchGate members)

**Web of Science Researcher ID** I-1315-2019

## **Academic Qualifications Profile**

1. B.Sc. in Chemical Engineering, Chemical Engineering Department-University of Technology-Baghdad, Iraq, **1986-1990**.
2. M.Sc. in Chemical Engineering, Chemical Engineering Department-College of Engineering-Al-Nahrain University-Baghdad, **1992-1994**.

**Thesis:** “The Effect of Interaction on the Closed Loop System of a Multi-Component Distillation Column”. Supervisor: Prof. Safa Al Naimi.

3. Ph.D. in Chemical Engineering, Chemical Engineering Research Center, East China University of Science and Technology, Shanghai, China, **2001-2004**.

**Dissertation:** “Study on Fundamental Understanding during the Preparation Process of Hollow Fiber UF Membrane and Its Application”. Supervisor: Prof. Xu Zhen-Liang.

### **Professional Qualifications**

1. Chemical Engineer-Ministry of Industrial and Minerals, from June 1990 to May 1991.
2. Assistant lecturer, Department of Chemical Engineering-University of Technology, Alsinaa Street No. 52, P.O. Box 35010, Baghdad-Iraq, from 1996 up to 2001.
3. Lecturer Doctor, Department of Chemical Engineering-University of Technology, from 2004 up to 8<sup>th</sup> march 2008.
4. Member of Chemical Engineering Research unit, University of Technology, from Sep. 2004 up to date.
5. Associate professor Dr., Department of Chemical Engineering-University of Technology, 9<sup>th</sup> March 2008 up to date.
6. Member of Iraqi Engineer Association, from 1990 up to date.
7. Member of European Membranes Society, from July 2009 up to date.
8. Director of membrane technology research unit, 28/6/2012.
9. Professor Dr., Department of Chemical Engineering-University of Technology, 1<sup>st</sup> September 2013.

### **Awards**

- Award science Day of Ministry of Higher Education and Scientific Research 2012
- Award first professor of Chemical Engineering Department 2015
- Certificate of outstanding contribution in reviewing, In recognition of the contributions made to the quality of the Journal of Membrane Science, Elsevier,

2015.

- Awards Certificate of Recognition from ACS publication for reviewing activity in 2016 (valued contribution as an ACS publications reviewer).
- Award University of Technology Day for h-index in research and development 2017.
- Award University of Technology Day for h-index in research and development 2019.

### **Activities and Positions**

1. Coordinator of Unit Operation Branch, Chemical Engineering Department, University of Technology, Alsinaa Street No. 52, and P.O. Box 35010, Baghdad-Iraq, from Sep. 2004 - 2007.
2. Director of Oil and Gas Refinery Branch- Chemical Engineering Department- University of Technology, Baghdad- 2008-2010.
3. Deputy Head of Chemical Engineering Department, University of Technology, Baghdad- 2008 to 2009.
4. Director of Chemical Process Engineering Branch-Chemical Engineering Department- University of Technology, Baghdad- 2010 to 2012.
5. Deputy Head of Chemical Engineering Department for Scientific affairs and postgraduate studies, University of Technology, 2012-2015.
6. Director of Membrane Technology Research Unit, Chemical Engineering Department, University of Technology, 2012 up to date.

### **Teaching**

#### **1-For undergraduate**

1. Engineering Mechanics.
2. Strength of Materials.
3. Basic principles of Chemical Engineering
4. Engineering Drawing (Manual).
5. Engineering Drawing by AUTOCAD Software.
6. Supervision of various laboratories in Chemical Engineering field.

7. Supervision of Hollow fiber and flat-sheet membrane fabrication Laboratories.
8. Supervision of Plant Design Projects for Final year Undergraduate Students.
9. Supervision of Especial Problem Projects for Final year Undergraduate Students.

## **2-For postgraduate**

- \* **Fluid Dynamics (M.Sc. course) (2008-2009)**
- \* **Separation processes (M.Sc. course) (2009 up to date)**
- \* **Advance Mass Transfer (PhD course) (2015 up to date)**

### **M.Sc. and Ph.D Supervise**

1. **Master Degree Supervisor for Chemical Engineering Students**, 1<sup>st</sup> July 2006, **Dissertation:** "Separation performance of polymeric hollow fiber ultrafiltration membranes".
2. **Master Degree Supervisor for Chemical Engineering Students**, 1<sup>st</sup> October 2008, **Dissertation:** "High performance of Nanofiltration hollow fiber membranes".
3. **Master Degree Supervisor for Material Engineering Students**, 1<sup>st</sup> October 2008, **Dissertation:** "Preparation and characterization of PVC hollow fiber membranes".
4. **Master Degree Supervisor for Material Engineering Students**, 1<sup>st</sup> October 2009, **Dissertation:** "Preparation and characterization of PVC/PEG/PS composite hollow fiber membranes".
5. **Master Degree Supervisor for Chemical Engineering Students**, 1<sup>st</sup> October 2009, **Dissertation:** Effect of operating conditions on the separation performance of PVC hollow fibers.
6. **Master Degree Supervisor for Chemical Engineering Students**, 1<sup>st</sup> October 2010, **Dissertation:** Preparation and characterization of poly (Lactic acid) (PLA) membranes for pervaporation application.
7. **Master Degree Supervisor for Biotechnology Students**, 1<sup>st</sup> October 2010, **Dissertation:** Sewage wastewater treatment using PVC hollow fiber ultrafiltration

membranes.

8. **Master Degree Supervisor for Chemical Engineering Students**, 1<sup>st</sup> October 2011, **Dissertation:** Oily Wastewater treatment by membranes bioreactor (MBR).
9. **Master Degree Supervisor for materials Engineering Students**, 1<sup>st</sup> October 2012, **Dissertation:** Brackish water desalination using membrane distillation technique.
10. **Master Degree Supervisor for Chemical Engineering Students**, 1<sup>st</sup> October 2012, **Dissertation:** Treatment of produced water from oil wells by floatation and membrane technique
11. **Master Degree Supervisor for Chemical Engineering Students**, 1<sup>st</sup> May 2013, **Dissertation:** Seawater desalination by using vacuum membrane distillation (VMD).
12. **Master Degree Supervisor for Chemical Engineering Students**, 21 October 2014, **Dissertation:** Analysis of mass and heat transfer for water desalination by membrane distillation (MD).
13. **Master Degree Supervisor for Chemical Engineering Students**, 21 October 2015, **Dissertation:** Sweeping gas membrane distillation for desalination using hydrophobic membranes.
14. **Master Degree Supervisor for Chemical Engineering Students**, 1<sup>st</sup> of July 2016, **Dissertation:** Improvement of membrane properties by using carbon nanotubes for membrane distillation application.
15. **Master Degree Supervisor for Chemical Engineering Students**, 20 October 2016, **Dissertation:** Preparation and characterization of PPSU hollow fiber membranes for saline water desalination using Forward Osmosis process.
16. **Master Degree Supervisor for Chemical Engineering Students**, 20 August 2017, **Dissertation:** Produced water desalination by membrane distillation technique.
17. **Master Degree Supervisor Students**, 12 October 2017, **Dissertation:** Preparation of NF blend membrane for dyes removal from industrial wastewater.
18. **Master Degree Students Supervisor**, 20 October 2018, **Dissertation:** Preparation of UF membrane modified by nanoparticles material for treatment of

oily wastewater.

19. **Master Degree Students Supervisor**, 20 Dec. 2017, **Dissertation**: Studying the effect of nanoparticles material on the properties of PVC membranes for various solutes separation.
20. **Master Degree Students Supervisor**, 20 Dec., 2019, Synthesis and characterization of PVC-TFC hollow fibers for forward osmosis application.
21. **Master Degree Students Supervisor**, 20 October 2020, Zeolite-reinforced polymeric membranes: prominent features and wastewater treatment applications.
22. **Master Degree Students; Supervisor**, October 2019, Effect of Nano biopolymer as additive on PES membrane performance.

#### **Ph.D Students Supervisor for Chemical Engineering Students:**

- 1- **Thesis**: "Effects of Osmotic Agent Concentration and Type on the Performance of Osmotic Membrane Distillation". **1<sup>st</sup> July 2009**
- 2- **Thesis**: "A Study of the Effect of Operating Conditions on the Reverse Osmosis Membrane Performance with and without Air Sparging Technique ". **1<sup>st</sup> July 2007 to 2010**
- 3- **Thesis**: "Desalination of seawater and produced water by membrane distillation". October **2012**.
- 4- **Thesis**: "Preparation and characterization of polymeric membranes for nanofiltration, membrane distillation and forward osmosis". **February 2013**.
- 5- **Thesis**: "Preparation and characterization of PVDF-co-HFP membranes for direct contact membrane distillation". **November 2013**, Co-supervisor: PhD student in University of Pahang, Malaysia.
- 6- **Thesis**: Analysis of different heavy metals retention from single salt and binary aqueous solutions by using nanofiltration membrane, **February 2013**.
- 7- **Thesis**: **Hospital wastewater treatment by submerged membrane bioreactor**, PhD student in University of Technology, **October 2015**.
- 8- **Thesis**: **CVD-Synthesis of Carbon Nanomaterials with Improved**

**Hydrophobicity of Membrane Distillation**, PhD student in University of Malaya, Kuala Lumpur, Malaysia **October 2016**.

9- **Thesis: Organic-Organic separation by forward osmosis technique and membrane distillation process**, PhD student in University of Technology, **July 2018**.

10- **Thesis: Organic-Organic separation by pervaporation process**, PhD student in University of Technology, **July 2018**.

11- **Thesis: Carbon nanotube-sponge membrane bioreactor system with different configurations for treatment of wastewater**, PhD student in University of Technology, **Civil Engineering, February 2019**.

12- **Thesis: Study the Characteristics and the separation Performance of Membranes Synthesized by using Nano- porous Zeolite material in flexible polymer for application of pollutant removal from waste water**, PhD student in University of Technology, **Civil Engineering, February 2019**.

13- **Thesis: Different nanoparticles additives in polymeric membranes for wastewater treatment**, PhD student in University of Technology, **Chemical Engineering, February 2019**.

### **Scholarships**

Ph.D. scholarship, Chemical Engineering Research Center, East China University of Science and Technology, Supported by China Scholarship Council (CSC), Fuxingmennei Dajie, No.,160 -100031 Beijing-China. Sep. 2001 to July 2004.

### **Fellowships and research visitor**

1- **Researcher Visitor**, Department of Applied Physics, Complutense University of Madrid, from 1st of April 2006 up to 1st of June 2006, (**Preparation and Characterization of Flat-Sheet and Hollow Fiber Membranes by using various gas gap distance**).

2- **Fellowship (Grant)**, Department of Applied Physics, Complutense University of Madrid, from 26<sup>th</sup> of September 2007 to 28<sup>th</sup> of December 2007, (**Design of Novel Heat Exchangers Based Composite Hollow Fibers**).

- 3- **Researcher Visitor**, Institute on Membrane Technology, ITM-CNR, Calabria University, Cosanza, Italy, July-August 2009.
- 4- **Researcher Visitor**, Institute on Membrane Technology, ITM-CNR, Calabria University, Cosanza, Italy, July-August 2010.
- 5- **Researcher Visitor**, Department of Chemical Engineering, KU Leuven, Belgium, July-August 2011.
- 6- **Researcher Visitor**, Institute on Membrane Technology, ITM-CNR, Calabria University, Cosanza, Italy, September-October 2013.
- 7- **Researcher Visitor**, Institute on Membrane Technology, ITM-CNR, Calabria University, Cosanza, Italy, October 2016.

### **International workshop**

- Professional development hours in Chemical Process Safety, Chemical Process Safety Faculty (CCPS) Workshops and The Global Home of Chemical Engineers (AIChE), July 2019 BASF sponsored CCPS faculty workshop, AIChE, 120 Wall Street, NY 10005, USA.

### **Book and chapter**

1. Qusay F. Alsalhy, Preparation process of hollow fiber UF membrane, LAP LAMBERT, Academic publishing, Germany, 2011 pages 116. ISBN-13: 978-3-8454-7365-9
2. The newsletter of the European Membrane Society Special issue - No. 84 July 2011. Membrane News is published by the European Membrane Society (EMS) <http://www.emsoc.eu>

### **Papers Published in Journals**

1. **Qusay F. A.**, Z. L. Xu, Numerical Simulation of a Mathematical Model for Dry/Wet-Spun Nascent Hollow Fiber Membrane, **Journal of Shanghai University**, vol.8, No.2 (2004) 213-220. (**Springer**)
2. Z. L. Xu, **Qusay F. A.**, Effect of Polyethylene glycol (PEG) Molecular Weights and Concentrations on Polyethersulfone (PES) Hollow Fiber Ultrafiltration



- Membranes, **Journal of Applied Polymer Science**, vol.91 (2004)3398-3407. (Jon wiley)
3. Z. L. Xu, **Qusay F. A.**, Polyethersulfone (PES) Hollow Fiber Ultrafiltration Membrane Prepared by PES/Non-solvent/NMP Solution, **Journal of Membrane Science**. 233 (2004) 101-111. (Elsevier)
  4. Y.M. Wei, Z. L. Xu, **Qusay F. A.**, Ethanol-Water Mixture Separation by Pervaporation Process Using (PVA/PSf) Hollow Fiber Composite Membranes, **Journal of Applied Polymer Science**, Vol. 98, (2005) 247-254. (Jon Wiley)
  5. **Qusay F. A.**, Study Effect of Elongational Viscosity on the Velocity Distribution for Dry/Wet-Spun Nascent Hollow Fiber Membrane, **Iraqi Journal of Chemical and petroleum Engineering**, 5 (2004) 13-18.
  6. **Qusay F. A.**, Effect of Ethanol Concentrations in Internal Coagulant on the Morphology and Separation Performance of Polyethersulfone (PES) Hollow Fiber UF Membranes Prepared by PES/Ethanol/NMP Solution, **Engineering and Technology Journal** (Scientific Journal Published by the University of Technology-Baghdad), Vol. 25, No.2 (2007) 253-264.
  7. Bing-Bing Li, Zhen-Liang Xu, **Qusay Alsahy**, Ran Li, Chitosan-poly (vinyl alcohol)/poly (acrylonitrile) (CS-PVA/PAN) Composite Pervaporation Membranes for the Separation of Ethanol-Water Solution, **Desalination**, 193 (2006) 171-181. (Elsevier)
  8. **Qusay Alsahy**, Xu Zhen-liang, Yang Xio-tian, Separation performance of horizontal and vertical polyether sulfone hollow fiber UF modules, **Journal of Shanghai University**, 10 (2), (2006) 173-178. (Springer)
  9. **Qusay Alsahy**, Effect of Alcohol as Additives on the Morphology and Separation Performance of Polyethersulfone (PES) Hollow Fiber Ultrafiltration Membranes, **Engineering and Technology Journal**, vol. 26, no.12, 2008.
  10. M. Khayet, M.C. Garc'ia-Payo, **Qusay F. A.**, K.C. Khulbe, C.Y. Feng, T. Matsuura, Effects of gas gap type on structural morphology and performance of hollow fibers, **J. Membr. Sci.** 311 (2008) 259–269. (Elsevier)
  11. **Qusay Alsahy**, Recovery of PVA Using Polyethersulfone (PES) Hollow Fiber

- Ultrafiltration Membranes: Part II: Effect of Carboxymethyl Cellulose (CMC) Concentration, **Engineering and Technology Journal** (Scientific Journal Published by the University of Technology-Baghdad) Vol. 27, No. 5, 2009.
12. M. Khayet, M.C. García-Payo, **Qusay F. A.**, M.A. Zubaidy Structural and performance studies of poly(vinyl chloride) hollow fiber membranes prepared at different air gap lengths, **Journal of Membrane Science**, Volume 330, Issues 1-2, 20, 2009, Pages 30-39. (**Elsevier**)
  13. **Qusay Alsalhy**, A. Figoli, Sufyan Algebory, Ghanim M. Alwan, S. Simone, E. Drioli, Polyvinyl Alcohol/polyvinyl chloride (PVA/PVC) Hollow Fiber Composite Nanofiltration Membranes for Water Treatment, **Iraqi journal of chemical and petroleum engineering (IJCPE)** Vol.11, No.4, (2010) 23-32.
  14. **Qusay Alsalhy**, Sufyan Algebory, Ghanim M. Alwan, A. Figoli S. Simone, E. Drioli, Hollow fiber ultrafiltration membranes from poly(vinyl chloride): Preparation, morphologies and properties, **Separation Science and Technology**, 46, (14) (2011) 2199-2210. (**Taylor & Francis**)
  15. **Qusay Alsalhy**, Khalid T. Rashid, Walla A. Noori, A. Figoli S. Simone, E. Drioli, Poly (vinyl chloride) hollow fibers membranes for ultrafiltration applications: Effects of internal coagulant composition, **Journal of Applied polymer science**, Vol. 124, 2087–2099 (2012). (**Jon Wiley**)
  16. Mohammad F. Abid, Saadi K. Al-Naseri, **Qusay F. Alsalhy**, Samirra N. Abdulla, Khalid T. Rashid, Desalination of Iraqi surface water using nanofiltration membranes, **Desalination and Water Treatment**, 29 (2011) 174-180. (**Taylor & Francis**)
  17. **Qusay F. Alsalhy**, Hollow fiber ultrafiltration membranes prepared from blends of poly (vinyl chloride) and polystyrene, **Desalination** 294 (2012) 44–52. (**Elsevier**)
  18. Salah S. Ibrahim and **Qusay F. Alsalhy**, Modeling and Simulation for Direct Contact Membrane Distillation in Hollow Fiber Modules, **AIChE J.**, 59 (2013) 589–603. (**Jon Wiley**)
  19. **Qusay Alsalhy**, Influence of spinning conditions on the morphology, pore size,

- pore size distribution, mechanical properties and performance of PVC hollow fiber membranes, **Separation science and Technology**, 48 (2013) 234–245. (Taylor & Francis)
- 20. Qusay Alsahy**, Talib Albyati & Mumtaz Zablouk, A Study of the Effect of Operating Conditions on the Reverse Osmosis Membrane Performance with and without Air Sparging Technique, **Chemical Engineering Communications**, 200 (2013) 1–19. (Springer)
- 21. Qusay Alsahy**, Jamal M. Ali, Keetam Salim, Effect of operating conditions on the performance of PVC/PS hollow fiber membranes, **Engineering and Technology Journal** (Scientific Journal Published by the University of Technology-Baghdad) 30 (2012) 2767-2777.
- 22. Qusay F. Alsahy**, Khalid T. Rashid, Salah S. Ibrahim, Abdulsattar H. Ghanim, Bart Van der Bruggen, Patricia Luis, Mumtaz Zablouk, Poly(vinylidene fluoride-co-hexafluoropropylene) (PVDF-co-HFP) hollow fiber membranes prepared from PVDF-co-HFP/PEG-600Mw/DMAC solution for membrane distillation, **Journal of Applied Polymer science**, 129 (2013) 3304-3313. (Jon Wiley)
- 23. Qusay F. Alsahy**, Jamal M. Ali, Ali A. Abass, Ali Rashed, Bart Van der Bruggen, Stefan Balta, Enhancement of poly (phenyl sulfone) membranes with ZnO nanoparticles, **Desalination and Water Treatment**, 51 (2013) 6070–6081. (Taylor & Francis)
- 24. Qusay F. Alsahy**, Amil S. Merza, Khalid T. Rashid, Arman Adam, A. Figoli, S. Simone, E. Drioli, Preparation and Characterization of poly(vinyl chloride)/poly (styrene)/poly (ethylene glycol) hollow-fiber membranes, **Journal of Applied Polymer science**, 130 (2013) 989-1004. (Jon Wiley)
- 25. Qusay F. Alsahy**, Haydar A. Salih, Remonda H. Melkon, Yusra M. Mahdi, Noora A. Abdul Karim, Effect of the Preparation Conditions on the Morphology and Performance of Poly(imide) Hollow Fiber Membranes, **Journal of Applied Polymer science**, 131(2014) 40428 (1 of 11). (Jon Wiley)
- 26. Qusay F. Alsahy**, Haydar A. Salih, Silvia Simone, Alberto Figoli, Mumtaz Zablouk, Enrico Drioli, Poly (ether sulfone) (PES) hollow-fiber membranes prepared from various spinning parameters, **Desalination** 345 (2014) 21–35.

(Elsevier)

27. **Qusay F. Alsahly**, Raheek I. Ibrahim, Haydar Alaa Salih, Mumtaz A. Zablouk, Experimental investigation and optimization of air sparging on hollow fiber membrane performance, *American Journal of Modern Chemical Engineering*, 1 (2014) 40-54.
28. ALAA K. MOHAMMED, **Qusay Alsahly** , SAFAA A. ALI, STUDY THE EFFECT OF TEMPERATURE ON THE PERFORMANCE OF HOLLOW FIBER MEMBRANE BIOREACTOR IN WASTEWATER TREATMENT, *Asian Academic Research Journal of Multidisciplinary*, 1 (2014) 365-374.
29. KT Rashid, SA Rahman, Q Alsahly Hydrophobicity Enhancement of Poly (vinylidene fluoride-co-hexafluoropropylene) for Membrane Distillation, **Journal of Polymer Science and Technology** 1 (1), (2015) 1-9.
30. Manal A. Tooma, Tariq S. Najim, **Qusay F. Alsahly**, Tiziana Marino, Alessandra Criscuoli, Lidietta Giorno, Alberto Figoli, Modification of polyvinyl chloride (PVC) membrane for vacuum membrane distillation (VMD) application, *Desalination*, 373 (2015) 58-70. (Elsevier)
31. Manal A. Tooma, Tariq S. Najim, **Qusay F. Alsahly**, Synthesis and characterization of poly(vinyl chloride)-Graft-poly(ethyl acrylate) and its membrane, *Al-mustansiriya Journal of Science*, 26 (2) (2015).
32. **Qusay F. Alsahly**, Riyadh S. Almkhtar, Harith A. Alani, Treatment of oil refinery wastewater by membrane bioreactor (MBR), *Arabian J. of Sci. and Eng.*, 41 (2016) 2439–2452. (Springer)
33. Sufyan Fadhil Algebory, Tiziana Marino, Hassan F. Makki, **Qusay F. Alsahly**, Serenella Blefari, Francesca Macedonio, Emanuele Di Nicolò, Lidietta Giorno, Enrico Drioli, Alberto Figoli, Novel PVDF-HFP flat sheet membranes prepared by Triethyl Phosphate (TEP) solvent for Direct Contact Membrane Distillation, *Chemical Engineering and Processing: Process Intensification*, 102 (2016) 16-26. (Elsevier)
34. Ahmed A. Mohammad, **Qusay F. Alsahly**, Salwa A. Hadi, Separation of lead and Cadmium from single and binary salt aqueous solution using nanofiltration

- membranes, *Journal of Engineering*, vol 22, Issue 4, (2016) 50-67.
35. Khalid T. Rashid, Sunarti Binti Abdul Rahman, **Qusay F. Alsalhy**, Optimum operating parameters for hollow fiber membranes in direct contact membrane distillation, *Arabian J. of Sci. and Eng.*, Volume 41, Issue 7, (2016) 2647–2658. (**Springer**)
  36. Sunarti Binti Abdul Rahman, Khalid T. Rashid, **Qusay F. Alsalhy**, Improvement of PVDF-co-HFP Hollow Fiber Membranes for Direct Contact Membrane Distillation Applications, *Indian Journal of Science and Technology*, Vol 10(7) (2017) 1-5.
  37. Asrar A. Alobaidy, Bashir Y. Sherhan, Areej D. Barood, Qusay F. Alsalhy, Effect of bore fluid flow rate on formation and properties of hollow fibers, *Applied Water Science*, (2017) 7:4387–4398. (**Springer**)
  38. Qusay F. Alsalhy, Salah S. Ibrahim, Samraa R. Khaleel, Performance of vacuum poly(propylene) membrane distillation (VMD) for saline water desalination, *Chemical Engineering & Processing: Process Intensification*, 120 (2017) 68–80. (**Elsevier**)
  39. Bashir Y. Sherhan, Areej D. Abbas, Hussein A. Alabdly, Thamer J. Mohammed, **Qusay F. Alsalhy**, Thamera Kidher, Lamees H. Fahad, Hamsa Ahmed and Remonda H. Melkon, Preparation of PPSU Hollow Fiber Nanofiltration Membranes for Nanofiltration Application, *Iraqi Journal of Chemical and Petroleum Engineering*, 18 (2017) 13-25.
  40. **Qusay F. Alsalhy**, Ahmed A. Mohammed, Salwa H. Ahmed, Khalid T. Rashid, Mohammed A. AlSaadi Estimation of Nanofiltration Membrane Transport Parameters for Cobalt Ions Removal from Aqueous Solutions, *Desalination and Water Treatment*, 108, (2018) 235-245. (**Balaban Publisher**)
  41. Sufyan Fadhil, **Qusay F. Alsalhy**, Hassan F. Makki, René Ruby-Figueroa, Tiziana Marino, Criscuoli Alessandra, Francesca Macedonio, Lidietta Giorno, Enrico Drioli, Alberto Figoli, Seawater desalination using PVDF-HFP membrane in DCMD process. Assessment of operating condition by Response Surface Method, *Chemical Engineering Communications*, 206 (2), (2019) 237-246. (**Springer**)

- 42.** Qusay F. Alsahy, Salah S. Ibrahim, Fatima A. Hashim, Experimental and theoretical investigation of air gap membrane distillation process for water desalination, **Chemical Engineering Research and Design**, 130 (2018) 95-108. (Elsevier)
- 43.** Qusay F. Alsahy, Faris H. Al-Ani, Arshed E. Al-Najar, A new Sponge-GAC-Sponge membrane module for submerged membrane bioreactor use in hospital wastewater treatment, *Biochemical Engineering Journal*, 133, 2018, (130–139). (Elsevier)
- 44.** Aljumaily M.M, Alsaadi M.A., Das R., Hamid S.B.A., Hashim N. A, AlOmar M.K., Alayan HM., Novikov M, Qusay F. Alsahy, Hashim M. A., Optimization of the Synthesis of Superhydrophobic Carbon Nanomaterials by Chemical Vapor Deposition, Scientific report, published online 2018. (Nature springer)
- 45.** Qusay F. Alsahy, Faris H Al-Ani, Arshed E Al-Najar, Sura IA Jabuk, A study of the effect of embedding ZnO-NPs on PVC membrane performance use in actual hospital wastewater treatment by membrane bioreactor, *Chemical Engineering and Processing-Process Intensification*, 130 (2018) 262-274. (Elsevier)
- 46.** MM Aljumaily, MA Alsaadi, NA Hashim, **QF Alsahy**, FS Mjalli, MA Atieh, PVDF-co-HFP/superhydrophobic acetylene-based nanocarbon hybrid membrane for seawater desalination via DCMD, *Chemical Engineering Research and Design* 138, (2018) 248-259. (Elsevier)
- 47.** Alsaadi M., Majdi H., **Alsahy Q.**, et. al., Effect of pH, water percentage and surfactant percentage on stability of water in diesel emulsion, *IOP Conference Series: Materials Science and Engineering* (2018) 454(1).
- 48.** Francesco Galiano, Abdulsattar H. Ghanim, Khalid T. Rashid, Tiziana Marino, Silvia Simone, Qusay F. Alsahy, Alberto Figoli, Preparation and characterization of green polylactic acid (PLA) membranes for organic/organic separation by pervaporation, *Clean Technologies and Environmental Policy*, 2019, 21 (1), 109-120). (Springer)
- 49.** MM Aljumaily, M.A. Alsaadi, N.A. Hashim, **Qusay F. Alsahy**, R., Das, F.S. Mjalli, Embedded high-hydrophobic CNMs prepared by CVD technique with

- PVDF-co-HFP membrane for application in water desalination by DCMD, Desalination and Water Treatment, 142 (2019) 37-48. **(Balaban Publisher)**
- 50.** Muslim J. Jamed, Adnan Alhathal Alanezi , and Qusay F. Alsaly, Effects of embedding functionalized multi-walled carbon nanotubes and alumina on the direct contact poly(vinylidene fluoride-cohexafluoropropylene) membrane distillation performance, Chemical Engineering Communications, 206 (8) (2019) 1035–1057. **(Springer)**
- 51.** Amna Jalal Sadiq, Kadhum M. Shabeeb, Bassam I. Khalil, **Qusay F. Alsaly**, Effect of embedding MWCNT-g-GO with PVC on the performance of PVC membranes for oily wastewater treatment, Chemical Engineering Communications, 2020, VOL. 207, NO. 6, 733–750. **(Springer)**
- 52.** Faris H. Al-Ani, Hasan Sh. Majdi, Jamal M. Ali, Ayham M. Al Rahawi, **Qusay F. Alsaly**, Comparative study on CAS, UCT, and MBR configurations for nutrient removal from hospital wastewater, Desalination and Water Treatment, 164 (2019) 39-47. **(Balaban Publisher)**
- 53.** Dalia Muthana Al-Ani, Faris H. Al-Ani, Qusay F. Alsaly, Salah S. Ibrahim, Preparation and characterization of nanofiltration membranes from PPSU-PES polymer blend for dyes removal, Chemical Engineering Communications, Volume 208, Issue 1 (2021) 41-59. **(Taylor & Francis)**.
- 54.** Mustafa M. Aljumaily; Mohammed A. Alsaadi; Nur Awanis Binti Hashim; Farouq S. Mjalli; Qusay F. Alsaly; Abdul L. Khan; Ahmed Al-Harrasi, Superhydrophobic nanocarbon-based membrane with antibacterial characteristics, Published in Biotechnology Progress (2020) (Wiley)
- 55.** Faris H. Al-Ani, **Qusay F. Alsaly**, and Rawia Subhi Raheem, Khalid T. Rashid, Alberto Figoli, Experimental Investigation of the Effect of Implanting TiO<sub>2</sub>-NPs on PVC for Long-Term UF Membrane Performance to Treat Refinery Wastewater, Membranes, 77 (2020) 1-22. (MDPI)
- 56.** Maryam Y. Ghadhban, Hasan Shaker Majdi, Khalid T. Rashid, Qusay F. Alsaly, D. Shanthana Lakshmi, Issam K. Salih, and Alberto Figoli, Removal of Dye from

- a Leather Tanning Factory by Flat-Sheet Blend Ultrafiltration (UF) Membrane, *Membranes*, 47 (2020) 1-17. (MDPI).
- 57.**Noor A. Mohammad Ameen; Salah S. Ibrahim; **Qusay F. Alsahy**; Alberto Figoli, Highly Saline Water Desalination Using Direct Contact Membrane Distillation (DCMD):Experimental and Simulation Study, *Water* 2020, Volume 12, Issue 6, 1575. (MDPI).
- 58.** Saif S. Hussein, Salah S. Ibrahim, Manal A. Toma, Qusay F. Alsahy, Enrico Drioli, Novel chemical modification of polyvinyl chloride membrane by free radical graft copolymerization for direct contact membrane distillation (DCMD) application, *Journal of Membrane Science*, 611 (2020) (Elsevier).
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- 66.** Faris H. Al-Ani, Qusay F. Alsahy, Muthanna Al-Dahhan, Enhancing emulsion liquid membrane system (ELM) stability and performance for the extraction of phenol from wastewater using various nanoparticles, *Desalination and Water Treatment*, 210 (2021) 180–191.
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- 69.**Ali Amer Yahya, Khalid T. Rashid, Maryam Y. Ghadhban, Noor Edin Mousa, Hasan Shaker Majdi, Issam K. Salih and Qusay F. Alsalty, Removal of 4-Nitrophenol from Aqueous Solution by Using Polyphenylsulfone-Based Blend Membranes: Characterization and Performance, Membranes, 11 (2021) 171. (**MDPI**).
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- 72.**Dalya D. Al-Araji, Faris H. Al-Ani, Qusay F. Alsalty, Polyethyleneimine (PEI) grafted Silica nanoparticles for polyethersulfone membranes modification and their outlooks for wastewater treatment - a review, International Journal of Environmental Analytical Chemistry, accepted, In press (2021). (**Taylor and Francis**)

### **Papers Presented in International Conferences**

1. Safa A. N., **Qusay F. A.**, “The Effect of Interaction on the Closed Loop System of a Multi-Component Distillation Column”, 2nd Jordan International Chemical Engineering Conference, September 1996.
2. **Qusay F. A.**, Z. L. Xu, Investigation of Polyvinyl Alcohol (PVA) Recovery from the Simulated Wastewater Using Horizontal and Vertical Polyethersulfone (PES) Hollow Fiber UF Modules, 5<sup>th</sup> Jordan International Chemical Engineering

- Conference V, JICEC05, Amman-Jordan, September, 2005.
3. **Qusay F. A.**, Talib M. A., Mumtaz A. Z., Enhancement of reverse osmosis membrane performance with air sparging technique, Advances in Sci. and Eng. For Brackish Water and Seawater Desalination, Engineering Conference International, Cetraro (Calabria), Italy May 8-12, 2010.
  4. **Qusay Fadhel Alsahy**, Najat Jumaa Saleh, Nisreen Sabah Ali, EFFECTS OF OSMOTIC AGENT CONCENTRATION AND TYPE ON THE PERFORMANCE OF OSMOTIC MEMBRANE DISTILLATION, The Sixth Jordan International Chemical Engineering Conference, JICChEC06, 12-14 March 2012, Amman, Jordan.
  5. **Qusay F. Alsahy**, Ashraf Yahya, Rehyad Almukhtar, Haydar Alaa Saleh, Wastewater treatment of phosphate complex in Alqaam city west of Iraq by nanofiltration membranes, INTERNATIONAL CONFERENCE ON IONIC LIQUIDS 2013 (ICIL 13) December 2013, Malaysia.
  6. **Qusay F. Alsahy**, Salah Salman Ibrahim, Samraa Refat AlKurwi, Seawater desalination by vacuum membrane distillation (VMD), The 2<sup>nd</sup> Arab Water Conference and Exhibition 27-29 May 2014, Doha, Qatar.
  7. R. J. Khadim, T. Albyati, Z. Shneen, **Qusay Alsahy**, A. Figoli S. Simone, E. Drioli, Preparation and characterization of PVC PS PVA hollow fiber nanofiltration composite membranes, The 2<sup>nd</sup> international conference on Building, Construction, and environmental Engineering, BCEE2-2015, 17-19 October, American University of Beirut, Lebanon.
  8. Alsaadi M., Majdi H., **Alsahy Q.**, et. al., Effect of pH, water percentage and surfactant percentage on stability of water in diesel emulsion, IOP Conference Series: Materials Science and Engineering (2018) 454(1). (Presented in International conference on materials Engineering and Science, IconMEAS, Istanbul Aydin University, 8-8-2018).
  9. Eman Shakir Al-Sammarraie, T.M. Sabirova, N.A. Tretyakova, **Qusay F. Alsahy**, A Review of Enhancing Ultrafiltration Membranes (UF) For Wastewater Treatment: Performance and Stability, Sino-Russian ASRTU Forum Ecology and

Environmental Sciences, Ural Federal University, Ekaterinburg, Russia, October 21-22, 2020.

### **Reviewer For International Journals (Thomson Reuters)**

Chemical Engineering Journal, Chemical Engineering and Technology, Journal of polymer research, Fiber and Polymers, Journal of Industrial and Engineering Chemistry, Chemical Engineering Communications, Journal of Applied polymer Science, Journal of Membrane Science, Journal of Chemical Engineering, Biotechnology, Desalination and water treatment, Separation Science and Technology, ACS Journal, Membrane and Water Treatment, Journal of Food, Separation and Purification Technology, International Journal of Green Energy, Chemical Engineering Communications, Brazilian Journal of Chemical Engineering.

### **International Conference Committee**

- 1- Scientific committee for International conference on materials Engineering and Science, IconMEAS, Istanbul Aydin University, 8-8-2018
- 2- Scientific committee for International conference on materials Engineering and Science; IconMEAS, University of Technology, 2019.

### **National conference committee**

- 1- Scientific committee, First scientific conference on the novel Techniques for refinery of oil and gas; April 2011
- 2- Scientific committee, ICANMA2018, University of Technology 2018.

- 3- Keynote speaker; Novel Techniques for wastewater treatment symposium; with AlMustaqbal University College, 2017.
- 4- Keynote speaker; World Water day symposium at Al-kitab University, 2019.
- 5- Keynote speaker; Basra water: Problem and solution symposium at Middle Technical University, 2019.
- 6- Keynote speaker; Basra water symposium at Chemical Engineering Department, University of technology, 2019.

### اللجان العلمية والادارية

1. عضو مجلس امناء الهيئة العربية للتعليم الهندسي والاعتماد الأكاديمي/اتحاد المهندسين العرب 2020
2. عضو لجنة تعادل الشهادات/ نقابة المهندسين العراقية/2015 مستمر
3. رئيس لجنة الترقيات في قسم الهندسة الكيماوية
4. عضو لجنة الترقيات الجامعية
5. عضو لجنة الترقيات العلمية في قسم الهندسة الكيماوية
6. المسؤول المباشر لشعبة ضمان جودة التعليم الهندسي
7. رئيس اللجنة الوزارية لاستحداث الدراسات العليا في كلية الهندسة الخوارزمي جامعة بغداد
8. رئيس اللجنة الوزارية لاستحداث الدراسات العليا في كلية الهندسة جامعة القادسية
9. رئيس اللجنة الوزارية لاستحداث الدراسات العليا/الدبلوم العالي في كلية الهندسة قسم الهندسة الكيماوية/جامعة القادسية
10. عضو لجنة الدراسات العليا الجامعية
11. عضو لجنة صلاحية التدريس الجامعية
12. رئيس لجنة صلاحية التدريس في قسم الهندسة الكيماوية
13. رئيس اللجنة العلمية في قسم الهندسة الكيماوية

14. رئيس لجنة الدراسات العليا في قسم الهندسة الكيميائية
15. رئيس لجنة الاقتباس العلمي في قسم الهندسة الكيميائية
16. عضو لجنة تدقيق البحوث المقدمة للترقيات العلمية المنشورة في مجلات  
وهمية الجامعية
17. رئيس لجنة الامتحان الشامل لطلبة الدكتوراه في قسم الهندسة الكيميائية
18. رئيس لجنة الامتحان التنافسي لطلبة الدراسات العليا في قسم الهندسة الكيميائية
19. رئيس لجنة ترجمة دليل قسم الهندسة الكيميائية الى اللغة الانكليزية
20. رئيس لجنة متابعة تنفيذ مذكرة التفاهم مع كلية المستقبل الاهلية
21. رئيس لجنة الكتب في قسم الهندسة الكيميائية
22. رئيس لجنة الصيانة قسم الهندسة الكيميائية
23. رئيس وعضو لجان مؤقتة
24. عضو لجان علمية وتحضيرية لمؤتمرات محلية وعالمية
25. رئيس وعضو لجان مناقشة طلبة الدكتوراه والماجستير والدبلوم العالي في كافة  
جامعات العراق وماليزيا

### **Important Committees**

1. Committee for establishing new Nanotechnology research center
2. Committee for establishing Department of Oil Technology
3. Founder of Membrane Technology Research Unit
4. Scientific Committee in Chemical Engineering Department
5. Postgraduate Committee in Chemical Engineering Department

### **Editorial board in the following Journals**

- Iraqi Journal of Chemical and Petroleum Engineering, Ministry of Higher Education of Iraq Publishing
- American Journal of Modern Chemical Engineering, Columbia International publishing

### **Contracts and projects**

1. Five contracts and projects with Ministry of Industry and Minerals of Iraq, Preparation of different hollow fiber membranes for different applications, 2011-2015.
2. A. F. Qusay, Z. L. Xu, Numerical Simulation of a Mathematical Model for Dry/Wet-Spun Nascent Hollow Fiber Membrane, and “Investigation of Polyvinyl Alcohol (PVA) Recovery from the Simulated Wastewater Using Horizontal and Vertical Polyethersulfone (PES) Hollow Fiber UF Modules”, Contract grant sponsor: National Nature Science Foundation of China (No. 20076009), Development Project of Shanghai Priority Academic Discipline and National Key Fundamental Research Development Plan (“973” Plan, No.2003CB615705).
3. Z. L. Xu, A. F. Qusay, Effect of Polyethylene glycol (PEG) Molecular Weights and Concentrations on Polyethersulfone (PES) Hollow Fiber Ultrafiltration Membranes, (Contract grant sponsor: National Nature Science Foundation of China; and Development Project of Shanghai Priority Academic Discipline. Contract grant number: 20076009.
4. Z. L. Xu, A. F. Qusay, “Polyethersulfone (PES) Hollow Fiber Ultrafiltration Membrane Prepared by PES/Non-solvent/NMP Solution”, and “Ethanol-Water Mixture Separation by Pervaporation Process Using (PVA/PSf) Hollow Fiber Composite Membranes”, Contract grant sponsor: National Nature Science Foundation of China (No. 20076009), National Key Fundamental Research Development Plan (“973” Plan, No. 2003CB615705) and Development Project of Shanghai Priority Academic Discipline.
5. A. F. Qusay, “Effect of Alcohol as Additives on the Morphology, Performance and Mechanical Properties of PES hollow fiber Ultrafiltration Membrane”, Contract grant sponsor: Ministry of Higher Education and Scientific Research, Iraqi government, Contract No. 353, Contract period: Nov. 2005 to May 2007.
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7. A. F. Qusay, “Studying Effect of PEG Molecular Weights on Morphology,

- Properties and Oil-Surfactant-Water Separation System of Hollow Fiber Ultrafiltration Membranes”, Contract grant sponsor: Ministry of Higher Education and Scientific Research, Iraqi government, Contract period: Nov. 2006 to May 2008.
8. Qusay Alsalhy, "Desalination of Saline water using forward osmosis technique" Contract sponsor: Almustaqbal University College, 2018-2019. Number 20.
  9. Qusay Alsalhy, " Preparation and Characterization of low PPSU concentration for ultrafiltration application', Contract grant Sponsor: Almustaqbal University College, 2018-2019 Number 23.

### **Research Interests**

Membrane separations; (i.e. Microfiltration, Ultrafiltration, Nanofiltration, Pervaporation and Gas separation processes, Membrane distillation, and Forward osmosis); Powder Technology; Nanotechnology; Biochemical Engineering and Bioprocessing.

### **Recommended Reference**

1. Dr. Xu Zhen-Liang, Chemical Engineering Research Center, Membrane Separation Director, East China University of Science and Technology, 130 Meilong Road, Shanghai 200237, China.
2. Prof. Enrico Drioli, Institute on Membrane Technology, ITM-CNR, Italy.
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4. Dr. Mumtaz A. Zablouk, Head of Chemical Engineering Department, University of Technology, P.O.Box 35010, Baghdad, Iraq.
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7. Dr. Essam K. Halabia, Director of Unit Operation Branch, Chemical Engineering Department, University of Technology, P.O.Box 35010, Baghdad, Iraq.
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