



Curriculum Vitae

Name: Professor Dr. Qusay F. Abdul Hameed Alsalhy
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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 8th 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, 9th 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, 1st September 2013.

Awards

- Award science Day of Ministry of Higher Education and Scientific Research 2012
- Award first professor of Chemical Engineering Department

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.
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, 2012-1/7/2015.
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. Engineering Drawing (Manual).
4. Engineering Drawing by AUTOCAD Software.
5. Supervision of various laboratories in Chemical Engineering field.
6. Supervision of Hollow fiber and flat-sheet membrane fabrication Laboratories.
7. Supervision of Plant Design Projects for Final year Undergraduate Students.
8. Supervision of Especial Problem Projects for Final year Undergraduate Students.

2-For postgraduate

- * **Fluid Dynamics course (2008-2009)**
- * **Separation processes course (2009 up to date)**

M.Sc. and Ph.D Supervise

1. **Master Degree Supervisor for Chemical Engineering Students**, 1st July 2006, **Dissertation:** "Separation performance of polymeric hollow fiber ultrafiltration membranes".
2. **Master Degree Supervisor for Chemical Engineering Students**, 1st October 2008, **Dissertation:** "High performance of Nanofiltration hollow fiber membranes".

3. **Master Degree Supervisor for Material Engineering Students**, 1st October 2008, **Dissertation:** "Preparation and characterization of PVC hollow fiber membranes".
4. **Master Degree Supervisor for Material Engineering Students**, 1st October 2009, **Dissertation:** "Preparation and characterization of PVC/PEG/PS composite hollow fiber membranes".
5. **Master Degree Supervisor for Chemical Engineering Students**, 1st October 2009, **Dissertation:** Effect of operating conditions on the separation performance of PVC hollow fibers.
6. **Master Degree Supervisor for Chemical Engineering Students**, 1st October 2010, **Dissertation:** Preparation and characterization of poly(Lactic acid) (PLA) membranes for pervaporation application.
7. **Master Degree Supervisor for Biotechnology Students**, 1st October 2010, **Dissertation:** Sewage wastewater treatment using PVC hollow fiber ultrafiltration membranes.
8. **Master Degree Supervisor for Chemical Engineering Students**, 1st October 2011, **Dissertation:** Oily Wastewater treatment by membranes bioreactor (MBR).
9. **Master Degree Supervisor for materials Engineering Students**, 1st October 2012, **Dissertation:** Brackish water desalination using membrane distillation technique.
10. **Master Degree Supervisor for Chemical Engineering Students**, 1st October 2012, **Dissertation:** Treatment of produced water from oil wells by floatation and membrane technique
11. **Master Degree Supervisor for Chemical Engineering Students**, 1st May 2013, **Dissertation:** Sea water 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).

Ph.D Students Supervisor for Chemical Engineering Students:

- 1- Dissertation:** "Effects of Osmotic Agent Concentration and Type on the Performance of Osmotic Membrane Distillation". **1st July 2009**
- 2- Dissertation:** "A Study of the Effect of Operating Conditions on the Reverse Osmosis Membrane Performance with and without Air Sparging Technique ". **1st July 2007 to 2010**
- 3- Dissertation:** "Desalination of seawater and produced water by membrane distillation". October **2012**.
- 4- Dissertation:** "Preparation and characterization of polymeric membranes for nanofiltration, membrane distillation and forward osmosis". **February 2013**.
- 5- Dissertation:** "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- Dissertation:** Analysis of different heavy metals retention from single salt and binary aqueous solutions by using nanofiltration membrane, **February 2013**.

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

- 1- Fellowship**, 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 26th of September 2007 to 28th 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 2009.
- 5- **Researcher Visitor**, Institute on Membrane Technology, ITM-CNR, Calabria University, Cosanza, Italy, July-August 2010.
- 6- **Researcher Visitor**, Department of Chemical Engineering, KU Leuven, Belgium, July-August 2011.
- 7- **Researcher Visitor**, Institute on Membrane Technology, ITM-CNR, Calabria University, Cosanza, Italy, September-October 2013.

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.
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.
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.
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.
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.
 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.
 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.
 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. Garc'ia-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.
 13. **Qusay Alsahy**, 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 Alsahy**, 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) 1-12.
15. **Qusay Alsahy**, 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).
 16. Mohammad F. Abid, Saadi K. Al-Naseri, **Qusay F. Alsahy**, Samirra N. Abdulla, Khalid T. Rashid, Desalination of Iraqi surface water using nanofiltration membranes, **Desalination and Water Treatment**, 29 (2011) 174-180.
 17. **Qusay F. Alsahy**, Hollow fiber ultrafiltration membranes prepared from blends of poly (vinyl chloride) and polystyrene, **Desalination** 294 (2012) 44–52.
 18. Salah S. Ibrahim and **Qusay F. Alsahy**, Modeling and Simulation for Direct Contact Membrane Distillation in Hollow Fiber Modules, **AIChE J.**, 59 (2013) 589–603.
 19. **Qusay Alsahy**, 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.
 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.
 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.

23. **Qusay F. Alsahly**, 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.
24. **Qusay F. Alsahly**, 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 for ultrafiltration applications, **Journal of Applied Polymer science**, 130 (2013) 989-1004.
25. **Qusay F. Alsahly**, 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).
26. **Qusay F. Alsahly**, 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.
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. 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.
29. 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).
30. Khalid T. Rashid, Sunarti Binti Abdul Rahman, **Qusay F. Alsahly**, Flux improvement of PVDF-co-HFP hollow fiber membranes for direct contact membrane distillation applications, submitted to *Separation Science and Technology*, 2015.
31. **Qusay F. Alsahly**, Riyadh S. Almkhtar, Harith A. Alani, Treatment of oil

- refinery wastewater by membrane bioreactor (MBR), Accepted, Arabian J. of Sci. and Eng., 2015.
- 32.** Sufyan Fadhil Algebory, Tiziana Marino, Hassan F. Makki, **Qusay F. Alsalhy**, Serenella Blefari, Francesca Macedonio, Emanuele Di Nicolò, Lidietta Giorno, Enrico Drioli, Alberto Figoli, New PVDF-HFP flat sheet membranes prepared by green solvent for Direct Contact Membrane Distillation Process (DCMD), submitted to Journal of Cleaner production, 2015.

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, 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 Alsalhy**, 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, JChEC06, 12-14 March 2012, Amman, Jordan.
5. **Qusay F. Alsalhy**, 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.

6. **Qusay F. Alsahy**, Salah Salman Ibrahim, Samraa Refat AlKurwi, Seawater desalination by vacuum membrane distillation (VMD), The 2nd Arab Water Conference and Exhibition 27-29 May 2014.

Reviewer For

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 and Journal of Chemical Engineering and Biotechnology

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.
6. A. F. Qusay, “PVA Recovery from simulated wastewater Using PES hollow fiber UF membranes: Part II; Effect of Carboxymethyl Cellulose CMC Addition”, Contract grant sponsor: Ministry of Higher Education and Scientific Research, Iraqi government, Contract No. 354, Contract period: Nov. 2005 to May 2007.
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.

Research Interests

Membrane separations; (i.e. Microfiltration, Ultrafiltration, Nanofiltration, Pervaporation and Gas separation processes); 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.
3. Prof. Bart van der Bruggen, Chemical Engineering Department, K.U. Leuven, Belgium.
4. Dr. Mumtaz A. Zablouk, Head of Chemical Engineering Department, University of Technology, P.O.Box 35010, Baghdad, Iraq.
5. Dr. M. Khayet, Department of Applied Physics I, Faculty of Physics, Complutense University of Madrid, Spain.
6. Dr. Safa A. Al Naimi, Chemical Engineering Department, University of Technology, P.O.Box 35010, Baghdad, Iraq.
7. Dr. Essam K. Halabia, Director of Unit Operation Branch, Chemical Engineering Department, University of Technology, P.O.Box 35010, Baghdad, Iraq.
8. Dr. Y.M. Wei, Chemical Engineering Research Center, East China University of Science and Technology, 130 Meilong Road, Shanghai 200237, China.