Curriculum Vitae
Nayef Mohamed Ghasem

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Department of Chemical & Petroleum Engineering,
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Educational

B.Sc. Chemical Engineering Department, Middle East Technical University, Ankara, Turkey July 1983

M.Sc. Chemical Engineering Department, Middle East Technical University, Ankara, Turkey September 1986 Thesis: Separation of binary liquid mixtures by parametric pumping

PhD. Chemical Engineering and Gas Processing unit, University of Salford, Great Manchester UK, January 1998. Thesis: Static and dynamic bifurcation behavior of the Industrial UNIPOL Process for polyethylene production in bubbling fluidized bed reactors.

Professional Membership and Recognition

Associate Member (IChemE)
American Chemical Society (ACS)
American Society for Engineering Education (ASEE)

Research Areas:

Modeling and simulation of chemical processes
Fabrication of hollow fiber membrane
Polymer reaction engineering
Separation processes
Advanced control of nonlinear systems

Postgraduate Supervision

PhD students

1. Javad Hederian: Studies on the kinetics of polymerization of polyamide hot melt adhesives. August, 2005. University Malaya, Malaysia
2. Suhairi AbdulSata: Advanced control of batch polymerization reactor, 2006. University Malaya, Malaysia
3. Ahmad Ibrahim; Modeling and advanced control for polyethylene production in a fluidized bed catalytic reactor, June 2010. University Malaya, Malaysia

Master students

4. Ang Wee Lee: Modeling simulation and control of a multi zone circulating reactor for polyethylene production. March 2007. University Malaya, Malaysia.
5. Mohamed Al-Rashed, Removal of CO_2 from flue gases. 2008. UAE University, UAE
6. Latifa Obeid Hamad Al-Nuaimi: Fabrication of polymeric hollow fiber membrane for the production of safe drinking water. January, 2011. UAE University, UAE.

PUBLICATIONS

Books

1. **Ghasem N.M.**, Redhouane Henda, Principles of Chemical Engineering Processes, Material and Energy Balances, 2nd Edition, CRC Press, Taylor and Francis Group, New York, USA. November 13th 2014
   ISBN: 978-1-48-222228-9
2. **Ghasem N.M.,** Computer methods in Chemical Engineering, CRC press, New York, NY, 25 August, 2011.
   ISBN: 9781439849996
3. **Ghasem N.M.**, Redhouane Henda, Principles of Chemical Engineering Processes, CRC Press. Taylor and Francis Group, New York, USA. September 19, 2008. ISBN: 978-14200-8013-1
4. **Ghasem N.**, Ezzat Chan, Simulation of unit operations with HYSYS, UM press, 2006, Malaysia.
   ISBN: 983-100-345-4.

Book chapters

1. **Ghasem**, **N.M.,** Al-Marzouqi, M. Modeling and Experimental Study of Gas-Liquid Membrane Contactor. *Encyclopedia of Information Science and Technology, Third Edition (10 Volumes).* Chapter 537, pages 5442-5453. DOI: 10.4018/978-1-4666-5888-2

Papers Published in Refereed Journals

1. **Ghasem**, **N.M.**, Al-Marzouqi, M., Ismail, Z. Gas–liquid membrane contactor for ethylene/ethane separation by aqueous silver nitrate solution, *Separation and Purification Technology*, 127 (2014) 140–148.

2. Khana, M.J.H., Hussain, M.A., Mansourpourb, Z., Mostoufib, N., **Ghasem, N.M**. Abdullahd, E.C. CFD simulation of fluidized bed reactors for polyolefin production– A review. *Journal of Industrial and Engineering Chemistry*. 20 (2014) 3919–3946

3. **Ghasem**, **N.M.**, Al-Marzouqi, M., Abdul Rahim, N. Absorption of CO_2 form natural gas via gas-liquid PVDF hollow fiber membrane contactors and potassium glycinate as solvent. Jurnal Teknologi (Journal of Technology): Special Issue on Sustainable Membrane Technology for Energy, Water & Environment. 69:9 (2014) 121–126. E-ISSN 2180-3722

4. **Ghasem**, **N.M.**, Al-Marzouqi, M., Abdul Rahim, N. Modeling of CO_2 absorption in a membrane contactor considering solvent evaporation, *Separation and Purification Technology* 110 (2013) 1–10.

5. **Ghasem**, **N. M,** Al-Marzouqi, M., Abdul Rahim, N. Effect of polymer extrusion temperature on Poly(vinylidene fluoride) hollow fiber membranes; properties and performance used as gas-liquid membrane contractor for CO_2 absorption. *Separation and Purification Technology* 99 (2012) 91–103.

6. **Ghasem N. M**, Al-Marzouqi, M., Ali Duidar, Effect of PVDF concentration on the morphology and performance of hollow fiber membrane employed as gas-liquid membrane contactor for CO_2 absorption. *Separation and Purification Technology* 98 (2012) 174–185.

7. **Ghasem N. M,** Al-Marzouqi, M., Zhu, L. Preparation and properties of polyethersulfone hollow fiber membranes with o-xylene as an additive used in membrane contactors for CO_2 absorption. *Separation and Purification Technology* 92 (2012) 1–10.

8. Ibrehem A. S., Hussain M. A., **Ghasem N. M**, Decentralized Advanced Model Predictive Controller of Fluidized-Bed for Polymerization Process. IJCCE, Vol. 31, No. 4, 2012.

9. **Ghasem N. M,** Al-Marzouqi, M., Duaidar, A. Effect of quenching temperature on the performance of poly (vinylidene fluoride) microporous hollow fiber membranes fabricated via thermally induced phase separation technique on the removal of CO_2 from CO_2 - gas mixture. *International Journal of Greenhouse Gas Control* 5 (2011), pp. 1550-1558. (18-NOV-2011)

10. **Ghasem N. M,** Al-Marzouqi, M. Effects of Shear Rate, Temperature, and Polymer Composition on the Shear Stress of Polyethersulfone/1-Methyl-2-pyrrolidone Cast Solutions. *J. Chem. Eng. Data* 2011, 56, 4444–4448.
11. **Ghasem N. M**. Effect of Temperature and Catalyst Concentrations on the Thermal Properties of Polyamide Adhesives at Low Operating Pressure, *Chemical Product and Process Modeling*: (2010) Vol. 5 : Iss. 1, Article 30. DOI: 10.2202/1934-2659.1508
12. **Ghasem N. M**, Al-Marzouqi, M., Elnaas, M. Effect of Temperature, Composition, and Shear Rate on Polyvinylidene Fluoride/Dimethylacetamide Solution Viscosity, *J. Chem. Eng. Data* 2009, 54, 3276–3280.
13. **Ghasem N. M**, Ang Wee Lee, Hussain, M.A., Dynamics and stability of ethylene polymerization in multizone circulating reactors, *Korean J. Chem. Eng*., 2009, 26(3), 603-611.
14. Ibrehem A. S., Hussain M. A., **Ghasem N. M,** Modified mathematical model for gas phase olefin polymerization in fluidized-bed catalytic reactor, *Chemical Engineering Journal*, 2009 149, 353–362
15. Ibrehem A. S., Hussain M. A., **Ghasem N. M**, Mathematical Model and Advanced Control for Gas-Phase Olefin Polymerization in Fluidized-Bed Catalytic Reactors, *Chin. J. Chem. Eng*., (Vol. 16, No. 1), February 2008.
16. **Ghasem N. M**., Wee L. A., Hussain M. A, Dynamic Model for Polyethylene Production in a Multizone Circulating Reactor. Chemical Product and Process Modeling, Volume 3, Issue 1 2008
17. Ibrehem A. S., Hussain M. A., **Ghasem N. M**, Dynamic analysis and system identification of polyethylene process, Journal of Chemical and Natural Resources Engineering, 3: 33-44, 2008.
18. **Ghasem N. M.**, Sata S. A., Hussain, M. A. Temperature control of a bench scale batch polymerization reactor for polystyrene production. *Chem. Eng. Technol*., 2007, 30, 1193.
19. **Ghasem N. M.**, Heidarian J., Wan Daud W. M. A. Effect of reaction temperature on conversion and the thermal Properties of polyamides hot-melt adhesives**.** *Asia-Pac. J. Chem. Eng.* 2007; **2**: 599–608.
20. **Ghasem N. M.**, Design of a fuzzy logic controller for regulating the temperature in industrial polyethylene flujidized bed reactor, *Trans IChemE, Part A, Chemical Engineering Research and Design*, 84(A2):1-10, 2006
21. Heidarian J., **Ghasem, N. M**., Wan Daud W. M. A.., The optimum temperature profile for non-catalytic reaction to produce polyamide hot melts adhesives, *Journal of Applied Polymer Science*. Volume 99, Issue 4: 2006, pp: 1817-1822
22. **Ghasem N. M.,** Hussain M. A., Sata S. A, Application of model predictive control to batch polymerization reactor, *Journal of faculty of science*, Universitas scientiarum, Bogota, Colombia, No. 1, Vol. 11, 2006.pp. 43-50.
23. **Ghasem N. M.,** Bifurcation Analysis of Fluidized bed polyethylene reactor with internal cooler, *Chem .Eng. Technol.*, Volume 28, Issue 8 **,** Pages 915 – 922, 2005
24. Heidarian J., **Ghasem N. M.**, Ashri W. M., Kinetics of polymerization of dimmer fatty acids with ethylenediamine after 90% conversion, *Macromol. Chem. Phys*. 2005, 206, pp. 658-663.
25. Ang W. L., **Ghasem, N. M.,** Hussain, M.A**.,** Utilization of mathematical Software packages in chemical engineering research**,"** AJChE Vol. 5, No. 2, 2005. pp.125-130
26. **Ghasem N. M.,** Hussain M. A., Simulation, optimization and parametric studies of solid catalyzed gas phase ethylene polymerization fluidized bed reactor**,** *Journal of chemical Engineering of Japan*, Vol. 38, No. 3, pp. 171-175, 2005
27. Heidarian J., **Ghasem N. M.**, Ashri W. M., Kinetics of polymerization of dimmer fatty acids with ethylenediamine, *Journal of Applied Polymer Science*. Vol. 92, No. 4, 2004, pp. 2504-2513
28. Heidarian J., **Ghasem N. M.,** Ashri W. M.**,** Study on kinetics of polymerization of dimmer fatty acids with ethylenediamine in the presence of catalyst**,** *Chemical Engineering Journal*, 100 (2004) 85-93.

29. Heidarian J., **Ghasem N. M.,** Ashri W. M., Effect of temperature and mixing rate on foaming in polymerization reaction to produce fatty polyamides in presence of catalyst. *Ind. Eng. Chem. Res.* (2004),43, 6048-6054
30. **Ghasem N. M.,** M. A. Hussain, Stabilization of the dynamic behavior of a UNIPOL process for polyethylene production. *Dev. Chem. Eng. Mineral Process.* 12(1/2) pp. 1-18. (2004).
31. **Ghasem N. M**., Al-Masry W. A., Al-Mubaddel F. S., Al-Zeghayer Y.S., The effect of design parameters on industrial UNIPOL polyethylene fluidized bed polymerization process, J. Saudi Chem. Soc.; Vol. 8, No. 1; (2004) pp. 97-104

Papers Published in Conference Proceeding

1. **Nayef Ghasem,** Mohamed Al-Marzouqi, N. Abdul Rahim, Removal of Heavy Metals Using Water-Soluble Polymer via PVDF Hollow Fiber Membrane Contactor. 3rd ScienceOne International Conference on Environmental Sciences, Dubai on January 21-23, 2014.
2. **Nayef Ghasem**, Mohamed Al-Marzouqi, N. Abdul Rahim. Simulation of Gas/Liquid Membrane Contactor with COMSOL Multiphysics. COMSOL conference, WTC Rotterdam, Netherlands. October 23 - 25, 2013. Session: Chemical reaction engineering II.
3. **Nayef Ghasem**, Mohamed Al-Marzouqi, N. Abdul Rahim. Absorption of acid gas via gas-liquid membrane contactors and potassium glycinate as solvent. The 2nd international conference on water energy & environment 2013. September 21-24, 2013 Kusadasi, Turkey.
4. **Nayef Ghasem**, Mohamed Al-Marzouqi, N. Abdul Rahim. Absorption of CO_2 from natural gas utilized gas-liquid PVDF hollow fiber membrane contactors via potassium glycinate solvent. 11th International conference on membrane science and technology, Seri pacific hotl, Kuala Lumpur, 27-29th August 2013.
5. **Nayef Ghasem**, Mohamed Al-Marzouqi, Modeling and simulation for the removal of pollutant gases from natural gas using membrane contactors. Advance in fluid mechanics & heat & mass transfer. WSEAS International Conferences Istanbul, Turkey, August 21-23, 2012. Page 147-152
6. **Nayef Ghasem**, Mohamed Al-Marzouqi, Modeling and simulation for the removal of pollutant gases from natural gas using membrane contactors. Advance in fluid mechanics & heat & mass transfer. WSEAS International Conferences Istanbul, Turkey, August 21-23, 2012. Page 147-15
7. Latifa Al Nuaimi, **Nayef Ghasem**, Mohamed Al-Marzouqi, fabrication of polymeric hollow fiber membrane for the production of safe drinking water. The 2011 International Conference on Water, Energy and Environment, 14 -17 November, 2011, Sharjah, UAE.
8. **Nayef Ghasem**, R. Al-Marzouqi M. H. Al-Marzouqi, A. Duaidar. Removal of CO_2 from gas mixture using hollow fiber membrane contactors fabricated from PVDF/Triacetin/Glycerol cast solution. Advances in control and chemical engineering conference. European Conference of Chemical Engineering, November 30- December 2, 2010. Tenerife, Spain.