



Resume



دانشگاه صنعتی شیراز
SHIRAZ UNIVERSITY
OF TECHNOLOGY



First name: Payam

Last name: Parvasi

Academic title: Assistant professor

Area of Specialty: Membrane reactor for pure Hydrogen production and ultrasonic separation processes

Areas of Interest: Reactor modeling especially membrane reactors and fixed bed reactors, ultrasonic and membrane separation set-ups, water soluble resin synthesis systems and powder spray drying systems

Projects & Research Activities:

- 1) Synthesis of new polymeric demulsifier formulation for heavy crude oil water in oil demulsification, Iranian Central Oil Fields Company.
- 2) Dynamic simulation and nonlinear modeling of methanol synthesis loop, Shiraz Petrochemical Company.
- 3) Synthesis of new melamine resin formulation used in preparing the paper for bank notes, Central Bank of the Islamic Republic of Iran.

Selected publication

1- P. Parvasi, M.R. Rahimpour and A. Jahanmiri, "Incorporation of dynamic flexibility in the design of methanol synthesis loop in the presence of catalyst deactivation", *Chemical Eng. & Technology*, (2008), Volume 31, Issue 1, pages 116–132.

2- P. Parvasi, A. Khosravanipour Mostafazadeh, M.R. Rahimpour. "Dynamic modeling and optimization of a novel methanol synthesis loop with hydrogen-permselective membrane reactor", *International Journal of Hydrogen Energy*, (2009), Volume 34, Issue 9, 3717-3733.

3- M.R. Rahimpour, P. Parvasi, P. Setoodeh, "Dynamic optimization of a novel radial-flow, spherical-bed methanol synthesis reactor in the presence of catalyst deactivation using Differential Evolution (DE) algorithm", *International Journal of Hydrogen Energy*, (2009), Volume 34, Issue 15, 6221-6230.

4- P. Parvasi, A. Khaje Hesamedini, A. Jahanmiri and M. R. Rahimpour, "A Comparative Study on Droplet Coalescence in Heavy Crude Oil Emulsions Subjected to Microwave and Ultrasonic Fields", *Separation Science and Technology*, (2013), Volume: 48, Issue: 11, pages 1591-1601.

5- P. Parvasi, A. Khaje Hesamedini, A. Jahanmiri and M. R. Rahimpour, "A Novel Modeling and Experimental Study of Crude Oil Desalting using Microwave", *Separation Science and Technology*, (2013), 49 (7), 1029-1044.

6- J Ghiasi-Freez, A Hatampour, P Parvasi, "Application of Optimized Neural Network Models for Prediction of Nuclear Magnetic Resonance Parameters in Carbonate Reservoir Rocks", *International Journal of Intelligent Systems and Applications*, (2015), (IJISA) 7 (6), 21.

7- Hossein Parhizgar, Jafar Javanmardi, Amir H. Mohammadi, Mahmood Moshfeghian and Payam Parvasi, "A thermodynamic framework for modeling semiclathrate hydrate phase stability conditions in gas + tetra-n-butyl ammonium halide aqueous solution system", *Asia-Pac Journal of Chemical Engineering*, (2018), 13:e2199.

- 8- Kh. Ebadi, J. Javanmardi, P. Parvasi and A.A. Roosta, "Experimental Investigation of Biological Removal of H₂S from Land-fill Gas in Shiraz", *Shimi va Mohandesi Shimi Iran (NSMSI)*, (2018), (in Persian).
- 9- Ali Khajehesamedini, Ali Sadatshojaie, Payam Parvasi, Mohammad Reza Rahimpour, Mohammad Mehdi Naserimojarad, "Experimental and theoretical study of crude oil pretreatment using low-frequency ultrasonic waves", *Ultrasonics–Sonochemistry*, (2018), 48, 383-395.
- 10- Seyyed Mohammad Jokar, Payam Parvasi, Angelo Basile, "The evaluation of methane mixed reforming reaction in an industrial membrane reformer for hydrogen production", *International Journal of Hydrogen Energy*, (2018), 34 (15), 6221-6230.
- 11- Payam Parvasi and Seyyed Mohammad Jokar, "A Novel Reactor Configuration for Industrial Methanol Production From the Synthesis Gas", *Journal of Energy Resources Technology*, (2019), 141 (4), 042007-1- 042007-7
- 12- Seyyed Mohammad Jokar, Payam Parvasi, Angelo Basile, "The performance evaluation of an industrial membrane reformer with catalyst-deactivation for a domestic methanol production plant", *International Journal of Hydrogen Energy*, (2019), 44 (47), 25730-25739.
- 13- Payam Parvasi, Seyyed Mohammad Jokar, Arash Shamseddini, Aziz Babapoor, Farzad Mirzaie, Hamed Abbasfard, Angelo Basile, "A novel recovery loop for reducing greenhouse gas emission: simultaneous production of syngas and pure hydrogen in a membrane reformer", *Renewable Energy*, (2020), 153, 130-142.
- 14- Payam Parvasi, Seyyed Mohammad Jokar, Angelo Basile, Adolfo Iulianelli, "An on-board pure H₂ supply system based on a membrane reactor for a fuel cell vehicle: A theoretical study", *Membranes*, (2020), 10 (7), 159.
- 15- Seyyed Mohammad Jokar, Navab Zamaninejad, Payam Parvasi, Jafar Javanmardi, "Simulation and Modification of The Process at The Gas Compression Station to Reduce Fuel Consumption and Environmental Pollution", *Journal of Modeling in Engineering*, (2020), 18 (62), (in Persian).

- 16- Mohammad Reza Talaghat, Reza Arjmand Mazidi and Payam Parvasi, "Modeling of Demulsification Process of Crude Oil Emulsions from Wastewater of Ddesalination Plant", *Nashrieh Shimi va Mohandesi Shimi Iran*, (2020), ACCEPTED, (in Persian).
- 17- Zahra Hasanshahi, Payam Parvasi, Mohamad Mahdi Zerafat, Samad Sabbaghi, "Experimental Investigation of Fe₃O₄-Chitosan Nanocomposite as a Nano-Demulsifier for Water in Crude Oil Separation", *Journal of Nanoanalysis*, (2020), ACCEPTED.
- 18- Maryam Ghaderi Ardakani, Jafar Javanmardi and Payam Parvasi, "A kinetic study of methane hydrate formation in the presence of ionic liquids and poly(N-nylcaprolactam)", *Gas Processing Journal*, (2021), 9 (1), 43-50.
- 19- A. R. Jabarpour, J. Javanmardi, M. Roostaei, Kh. Nasrifar, P. Parvasi, F. Alavi, S. M. Jokar, "Possibility of Gas Heater Elimination for City-Gate Gas Stations in Hot-Climate Regions of Fars Province", *Iranian Chemical Engineering Journal*, (2021) 19(113), (in Persian).
- 20- F. Mirab Haghghi, P. Parvasi, S. M. Jokar, A. Basile, "Investigating the Effects of Ultrasonic Frequency and Membrane Technology on Biodiesel Production from Chicken Waste", *Energies*, (2021), 14(8), 2133.
- 21- S. M. Jokar, M. R. Keshavarz, M. Zhubin, P. Parvasi, A. Basile, "A novel tubular membrane reactor for pure hydrogen production in the synthesis of formaldehyde by the silver catalyst process", *International Journal of Hydrogen Energy*, (2021), 19 (113), 62-73.
- 22- S. M. Jokar, D. A. Wood, S. Sinehbaghizadeh, P. Parvasi, J. Javanmardi, "Transformation of associated natural gas into valuable products to avoid gas wastage in the form of flaring", *Journal of Natural Gas Science and Engineering*, (2021), 94, 104078.
- 23- Payam Parvasi, Fateme Kamali, Mohammad Reza Talaghat, "An Experimental Study on Low-content Crude Oil in Water Emulsion Using Low-Frequency Ultrasonic Waves", *Brazilian Journal of Chemical Engineering*, (2022), 39, 197-205.
- 24- S.M. Jokar, A. Farokhnia, M. Tavakolian, M. Pejman, P. Parvasi, J. Javanmardi, F. Zare, M. Clara Gonçalves², A. Basile, "The Recent Areas of Applicability of Palladium Based Membrane Technologies for Hydrogen Production from Methane and Natural Gas: A Review", *International Journal of Hydrogen Energy*, (2022), Accepted.

25- A. Farokhnia, S.M. Jokar, P. Parvasi, A.S. Kim, "A Novel Design for Biodiesel Production from Methanol+ Mutton Bone Fat Mixture", *Biotechnology for Biofuels and Bioproducts*, (2022), 15(1), 1-14.

26- M.M. Naraki, P. Parvasi, S.M. Jokar, A. Iulianelli, "Experimental and theoretical feasibility study of methanol application for Echium oil-based biodiesel production", *Renewable Energy*, (2023) 202, 1241-1247.

27- Payam Parvasi, Seyyed Mohammad Jokar, Angelo Basile, "A novel concept for pure hydrogen production and a massive reduction in CO₂ emissions from the formaldehyde absorption process", *Asia-Pacific Journal of Chemical Engineering*, (2023), Accepted.

Book Chapters:

1- Theoretical Aspects of Gas Transport in Polymers: P. Parvasi, F. Sabzi, in "Transport through Polymeric Membranes" Chapter 20, Editors: Sabu Thomas (India), Runcy Wilson, Anil Kumar S and Soney C Geroge, Elsevier Publications, (2017).