

# In the Name of Allah

## Curriculum Vitae 29 April 2026



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**Date of birth:** 1952/11/22  
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### **Education:**

1992-1997 **Ph.D.** (Transport Phenomena in Annular Packed Beds, Chemical Engineering, Department, the University of Leeds, UK)

.۱۹۸۵-۱۹۸۶ **M.Sc.** (Two-phase flow in wells and Gathering & Transmission Systems, School of Chemical Engineering, College of Engineering, University of Tehran, Tehran, Iran)

1975-1985 **B.Sc.** (Oil Production & Processing, School of Chemical Engineering, College of Engineering, University of Tehran, Tehran, Iran).

## **Experience:**

Since July 2025 "Member of the Board of Trustees of the Research Institute of Polymer and Petrochemical, IR. Of Iran",

Since July 2025 "Member of the Board of Trustees of the Agriculture and Natural Resources University of Gorgan, Golestan, IR. Of Iran",

Since July 2025 "Member of the Board of Trustees of the Universities of Gonbad and Golestan, Golestan, IR. Of Iran",

Since March 2025 "Member of the Board of Trustees of the Research Institute of Petroleum Industry, RIPI," Petroleum Ministry of I.R. of Iran.

Since February ۲۰۲۰ "Affiliated member of the Academy of Sciences of the I.R. of Iran"

Since September 2024 "Chairman of the company's board of directors Persian Gulf Ofugh Petrochemical Parks Company "

Since October 2023 "Member of the board of directors of the Persian Gulf Ofugh Petrochemical Parks Company "

November 2023 "Superintendent and responsible for setting up the research institute of Liquid Natural Gas Institute at the University of Tehran @ National research week, Tehran, Iran. "

December 2023 "The best scientist in relation to the society and industry selected by the Ministry of Research Sciences and Technology"

Since 2022 "Visiting member of the chemical engineering branch of the Academy of Sciences of the I.R. of Iran "

Since May 2021 “Member of the expert working group for developing productivity improvement programs of the National Productivity Organization of Iran”

March 2018- March 2022 “National Director of Energy Efficiency and Environment in Building, Joint Project with UNDP & GEF”.

October 2017-March 2022 “Advisor to Vice Presidency for Science & Technology of I.R. of Iran”.

November 2013-October 2017 “Deputy of Technology Development of Vice Presidency for Science & Technology of I.R. of Iran”.

2013-2015 “Head of Institute of Petroleum Engineering (IPE), College of Engineering, University of Tehran, Tehran, Iran”.

Since March 2013 “Head of Institute of Liquefied Natural Gas Engineering (I-LNG), College of Engineering, University of Tehran, Tehran, Iran”.

June 2012 -March 2018 “Executive Manager of National Iranian Oil & Gas Underground Storage”.

March 2007-March 2012 “Head of Petroleum & Gas Engineering Department, School of Chemical Engineering, College of Engineering, University of Tehran, Tehran, Iran”.

2007- 2012 “Deputy of Institute of Petroleum Engineering in Education and Research Affairs, College of Engineering, University of Tehran, Tehran, Iran”.

2004-2018 “Editor-in-Chief of Research and Development of Upstream of Petroleum Engineering, Tehran., Iran”.

**2001-2004** “Editorial Board of Iranian Chemical Engineering Journal, Tehran., Iran”.

**1999-2009** “Member of the Board of Iranian Society of Petroleum Engineering”.

**2001-2005** “Member of the Board of Iranian Chemical Engineering Association”.

**1999-2009** “General Director of Iranian Society of Petroleum Engineering”.

**1999-2002** “Deputy of Research Affairs, Ministry of Petroleum, I.R. of Iran, Tehran, Iran”.

**1997-2012** “Member of Research & Graduate Studies Council, School of Chemical Engineering, College of Engineering, University of Tehran, Iran”.

**1997- 2012** “Member of Education and Graduate Council, School of Chemical Engineering, College of Engineering, University of Tehran, Tehran., Iran”.

**1997-1999** “General Director of Research Affairs Office, the Ministry of Science, Research and Technology, I.R. of Iran, Tehran, Iran”.

**Since 1990** “Academic Member of School of Chemical Engineering, College of Engineering, University of Tehran, Tehran, Iran”.

- 1990-1992** “General Director of Research Affairs Office, the Ministry of Science, Research and Technology, I.R. of Iran, Tehran, Iran”.
- 1990-1992** “General Director of Relationship between University and Industry at University of Tehran, Tehran, Iran”.
- 1991-1992** “Secretary of Science & Technology Section of Islamic Republic of Iran Second Development Program Committee”.
- 1990-1992** “Editorial Board of Chemistry and Chemical Engineering Journal of Jihad Daneshgahi, Tehran., Iran”.
- 1990-1992** “Member of Research Council of the University of Tehran, Tehran., Iran”.
- 1987-1989** “Academic Member of of the Abadan Institute of Technology, Ahwaz, Iran”.
- 1987-1989** “President of Abadan Institute of Technology, Ahwaz, Iran”.
- 1985-1986** “General Directors of Design and Engineering of the National Iranian Gas Company, Tehran, Iran”.
- 1984-1985** “Research on Gathering and Gas Transmission (Two-Phase Flow) in Pipelines, Khangiran Field, the National Iranian Gas Company, Iran”.
- 1980-1983** “General Managers of Research Affairs of the Jihade-Daneshgahi, Tehran, Iran”.

### **Papers and Publications:**

#### **Papers under submission/submitted.**

#### **Published Papers:**

- ١) **Mostafa Jafari, Ali Vatani, Toraj Mohammadi, Ahmadreza Andarz, “Molecular dynamics investigation of interfacial energy and mechanical behavior in braid-reinforced hollow fiber membranes” Journal of Scientific Report, April 2026.  
DOI: 10.1038/s41598-026-41106-0  
Article ID: 41598\_2026\_41106\_Article**
- ٢) **Arash Daneshfar, Zahra Khazaei, Amin Homaei, Ali Vatani, “Energy Capacity and Injection Strategy Evaluation for the Conversion of Natural Gas Storage to Hydrogen Storage”, Journal of Energy Conversion and Management, Volume 357, 1 June 2026, 121426.**
- ٣) **Mostafa Jafari, Mohammad Banakar, Ali Vatani “Cryogenic Simulation and Freezing Point Evaluation in Nitrogen Rejection from**

Natural Gas: A Coupled Aspen HYSYS–ThermoFAST Approach” has been accepted for publication in the Journal of Iranian Journal of Oil and Gas Science and Technology, February 2026.

- €) Mostafa Jafari, Ali Vatani, Ahmadreza Andarz ‘Molecular Dynamics Investigation of Interfacial Energy and Mechanical Behavior in Braid-Reinforced Hollow Fiber Membranes’ Journal of Research Square, a. <https://doi.org/10.21203/rs.3.rs-7961374/v1> ....., 2025
- ⓪) Ali Palizdar and Ali Vatani “Methanol to gasoline process: design and analysis of a structure with the minimum energy requirement and proposal of a novel integrated configuration to improve profitability” Energy 316 (2025) 1 February 2025, <https://doi.org/10.1016/j.energy.2025.134459>
- Ⓜ) Mostafa Jafari, Ali Vatani, Toraj Mohammadi, "CFD Modeling of Braid-Reinforced Hollow Fiber Membranes for Efficient Water and Bovine Serum Albumin (BSA) Separation", Journal of Water Process Engineering (JWPE), Volume 65, August 2024, 105746, <https://doi.org/10.1016/j.jwpe.2024.105746>
- Ⓝ) Mehdi Falsafi, Ali Vatani, Mojgan Abbasi, Ali Palizdar, “An efficient thermo-hydraulic model for the investigation of a plate-fin heat exchanger in a single mixed refrigerant process”, International Journal of Heat and Mass Transfer, Volume 227, 1 August 2024, 125507, <https://doi.org/10.1016/j.ijheatmasstransfer.2024.125507>.
- Ⓨ) Ali Palizdar and Ali Vatani “Design and analysis of a novel self-refrigerated natural gas liquefaction system integrated with helium recovery and CO2 liquefaction processes” has been submitted for publication in the Journal of Cleaner Production, Volume 423, 15 October 2023, 138600. <https://doi.org/10.1016/j.jclepro.2023.138600>.
- Ⓢ) *Farhad Ghadyanlou, Ahmad Azari and Ali Vatani* “Experimental Investigation of Mass Transfer Intensification for CO2 Capture by Environment-friendly Water Based Nanofluid Solvents in a Rotating Packed Bed” Journal of Sustainable, Vol. 14, No 11, a. <https://doi.org/10.3390/su14116559>.
- Ⓡ) **Fatemeh Zarezadeh, Ali Vatani, Ali Palizdar, Zahra Nargessi** “Simulation and Optimization of Sweetening and Dehydration Processes in the Feed Gas Pretreatment unit of a Mini-Scale Natural Gas Liquefaction Plant”, International Journal of Greenhouse Gas Control 118 (2022) <https://doi.org/10.1016/j.ijggc.2022.103669>.
- Ⓠ) **Aliakbar Kakouie, Ali Vatani, Seyed AmirHosseini Moghaddam, Shiva Shirani, Claudio Ferrero, Emmanuel Brun** “Lattice kinetic model of 3D flow characterization in reservoir core samples via synchrotron X-ray

micro-tomography” *Journal of Computer Sciences and Geosciences*,  
Volume 156, November 2021,  
<https://doi.org/10.1016/j.cageo.2021.104908>.

۱۲) **Farhad Ghadyanlou, Ahmad Azari and Ali Vatani** “Gas Absorption Intensification by Rotating Packed Bed Contactors –A Review” *Journal of Sustainability* 2021, Vol. 13, No.14, 8046.  
<https://doi.org/10.3390/su13148046>.

۱۳) **Mahshid Zaresharif, Ali Vatani & Mohammadreza Ghasemian** “Evaluation of Different Flare Gas Recovery Alternatives with Exergy and Exergoeconomic Analyses” *Arabian Journal for Science and Engineering* (2021),  
<https://doi.org/10.1007/s13369-021-05485-y>

۱۴) **Mahsa Mohammadi, Mohammadreza Khanmohammadi Khorrami, Ali Vatani, Alireza Bahramian, Hossein Ghasemzadeh, Hamid Vatanparast** “Genetic algorithm-based support vector machine regression for prediction of SARA analysis in crude oil samples using ATR-FTIR spectroscopy” *Journal of Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*.  
<https://doi.org/10.1016/j.saa.2020.118945>, 1386-1425/© 2021, Elsevier B.V. All rights reserved.

۱۵) **Zangeneh, S.M. Peyghambarzadeh, A. Bayat and A. Vatani** “Application of general multilevel factorial design approach in forced convection and subcooled flow boiling heat transfer to CuO/water nanofluids” *Journal of Molecular Liquids* 313 (2020) 113502,  
<https://doi.org/10.1016/j.molliq.2020.113502>, 0167-7322/© 2020 Elsevier B.V. All rights reserved.

۱۶) **Sepehr Nikkho, Mojgan Abbasi, Jafar Zahirifar, Morteza Saedi, and Ali Vatani** “Energy and Exergy Investigation of Two Modified Single Mixed Refrigerant Processes for Natural Gas Liquefaction” *Journal of Computers & Chemical Engineering*,  
<https://doi.org/10.1016/j.compchemeng.2020.106854> 0098-1354/© 2020 Elsevier Ltd. All rights reserved.

۱۷) **Zeinab Hamidzadeh, Sourena Sattari, Mohammad Soltanieh, Ali Vatani** “Development of a Multi Objective Decision-Making Model to Recover Flare Gases in a Multi Flare Gases Zone”, *Energy Journal*,  
<https://doi.org/10.1016/j.energy.2020.117815>, 0360-5442/© 2020 Published by Elsevier Ltd.

۱۸) **Mahsa Mohammadi, Mohammadreza Khanmohammadi Khorrami, Ali Vatani, Hamid Vatanparast, Hossein Ghasemzadeh, Afshin Fallah,** “Rapid Determination and Classification of Crude oils by ATR-FTIR Spectroscopy and Chemometric Methods” *Journal of Spectrochimica Acta*

Part A: Molecular and Biomolecular Spectroscopy. Volume 232, 5 May 2020, 118157,  
<https://doi.org/10.1016/j.saa.2020.118157>, 1386-1425/© 2020 Elsevier B.V. All rights reserved.

- ۱۹) **Mohammad Mesbah, Ali Vatani, Majid Siavashi and Mohammad Hossein Doranehgard** “Parallel processing of numerical simulation of two-phase flow in fractured reservoirs considering the effect of natural flow barriers using the streamline simulation method” International Journal of Heat and Mass Transfer, Volume 131, March 2019, Pages 574-583, <https://doi.org/10.1016/j.ijheatmasstransfer.2018.11.097>
- ۲۰) **Ali Palizdar, Talieh Ramezani, Zahra Nargessi, Saeedeh AmirAfshar, Mojgan Abbasi and Ali Vatani** “Advanced exergoeconomic evaluation of a mini-Scale nitrogen dual expander process for liquefaction of natural gas” Energy Journal, Volume 168, 1 February 2019, Pages 542-557. <https://doi.org/10.1016/j.energy.2018.11.058>
- ۲۱) **Kakouei Aliakbar, Rasaei Mohammad Reza, Vatani Ali, Sedae Sola Behnam and Moqtaderi Hamed** “Investigating the pore-level heterogeneity pattern on non-Darcy flow using LBM simulation” Journal of Porous Media, pages 701-720. 2018. DOI: 10.1615/JPorMedia.v21. i8.20
- ۲۲) **Eghbaljahromi, Parisa; Fatemi, Shohreh; Vatani, Ali**, "Effective Design of a PVSA Process to Recover Dilute Helium from a Natural Gas Source in a Methane-Rich Mixture with Nitrogen" Journal of Industrial & Engineering Chemistry Research, 57(38) • August 2018. DOI: 10.1021/acs.iecr.8b00798.
- ۲۳) **Mohammad Mesbah, Ali Vatani, Majid Siavashi**, “Streamline simulation technique for modeling and simulation of production mechanisms in naturally fractured reservoirs by different transfer functions” Oil & Gas Science and Technology - Rev. IFP Energies nouvelles ۲۳, ۱۴ (۲۰۱۸). <https://doi.org/10.2516/ogst/2018004>
- ۲۴) **Shabnam Gharibi, Emad Mortezaazadeh, Seyed Jalaledin Hashemi Aghcheh Bodi and Ali Vatani** “Feasibility study of geothermal heat extraction from abandoned oil wells using a U-tube heat exchanger” Journal of Energy Volume 153, 15 June 2018, Pages 554-567, <https://doi.org/10.1016/j.energy.2018.04.003>
- ۲۵) **Parisa Eghbal Jahromi, Shohreh Fatemi, Ali Vatani, James A. Ritter, Armin D. Ebner**, “Purification of helium from a cryogenic natural gas nitrogen rejection unit by pressure swing adsorption” Journal of Separation and Purification Technology, Volume 193, Pages 91-102, 2018. <https://doi.org/10.1016/j.seppur.2017.11.002>.
- ۲۶) **Hasannejad Reza, Pourafshary Peyman, Vatani Ali, Sameni Abdolhamid**, Application of silica nanofluid to control initiation of fines

migration” Journal of Petroleum Exploration and Development, **Volume** 44, Issue 5, October 2017

- ۲۷) **Ali Palizdar, Talieh Ramezani, Zahra Nargessi, Saeedeh AmirAfshar , Mojgan Abbasi and Ali Vatani** “Thermodynamic evaluation of three mini-scale nitrogen single expansion processes for liquefaction of natural gas using advanced exergy analysis “Journal of Energy Conversion Management, 15 October 2017, pp-637-650, <https://doi.org/10.1016/j.enconman.2017.08.042>
- ۲۸) **Kakouei Aliakbar, Vatani Ali, Rasaei Mohammad Reza, Sedae Sola Behnam and Moqtaderi Hamed.** Cessation of Darcy regime in Natural gas storage using LBM: Comparison of pressure gradient approaches. Journal of Natural Gas Science and Engineering, Vol 45, 693-705, Sep. 2017. <https://doi.org/10.1016/j.jngse.2017.06.018>
- ۲۹) **Arash Khosravi, Ali Vatani and Toraj Mohammadi** “Application of Polyhedral Oligomeric Silsesquioxane in Stabilization and Performance Enhancement of Poly (4-methyl-2-pentyne) Nanocomposite Membranes for Natural Gas Conditioning” Journal of Applied Polymer Science, March 2017, 134, PP:1-12, <http://dx.DOI: 10.1002/app.45158>
- ۳۰) **Azadeh Amrollahi, Negahdar Hosseinpour, Alireza Bahramian, Ali Vatani** “In-situ upgrading of reservoir oils by in-situ preparation of NiO nanoparticles in thermal enhanced oil recovery processes” Journals of Colloids and Surfaces A: Physicochemical and Engineering Aspects, **Volume 520**, 5 May 2017, Pages 289–300, <http://dx.doi.org/10.1016/j.colsurfa.2017.01.089>
- ۳۱) **Mohammad Askarian, Ali Vatani and Mohsen Edalat** “Heavy Oil Upgrading in a Hydrodynamic Cavitation System: CFD Modeling, effect of presence of Hydrogen donor and Metal nanoparticles, The Canadian Journal of Chemical Engineering ۹۰ (۴), ۶۷۰-۶۷۹, ۲۰۱۷-۰۵-۰۳, [http://dx.doi: \[10.1002/cjce.22709\]](http://dx.doi: [10.1002/cjce.22709]).
- ۳۲) **Mohammad Askarian, Ali Vatani and Mohsen Edalat** “Heavy Oil Upgrading via Hydrodynamic Cavitation in the Presence of proper Hydrogen donor” Journal of Petroleum Science and Engineering, Vol. 151, March 2017, PP-55-61, <http://dx.doi.org/10.1016/j.petrol.2017.01.037>
- ۳۳) **Abolhassan Hosseinzadeh, Mohammadtaghi Hosseinzadeh, Ali Vatani, and Toraj Mohammadi** “Mathematical modeling for the simultaneous absorption of CO2 and SO2 using MEA in hollow fiber membrane contactors” Journal of Chemical Engineering and Processing, Vol. 111, Jan. 2017, pp:35-45, <http://dx.doi: 10.1016/j.cep.2016.08.002>.
- ۳۴) **Mehdi Mehrpooya, Ali Vatani, Farrid sadeghian, Mohammad hossien Ahmadi,** “A novel process configuration for hydrocarbon recovery process with auto refrigeration system”, Journal of Natural Gas Science

and Engineering, 42 (2017), pp: 262-270.  
<http://dx.doi.org/10.1016/j.jngse.2015.01.015>.

- ۳۵) **Zangeneh, A. Vatani, Z. Fakhroeiian, S.M. Peyghambarzadeh** “Experimental study of forced convection and subcooled flow boiling heat transfer in a vertical annulus using different novel functionalized ZnO nanoparticles” Journal of Applied Thermal Engineering, 109 (2016), pp.789–802, 2016-08-10, <http://dx.doi:10.1016/j.applthermaleng.2016.08.056>.
- ۳۶) **Mashallah Rezakazemi, Ali Vatani and Toraj Mohammadi** “Synthesis and gas transport properties of crosslinked poly(dimethylsiloxane) nanocomposite membranes using octatrimethylsiloxy POSS nanoparticles” Journal of Natural Gas Science and Engineering 30 (2016), pp. 10-18, <http://dx.doi.org/10.1016/j.jngse.2016.01.033>.
- ۳۷) **M Mehrpooya, M Omid, A Vatani**, “Novel mixed fluid cascade natural gas liquefaction process configuration using absorption refrigeration system” Applied Thermal Engineering, 98, 591-604, 2016/4/5, <http://dx.doi:10.1016/j.applthermaleng.2015.12.032>.
- ۳۸) **Leila Rostami, Puriya Mohamad Gholy Nejad and Ali Vatani** “A numerical investigation of serpentine flow channel with different bend sizes on polymer electrolyte membrane fuel cells” Journal of Energy, Volume 97, 28 January 2016, pp. 400-410, <http://dx.doi:10.1016/j.energy.2015.10.132>.
- ۳۹) **Mashallah Rezakazemi, Ali Vatani and Toraj Mohammadi**” Synergistic interaction between POSS and fumed silica on the properties of cross-linked PDMS Nano composite membranes”, Journal of Natural Gas Science and Engineering, 16 September 2015, Volume 5, pp.82460-82470, <http://dx.doi:10.1039/C5RA13609A>.
- ۴۰) **Ali Fereidounpour and Ali Vatani** “Designing a Polyarylate Drilling Fluid System to Improve Wellbore Stability in Hydrate Bearing Sediments”, Journal of Natural Gas Science and Engineering, Volume 26, September 2015, Pages 921–926, <http://dx.doi:10.1016/j.jngse.2015.06.038>.
- ۴۱) **Farhad Ghadyanlou and Ali Vatani**, “Flare-Gas Recovery Methods for Olefin Plants” Journal of Chemical Engineering, [www.chemengonline.com](http://www.chemengonline.com), Volume 122, May 2015. PP: 66-70.
- ۴۲) **Ali Khazaeli, Ali Vatani, Nassim Tahouni and Mohammad Hassan Panjeshahi** “Numerical investigation and thermodynamic analysis of the effect of electrolyte flow rate on performance of all vanadium redox flow batteries, Journal of Power Sources, Volume 293, May 2015, pp.599-612. <http://dx.doi:10.1016/j.jpowsour.2015.05.100>.

- ٤٣) **Mehdi Mehrpooya, Sepide Akbarpour, Ali Vatani and Marc A. Rosen** "Modeling and optimum design of hybrid solid oxide fuel cell-gas turbine power plants" International journal of hydrogen energy 39 (2014) 21196-21214. <http://dx.doi.org/10.1016/j.ijhydene.2014.10.077>.
- ٤٤) **Mehdi Mehrpooya, Mohammad Hossieni and Ali Vatani** "Novel LNG-Based Integrated Process Configuration Alternatives for Coproduction of LNG and NGL" Industrial & Engineering Chemistry Research, dx. | Ind. Eng. Chem. Res. 2014, 53, 17705–17721, <http://dx.doi.org/10.1021/ie502370p>.
- ٤٥) **M.R. Bohloul, S.M. Peyghambarzadeh, A. Lee, A. Vatani** "Experimental and analytical study of solubility of carbon dioxide in aqueous solutions of potassium carbonate" International Journal of Greenhouse Gas Control 29 (2014) 169–175. <http://dx.doi.org/10.1016/j.ijggc.2014.08.009>, 1750-5836/© 2014 Elsevier Ltd. ©
- ٤٦) **Mohammad Sheydaemehr, Behnam Sedaeesola and Ali Vatani** "Gas-condensate production improvement using wettability alteration: a giant gas condensate field case study" The Journal of Natural Gas Science and Engineering. Volume 21, November 2014, Pages 201–208, [http://dx.doi: information: 10.1016/j.jngse.2014.07.011](http://dx.doi:information:10.1016/j.jngse.2014.07.011).
- ٤٧) **Vatani Ali, Jabbari Ehsan, Askarieh Mojtaba and Torangi Mohammad Ali** "Kinetics of Oxidative Coupling of Methane over the Li/MgO Catalyst", Journal of Natural Gas Science and Engineering, pp. 347-356, [http://dx.doi: information10.1016/j.jngse.2014.07.005](http://dx.doi:information10.1016/j.jngse.2014.07.005).
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- ٤٩) **M.R. Bohloul, A. Vatani and S.M. Peyghambarzadeh** "Experimental and theoretical study of CO<sub>2</sub> solubility in N-methyl-2-pyrrolidone (NMP)" Fluid Phase Equilibria, Volume 365, 15 March 2014, Pages 106–111. <http://dx.doi.org/10.1016/j.fluid.2013.12.019>.
- ٥٠) **Ali Vatani, Mehdi Mehrpooy and Ali Palizdar** "Energy and exergy analyses of five conventional LNG processes" International Journal of Energy Research, Volume 38, November 2014, pp. 1843–1863. [http://dx.doi: 10.1002/er.3193](http://dx.doi:10.1002/er.3193).
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- ۵۲) **Hamed Masumi Asl and Ali Vatani**, "Numerical Analysis of the Burn-through at in-Service Welding of 316 Stainless Steel Pipeline" *Journal of Pressure Vessels and Piping*, International Journal of Pressure Vessels and Piping 105-106 **May/June 2013**, pp. **49-59**, <http://dx.doi.org/10.1016/j.ijpvp.2013.03.002>.
- ۵۳) **S.M. Peyghambarzadeh, M.M. Sarafraz, N. Vaeli, E. Ameri, A. Vatani and M. Jamialahmadi** " Forced convective and subcooled flow boiling heat transfer to pure water and n-heptane in an annular heat exchanger" *Annals of Nuclear Energy* 53 (2013) pp. **401–410**, <http://dx.doi.org/10.1016/j.anucene.2012.07.037>.
- ۵۴) **Ali Vatani, Ali Khazaeli, Ramin Roshandel and Mohammad Hassan Panjeshahi** "Thermodynamic analysis of Application of Organic Rankine Cycle for heat recovery from an integrated DIR-MCFC with pre-reformer" *International Journal of Energy Conversion and Management*, Volume 67, **March 2013**, Pages 197–207, <http://dx.doi.org/10.1016/j.enconman.2012.11.019>.
- ۵۵) **Ali Vatani, Mehdi Mehrpooya and Behnam Tirandazi**, "A Novel Process Configuration for Co-production of NGL and LNG with Minimum Energy Requirement" *Journal of Chemical Engineering and Processing: Process Intensification*, vol. 63, pp. 16-24, **2013**, <http://dx.doi.org/10.1016/j.cep.2012.10.010>.
- ۵۶) **Ali Vatani, Mehdi Mehrpooya and Hallas Pakravesh**, "Modification of an Industrial Ethane Recovery Plant Using Mixed Integer Optimization and Shuffled Frog Leaping Algorithm", *Arabian Journal for Science and Engineering* February **2013**, Volume 38, Issue 2, pp 439-455, <http://dx.doi.org/10.1007/s13369-012-0433-9>.
- ۵۷) **S.M., Peyghambarzadeh, A. Vatani and M. Jamialahmadi**, "Influences of Bubble Formation on Different Types of Heat Exchanger Fouling", *Journal of Applied Thermal Energy*, vol. 50, pp 848-856, **2013**, <http://dx.doi.org/10.1016/j.applthermaleng.2012.07.015>.
- ۵۸) **Torangi, M. A., Vatani, A. and Yousefi, M.**, "Li content investigation of the Li/MgO Catalyst in the Oxidative Coupling of Methane (OCM) Process using Annular Fixed Bed Reactor", *International Journal of Chemical Engineering*, Vol.5 No.1, pp. 23-29, **2012**, **ISSN: 0974-5793**.
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Energy, **Volume 39**, PP. 105-113, March 2012.  
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- ٦١) **Ali Akbar Kakouei, Ali Vatani and Ahmed Kamal bin Idris**, "An estimation of traffic related Co2 emissions from motor vehicle in the capital city of Iran" Iranian Journal of Environmental Health Science Engineering, BioMed central, **Volume 9**, PP. 1-5, November 2012, <http://dx.doi: 10.1186/1735-2746-9-13>.
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- ۱۳۰) **Omid Zadakbar, Ali Vatani, Mansoor Anbia, and Vahid Garshasbi** "Evaluation and Feasibility Studies on PC/ABS Demand Pattern in Iran", 1<sup>st</sup>. Congress of Oil, Gas and Petrochemical, 15-17 April 2008, Gachsaran, Iran.
- ۱۳۱) **Omid Zadakbar, Ali Vatani, Mansoor Anbia, and Vahid Garshasbi** "Associated Gas Flaring and Reducing Procedure for it", 1<sup>st</sup>. Congress of Oil, Gas and Petrochemical, 15-17 April **2008**, Gachsaran, Iran.
- ۱۳۲) **Rafiee, A. and Ali Vatani** "Safety Zone for Sour Gas Assaluyeh-Aghajari Gas Transmission Pipeline" 2<sup>nd</sup>. Congress of HSE, The Sharif University of Technology, Tehran, Iran, **5-7 March 2008**.
- ۱۳۳) **Zadakbar, O., Ali Vatani, Anbia, M. and Garshasbi, V.** "Multiphase Pumping", 2<sup>nd</sup>. National Iranian Petroleum Engineering Congress, Ahwaz, January **2008**.
- ۱۳۴) **Ali Vatani and Chavooshi, N.** "Fesibility Studies on LNG, CNG and GTL Production s in Iran", 1<sup>st</sup>. Iranian Gas Engineering Congress, Shiraz, Iran, 2006.
- ۱۳۵) **Ali Vatani, Mirzahoseini, A., Chakeri, H. and Bakhtiyari, A.** "Mass Transfer of Plate Column with Chemical Reaction", 1<sup>st</sup>. Iranian Gas Engineering Congress, Shiraz, Iran, **2006**.
- ۱۳۶) **Ali Vatani and Mosavi, S. M.** "Under Balanced Drilling Technology" 1<sup>st</sup>. Iranian Upstream Congress, Tehran Iran, May **2006**.
- ۱۳۷) **Ali Vatani** "Iranian Oil and Gas Strategy in Accordance with UAE", UAE Development Conference, Qeshm, Iran, Augest **2005**.
- ۱۳۸) **Tayyari Ashtiani, M., Mohammad Rezaei, A., R., Jafari Nasr, M. R., and Ali Vatani,** "Evaluation of the Effects of Iodide salts in Iridium Catalystr in

Methanol Carbonylation Process", 10<sup>th</sup>. National Chemical Engineering Congress, the University of Sistan & Balochestan, Zahedan, Iran, November **2005**.

- ۱۳۹) **Navidi, N. and Ali Vatani** "Simulation and Optimization of Khangiran Hashemi-Nejad Gas Refineru", 10<sup>th</sup>. National Chemical Engineering Congress, the University of Sistan & Balochestan, Zahedan, Iran, November **2005**.
- ۱۴۰) **Ali Vatani and Alizadeh, S. E.**, "Simulation and Optimisation of Gas Network, Using Genetic Algorithm", 10<sup>th</sup>. National Chemical Engineering Congress, the University of Sistan & Balochestan, Zahedan, Iran, November **2005**.
- ۱۴۱) **Ali Vatani, Mehrpuya, M., Jarrahan, A. and Pishvaei, M. R.** "Exergy Analysis NGL Plant 1300 Ahwaz, Using Genetic Algorithm", 10<sup>th</sup>. National Chemical Engineering Congress, the University of Sistan & Balochestan, Zahedan, Iran, November **2005**.
- ۱۴۲) **Nadjafpoor, M., Ali Vatani, Khoshnoodi, M. and Asiri, B. H.,** "Identification of Risk Effects in Great Projects of Petroleum Industries ", 10<sup>th</sup>. National Chemical Engineering Congress, the University of Sistan & Balochestan, Zahedan, Iran, November **2005**.
- ۱۴۳) **Tayari, A. M., Mohammadrezaei, A. R., Jafarinasr, M. R. and Vatani, A** "A General View on the Effects of Iodide salts in Iridium Catalyst in Methanol Carbonylation Process" The University of Sistan & Balochestan, Zahedan, Iran, November **2005**.
- ۱۴۴) **Rahmani Miandehi, G.R. and Ali Vatani** "Practical solutions for the tripartite cooperation of the State University and the Industry with emphasis on experiences of National Iranian Petroleum Industry", Tehran, Iran, December **2002** (in Persian).
- ۱۴۵) **Saeid Mokhatab and Ali Vatani** "Transient Three Phase Flow under Hydrodynamic Pigging Operation in Gas Condensate Transmission Pipelines", 7<sup>th</sup>. National Congress of Chemical Engineering, University of Tehran, Iran **2002**.
- ۱۴۶) **Izadifar, M., and Ali Vatani** "Energy Saving Investigation of Vegetable Oil Refining Process", Thirteen National Iranian Congress of Food Industry, Amirkabir University of Technology, Tehran, Iran, October. **2002** (in Persian).
- ۱۴۷) **Vafaei, s. M., Ali Vatani and Mokhatab, S.** "Modeling and Simulation of Gas Transmission Operating Pipelines", 6<sup>th</sup>. National Congress of Chemical Engineering, Technology University of Isfahan, Iran, **2001** (in Persian).

- ۱۴۸) **Moallemi, F. and Ali Vatani** "Computation Prediction of Hydrate Formation Conditions for Different Gas Mixtures", 5. National Congress of Chemical Engineering, Shiraz University, Iran, **2000**. (In Persian).
- ۱۴۹) **Ali Vatani** "Analysis of Role of Petroleum Ministry for National Iranian Research Development Program", National Research Seminar for Islamic Republic of Iran Third Development Program, Science and Technology University of Iran, Tehran, **2000** (in Persian).
- ۱۵۰) **Bakhteiri, K., A, Ali Vatani and Khairkhah, D.** "Analysis of different operational parameters effects on the reaction of gas sweetening absorption column using DEA and their effects on the increase of column capacity", 4th. National Congress of Chemical Engineering, Sharif Technology University, Iran, **1999** (in Persian).
- ۱۵۱) **Ali Vatani**, "Experimental and Modeling Studies on Pressure Drop in Annular Packed Beds", 2nd. National Congress of Chemical Engineering, Amirkabir University of Technology, Iran, **1997**.
- ۱۵۲) **Ali Vatani**, "Experimental and Modeling Studies on Mean Voidage in Packed Beds", 2<sup>nd</sup>. National Congress of Chemical Engineering, Amirkabir University of Technology, Iran, **1997**.
- ۱۵۳) **Ali Vatani**, "Heat Transfer Studies in Annular Packed Beds: Effect of Tube to Particle Diameter Ratio on Thermal Parameters", 2<sup>nd</sup>. National Congress of Chemical Engineering, **1997**, Tehran, Iran
- ۱۵۴) **Ali Vatani** "Characterisation of Transport Processes in Conventional Packed Beds", 1st. Conference of Chemistry and Chemical Engineering for Iranian Students, **1994**, Manchester, UK.
- ۱۵۵) **Ali Vatani** "Pressure Drop Measurements of Flow and Transmission Pipelines of Khangiran Gas Field", Gas Engineering Conference, **1991**, Tehran (in Persian).

### **C. Books:**

- ۱) **Ali Vatani and Saeid Mokhatab** "*Principles of Hydraulic Design of Multiphase- Flow Transmission Pipelines*" Jihade-Daneshgahi of College of Engineering of University of Tehran Press, First Edition **2002**., Second Edition, **2006**, Third Edition, **2008**. Fourth Edition, **2010**, Fifth Edition, **2013**, **Six Edition 2021, Seven Edition 2024**.

Note:

This book has been included in the curriculum of undergraduate course in the School of Chemical Engineering, University College of Engineering, University of Tehran, Ferdowsi University of Mashhad, Arak University, chemical and Petroleum School of Sharif University of Technology, Sahand University of Technology and Department of Petroleum Engineering, The Petroleum University of Technology.

- ۲ **Vatani Ali and Jehandideh Kudehi, Atefeh** "*Natural Gas Hydrates- Aguide for Engineers*", *University of Tehran Press*, First Edition **2012**.
- ۳ **Vatani Ali and Rabbani, Arash** "Intelligent Pigging, *Operational Problems in Transmission pipelines (Liquid holdup, Gas Hydrate and Corrosion)*" *Jihade-Daneshgahi Press*, First Edition, 2015.
- ۴ **Vatani Ali, Sedaeesola, Behnam and Sheydaeemehr, Mohammad** "*Gas Condensate Reservoirs*" *Jihade-Daneshgahi Press*, First Edition, 2015, Second Edition, 2024.
- ۵ **Vatani Ali, Ghadayanloo, Farhad and Enayati Sangsaraki Mahdi** "*Gas flaring Recovery in Oil, Gas and Petrochemical Industries. By:*" *Jihade-Daneshgahi Press*, First Edition 2018.
- ۶ **Ali Vatani and Mojtaba Rezaei** "Advanced Natural Gas Engineering" By:" *Jihade-Daneshgahi Press*, Published, 2021.
- ۷ **Mehrpooya Mehdi, Ghorbani Bahram and Vatani Ali** "Cryogenic processes of natural gas refinery (process design and description of process configurations) *University of Tehran Press*, 2021.
- ۸ **Kakouei Aliakbar, Vatani Ali, Rasaei Mohammadreza and Azin Reza** "Carbon Dioxide Geological Storage (CGS) – Current Status and Opportunities, Chapter 7, © 2016 The Author(s). Licensee InTech.  
This chapter is distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/3.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

#### **D. Technical Report:**

Research Report Card of the Ministry of Science, Research and Technology. Tehran., Iran (**1991**).

Analytic Report of 1996 (form Sabbatical of Academic Members of Iranian Universities and Research Centers of the Science, Research and Technology), Tehran, Iran (**1998**).

Analytic Report of 1997 (form Sabbatical of Academic Members of Iranian Universities and Research Centers of the Ministry of Science, Research and Technology), Tehran, Iran (**1998**).

Papers Abstract of Science, Research and Technology 1995 (Academic Members of Iranian Universities and Research Centers of the Ministry of Science, Research and Technology), Tehran, Iran (**1998**).

Papers Abstract of 1996 (Academic Members of Iranian Universities and Research Centers of the Ministry of Science, Research and Technology), Tehran, Iran (**1998**).

Scientific Seminars and Conferences Calendar in 1998 at Iranian Universities and Research Centers of the Ministry of Science, Research and Technology, Tehran., Iran (**1998**).

Scientific Seminars and Conferences Calendar in 1999 at Iranian Universities and Research Centers of the Ministry of Science, Research and Technology, Tehran., Iran (**1999**).

Analysis of Sabbatical of Academic Members of Iranian Universities and Research Centers, of the Ministry of Science, Research and Technology, Tehran., Iran **1999**.

Research & Development at Ministry of Petroleum in Development Third Programmed, I.R., Iran, **2000**.

### **Memberships:**

**Since 2021** Member of the board of directors of bim Building Information Modeling Scientific Association.

Since **1994** Iranian Chemical Engineering Association.

Since **1999** Iranian Society of Petroleum Engineering.

Since **2005** Iranian Gas Engineering Association.

Since **2005** Iranian Petroleum Geology Association.

### **Taught Courses:**

- A Two-Phase Flow in Pipeline,
- B Material and Energy Balance,
- C Special Topics in Petroleum, Gas & Petrochemical Industries,
- D Gas Transmission and Distribution,
- E Fluid Mechanic I,
- F Gas Processing I,
- G Gas Processing II,
- H Advanced Special Topics in Oil, Gas & Petrochemical Industries,
- I Three- Phase- Flow,
- J Gas Engineering Processes, Training Course
- K National Iranian Oil Company, (Imam Sadegh University, Jan, **2007**).
- L Oil & Gas Economy
- M Agreement for Petroleum Exploration, Production and Transmission Pipelines.

### **Industrial Training Courses & Workshops:**

- 34 Downstream technical aspects of the oil industry (Petrochemical Industries) and its role in energy law relations (Institute of Energy Law Studies, University of Tehran) E-learning Center System (University of Tehran), May 21, 2021.
- 33 Downstream technical aspects of the oil industry (Gas Processing and Distribution Network) and its role in energy law relations (Institute of Energy Law Studies, University of Tehran) E-learning Center System (University of Tehran), April 22, 2021.
- 32 Downstream technical aspects of the oil industry (oil refining industries) and its role in energy law relations (Institute of Energy Law Studies, University of Tehran) E-learning Center System (University of Tehran), April 15, 2021
- 31 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil & Gas Fields” for. students of Petroleum Engineering, Institute of Petroleum Engineering, College of Engineering, University of Tehran, E-learning Center System (University of Tehran), May 6 2020.
- 30 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil & Gas Fields” for Ms.C. students of gas processing and Transport and Distribution Network of the School of Chemical Engineering, College of Engineering, University of Tehran, E-learning Center System (University of Tehran), May 7 2020.
- 29 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil & Gas Fields” for for the specialists of Caspian Oil and Gas Company and undergraduate students of chemical engineering, Mazandaran University of Science and Technology, Behshahr November 22, 2017.
- 28 Dehydration processes in the gas industry" for the specialists of Caspian Oil and Gas Company and undergraduate students of chemical engineering, Mazandaran University of Science and Technology, Behshahr November 20, 2017
- 27 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil & Gas Fields” for Ms.C. students of gas processing and Transport and Distribution Network of the School of Chemical Engineering, College of Engineering, University of Tehran and specialists of Sarkhon gas refinery, Sarkhon gas refinery, Bandar Abbas, April 20, 2017.
- 26 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil & Gas Fields” for Ms.C. students of gas processing and Transport and Distribution Network of the School of Chemical Engineering, College of Engineering, University of Tehran and

- specialists of Sarkhon gas refinery, Sarkhon gas refinery, Bandar Abbas, June 26, 2015.
- 25 Dehydradtion processes in the gas industry" for the specialists of Parsian Gas Refinery, Parsian Gas Refinery, Parsian, June 28, 2013.
  - 24 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil & Gas Fields" for undergraduate students of Petroleum Engineering and Chemical Engineering, School of Fouman Engineering, College of Engineering, University of Tehran, Fouman, January 2012.
  - 23 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil & Gas Fields" for Master of Petroleum Engineering students, Institute of Petroleum Engineering, University of Tehran, Tehran, January 2011.
  - 22 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil & Gas Fields "for students of Petroleum Engineering and Gas Engineering, School, of Petroleum Engineering Ahwaz, January 2011.
  - 21 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil & Gas Fields "for students of Petroleum Engineering and Gas Engineering, School, of Petroleum Engineering Ahwaz, spring 2011.
  - 20 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil & Gas Fields" School of Chemical Engineering, University of Tehran, Tehran, spring 2011.
  - 19 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil & Gas Fields" for Master of Petroleum Engineering students, Institute of Petroleum Engineering, University of Tehran, Tehran, Spring 2011.
  - 18 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil & Gas Fields" for petroleum engineering students, Sharif University of Technology, Tehran, spring 2011.
  - 17 Principles of Gas Transmission Pipelines Design, Construction and Protection, April 2018, Ferdowsi University of Mashhad.
  - 16 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil & Gas Fields, Sarkhoon Gas Refinery Plant, Bandar Abbas, Iran, 7 May 2015.

- 15 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil Fields for Engineers of Iranian Offshore Oil Company, Organizer: Institute of Petroleum Engineering, College of Engineering, the University of Tehran, summer 2009.
- 14 Gas Dehydration and Hydrocarbon Recovery for Engineers of Iranian Offshore Oil Company, Organizer: Paya Pasargad Hydrocarbome Institute, Training Course Place: Siri Island, 1-4 October 2009.
13. Gas Dehydration and Hydrocarbon Recovery for Engineers of Iranian Offshore Oil Company, Organizer: Paya Pasargad Hydrocarbome Institute, Training Course Place: Siri Island, 20-23 August 2009.
12. Design Principles of Gas Transmission Pipelines for Engineers of Iranian Offshore Oil Company, Organizer: Paya Pasargad Hydrocarbome Institute, Training Course Place: Kish Island, 29 July-2 August 2009.
- 11 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil Fields for Engineers of Iranian Offshore Oil Company, Organizer: Pars Hydrocarbome Institute, Training Course Place: Bahregan Field, Iran, Date: 1-5 September 2007.
- 10 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil Fields for Engineers of Iranian Offshore Oil Company, Organizer: Pars Hydrocarbome Institute, Training Course Place: Kharg Island, Iran, Date: 13-17 Augst 2007.
- 9 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil Fields for Engineers of Iranian Offshore Oil Company, Organizer: Pars Hydrocarbome Institute, Training Course Place: Bahregan Field, Iran, Date: 3-7 Augst 2007.
- 8 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil Fields for Engineers of Iranian Offshore Oil Company, Organizer: Pars Hydrocarbome Institute, Training Course Place: Siri Island, Iran, Date: 3-7, February 2007.
- 7 Applications of Traditional & Intelligent Pigs in Oil Industries and Operational Problems in Oil Fields for Engineers of Iranian Offshore Oil Company, Organizer: Pars Hydrocarbome Institute, Training Course Place: Lavan Island, Iran, Date: 25-29, January 2007.
- 6 Gas Reservoir Engineering, Gas Production, Two-Phase Flow in Pipelines, Gas Processing, and Dehydration for Petropars Company, Organizer: Institute of Petroleum Engineering, University of Tehran, Workshop Place: Tehran, Iran, Date: January 2007.
- 5 Gas Reservoir Engineering, Gas Production, Two-Phase Flow in Pipelines, Gas Processing, Dehydration and Gas Consumption for Oil Contract of Law

Affairs, Organizer: The University of Imam Sadegh (a), Workshop Place: Tehran, Iran, Date: January 2007.

- 4 Two-Phase Flow in Pipelines, For Engineers of NISOC & NIGC, Organizer: National Iranian South Oil Company, Place of Workshop: Ahwaz, Iran, Date: December 2001.
- ۳ Two-Phase Flow in Pipelines, For Engineers of NIOC & NIGC, Organizer: Petroleum University of Technology, Place of Workshop: Tehran, Iran, Date: April 2001.
- 2 Two-Phase Flow in Pipelines, For Engineers of NIOC & NIGC, Organizer: Petroleum University of Technology, Place of Workshop: Tehran, Iran, Date: February 2001.
- ۱ Two-Phase Flow in Pipelines, For Engineers of NIOC & NIGC, Organizer: Khangiran Gas Refinery, Workshop Place: Khangiran Gas Field, Date: June 1989.

### **Research Interest Fields:**

Multiphase –Gas Transmission in Pipelines.

Transport Phenomena in Packed Beds.

Oil, Gas & Petrochemical Processes Design.

Reactors & Catalysts.

Oil and Gas Energy Studies.

LNG, GTL, OCM, NGL Processes

### **Thesis and Projects Supervised:**

#### **A: B. Sc. Students Supervised**

۱ Wax Deposition in an Iranian Crude Oil Pipeline with OLGA Simulator, Case study: Sedimentation in Ahwaz crude oil pipelines” School of Chemical Engineering, College of Engineering, University of Tehran, **10 August 2025.**

**83 Hosein Charbaghi** “Liquid fuel consumption management in Iran” School of Chemical Engineering, College of Engineering, University of Tehran, **10 August 2025.**

- ٨٢ **Aryan Azadjoo** “Wax Deposition in an Iranian Crude Oil Pipeline with **OLGA Simulator, Case study:** Sedimentation in Bangistan crude oil pipelines” School of Chemical Engineering, College of Engineering, University of Tehran, **10 August 2025.**
- 81 **Meysam Beer**, “*Optimizing the energy efficiency of the ethylene production process using dynamic simulation*”, School of Chemical Engineering, College of Engineering, University of Tehran, *September 2023.*
- 80 **Ali Sadeghikia**, “Design and optimization of a used tire recycling unit for the extraction of petroleum products and its economic evaluation” School of Chemical Engineering, College of Engineering, University of Tehran, September 2023.
- 79 **Mehdi Pour Hoseein Ghadi**, “Management of consumption and distribution of energy carriers in the country (Gasoline)”, School of Chemical Engineering, College of Engineering, University of Tehran, June 2023.
- 78 **S. Amirali Jehani**, “Analysis of technological innovation system with emphasis on the role of background factors” School of Chemical Engineering, College of Engineering, University of Tehran, June 2023.
- 77 **Saeid Sangcholi**, investigating on the methods of reducing of the Fler gas of Imam Khomeini Shazand Refinery in Arak, School of Chemical Engineering, College of Engineering, University of Tehran, Sepyember 2019.
- 76 **Mohammad reza Ghasemi**, A study on the various methods and studies to optimize the production process of LNG. School of Chemical Engineering, College of Engineering, University of Tehran, June 2019.
- 75 **Maryam Mohseni Kabir** “Study of the development trend of the use of LNG-fueled ships in the world and its technical studies” School of Chemical Engineering, College of Engineering, University of Tehran, September 2018.
- 74 **Kobra Bagheri**, “Evaluation of Different Flare Gas Recovery Systemes”, School of Chemical Engineering, College of Engineering, University of Tehran, September 2014.
- 73 **Ali Davoodi** “School of Chemical Engineering, College of Engineering, University of Tehran, **September 2014.**
- 72 **Reza Daneshfar**” Investigation of new inhibitors of hydrate formation and study and modeling of hydrate storage” Fuman Faculty of Engineering, College of Engineering, University of Tehran, **September 2014.**

- 71 Seyed Hesamoodin Tabatabaei** "Investigation of new inhibitors of hydrate formation and study and modeling of hydrate storage" Fuman Faculty of Engineering, College of Engineering, University of Tehran, **September 2014.**
- 70 Arman Safari** "Transmission of natural gas in the form of gas hydrate" School of Chemical Engineering, College of Engineering, University of Tehran, **June 2014.**
- 69 Alireza Bahmani** "Simulation and comparison of natural gas liquefaction technologies in small scale of LNG units" School of Chemical Engineering, College of Engineering, University of Tehran, **June 2014.**
- 68 Sakhideh Ghezal** "Investigation on the operational problems of the gas transmission pipeline from Assaluyeh to – India via Iranshahr" School of Chemical Engineering, College of Engineering, University of Tehran, **May 2014.**
- 67 Vahideh Arabi Balaghi** "Investigation on the problems caused by the formation of hydrates in pipelines and provide solutions to prevent their formation" School of Chemical Engineering, College of Engineering, University of Tehran, **May 2014.**
- 66 Mohammad Golshan Poshtiri** "Financial structure of the wind energy for the financing purposes" School of Chemical Engineering, College of Engineering, University of Tehran, **September 2013.**
- 65 Seyed Abolfazl Alavi** "Flare gas structure and environmental impacts of emissions and ways to reduce these flare gases" School of Chemical Engineering, College of Engineering, University of Tehran, **September 2013.**
- 64 Bita Khorasani** "Integration of natural gas processing units" School of Chemical Engineering, College of Engineering, University of Tehran, **September 2013.**
- 63 Negar Nasiri** "Optimization of a Gas sweetening Plant using alkanolamine mixtures" School of Chemical Engineering, College of Engineering, University of Tehran, **September 2013.**
- 62 Fatema Nasr-e- Azadani** "Optimization of a Natural Gas sweetening Plant using amine mixtures" School of Chemical Engineering, College of Engineering, University of Tehran, **September 2013.**
- 61 Elham Mehabadi** "Investigation on the models provided to predict the temperature of the gas transmission pipeline and select the appropriate model" School of Chemical Engineering, College of Engineering, University of Tehran, **June 2013.**

- 60 **Mohammad Saeid Mohaghegh Nishabouri** “Investigation on the Multiphase Flow Pipelines” School of Chemical Engineering, College of Engineering, University of Tehran, **June 2013**.
- 59 **Ali Emrani** “Recycling of industrial oils with the help of solvent extraction knowledge” School of Chemical Engineering, College of Engineering, University of Tehran, **February 2012**.
- 58 **Ali Nejabati** “Investigating on the corrosion phenomenon in heat exchanger pipes and optimizing the selection of suitable materials, School of Chemical Engineering, College of Engineering, University of Tehran, **February 2012**.
- 57 **Ateieh Mahmoodi Maymand**, “Simulation of gas condensate stabilization unit and providing scientific solutions to remove these obstacles” School of Chemical Engineering, College of Engineering, University of Tehran, **February 2012**.
- 56 **Mansoureh Sherkat Tavasoli**, "Evaluation of Mechanisms and Application of Different Industrial Absorbants in the Natural Gas Industries Simulation of gas condensate stabilization unit and providing scientific solutions to remove these obstacles " School of Chemical Engineering, College of Engineering, University of Tehran, **June 2012**.
- 55 **Fatemeh Asadi**, "Evaluation of Sour Water Effect on Gas Transmission and Process Facilities", School of Chemical Engineering, College of Engineering, University of Tehran, **June 2012**.
- 54 **Haydar Abdolhoseini**, “Selection of Suitable Flowmeter for Flar Gas Sustum”, School of Chemical Engineering, College of Engineering, University of Tehran, **February 2012**.
- 53 **Shobair Kamali**, “Principles of Three Phase and Two-Phase Separators”, School of Chemical Engineering, College of Engineering, University of Tehran, **September 2011**.
- 52 **Ahmad Mohammadi**,“Producing a new Software for Design of Three Phase and Two-Phase Separators”, School of Chemical Engineering, College of Engineering, University of Tehran, **September 2011**.
- 51 **Mahnaz Tayyari**, 'Evaluation of Different Types of Gas Storage using Nano Technology, School of Chemical Engineering, College of Engineering, University of Tehran, **September 2011**.
- 50 **Mojtaba Rezaei**, "Feasibility Studies on LNG Production in Iran”, School of Chemical Engineering, College of Engineering, University of Tehran, **January 2011**.

- 49 **Shervin Espahbod**, "Evaluation of Sustainable Development in the Oil & Gas Industries", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2010**.
- 48 **Hamid Dianat**, "Evaluation of Applications for Flare Gas Recovery & Reduction Methods", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2010**.
- 47 **Vahid Seydi**, "Gas Network Design of Ivan City", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2009**.
- 46 **Seyed Vahid Totian**, "Design of Plate and Multi Streams Heat Exchanger", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2009**.
- 45 **Sajad Ghaffari**, "Evaluation of Plate and Multi Streams Heat Exchanger", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2009**.
- 44 **Saeid Dolati**, "Preparation of Gas Deydration Suer-Friendly Software", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2009**.
- 43 **Azizpour, HedayatAllah**, "Liquified Natural Gas Processes", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2008**.
- 42 **Mabodi, Seyed Ali**, "Gas to Liquid Processes", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2008**.
- 41 **Omidbigi, Fatemeh**, "Simulation of Isimax Unit of The Tehran Refinery", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2008**.
- 40 **Sahabi, Mahmood**, "Flare Gas Recovery & Reduction Methods", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2008**.
- 39 **Nasiri, Saleh**, "Production Methods from Heavy Oil Reservoirs", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2008**.
- 38 **Zahed, Kalteh. Sakhi**, "Prevention Procedures for Hydrate Formation in a Gas Transmission Pipeline", School of Chemical and Petrochemical Engineering, Sharif University of Technology, **December 2007**.

- 37 **Farmad, M. and Jiranipoor, H.** "Peace Transmission Pipeline", School of Chemical Engineering, College of Engineering, University of Tehran, **September, 2007.**
- 36 **Moshashaei, Atosa** "Hydrate Formation in Gas Pipelines", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2007.**
- 35 **Sasani, Mahdi,"** Different Methods of Gas Transmission", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2007.**
- 34 **Moradi, Morteza.** "Simulation and Optimisation of IGAT2", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2006.**
- 33 **Fazelei, Ahmad** "Simulation of Two-Phase Flow transmission Pipeline Using Mechanistical and Experimental Models", School of Chemical Engineering, College of Engineering, University of Tehran, **June 2005.**
- 32 **Zahedi, Hamed** "Comparision between LKP, SRKand PK Equations of State for Prediction of Equilibrium Data of Hydrocarbon Systems", School of Chemical Engineering, College of Engineering, University of Tehran, **June, 2004.**
- 31 **Khaki, Nafiseh, and Aldaghi, Ehsan** "Condensate Stablization Unit", School of Chemical Engineering, College of Engineering, University of Tehran, **June 2004.**
- 30 **Mesbah, Ali** "Hydraulic Design of Gas Transmission Pipeline by Computational Program", School of Chemical Engineering, College of Engineering, University of Tehran, **June 2004.**
- 29 **Nazeri, Mahmood, Alizadeh, Seyed Esmail and Rahmani, Hadi** "Modeling and Simulation of a **GTL** Process", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2003.**
- 28 **Hadj-Esmail-Zadeh, Ali** "An Industrial Gas Sweetening Plant Design using Hysys Software", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2002.**
- 27 **Yari, Babak and Javanpour, Fatemeh** "Petroleum Distillation Products using Hydrogen", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2002.**
- 26 **Mesbahi, Yaghob.** "Simulation of Gas Condensate Stabilisation Unit 103, South Pars Gas Field Development Projects, Assaluyeh", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2002.**

- 25 **Tajik, Mohammad Reza and Azimi, Seyed Zia** "NGL Production Technology", School of Chemical Engineering, College of Engineering, University of Tehran, **September 1999**.
- 24 **Karami, Bahareh, and Rasi, Neda**, "Analysis of Effective Parameters for Design of a Sour Gas Treatment Unit School of Chemical Engineering, College of Engineering, University of Tehran, **September 1999**.
- 23 **Saraghi, Hosain**, "Analysis of Ethylene Di-glycol Production", School of Chemical Engineering, College of Engineering, University of Tehran, **September 1999**.
- 22 **Moallemi, Farnaz**, "Computation Prediction of Hydrate Formation Conditions for Different Gas Mixtures School of Chemical Engineering, College of Engineering, University of Tehran, **September 1999**.
- 21 "Sulphur Coating" School of Chemical Engineering, College of Engineering, University of Tehran, **September 1999**.
- 20 **Hydar Arabi, Payam**, "Simulation of a Gas Dehydration Unit using TEG Solvent", School of Chemical Engineering, College of Engineering, University of Tehran, **September 1998**.
- 19 **Qasemi, Qasem and Mohaddesi, Reza**, "Iran Compressive Energy Proposal", School of Chemical Engineering, College of Engineering, University of Tehran, **September 1990**.
- 18 "Unleaded Fuel Preparation and Design of a **MTBE** Production Unit, School of Chemical Engineering, College of Engineering, University of Tehran, **September 1991**.
- 17 "Corresponding State Principle Consideration and Utilisation of it in order to Obtain Thermodynamically and Physical Properties of Petroleum ", School of Chemical Engineering, College of Engineering, University of Tehran, **September 1991**.
- 16 "Modeling and Design of Fluidised Bed Catalytic Cracking Reactor, School of Chemical Engineering, College of Engineering, University of Tehran, **September 1991**.
- 15 "Application of Gas- Chromatography in Transmission Properties Calculations", School of Chemical Engineering, College of Engineering, University of Tehran, **September 1991**.
- 14 "Mathematical Modeling of Complex Reactions Kinetic", School of Chemical Engineering, College of Engineering, University of Tehran, **September 1991**.

- 13 "True Boiling Point Curve Obtaining Method by Data from Computer", School of Chemical Engineering, College of Engineering, University of Tehran, **September 1991**.
- 12 "Evaporator Selection and Design by Computer", School of Chemical Engineering, College of Engineering, University of Tehran, **September 1991**.
- 11 "Assignment of Thermodynamically and Physical Properties of Petroleum Materials, using Corresponding State Principle School of Chemical Engineering, College of Engineering, University of Tehran, **September 1991**.
- 10 "Fixed Bed Catalytic Cracking Modeling using Orthogonal-Collocation Method", School of Chemical Engineering, College of Engineering, University of Tehran, **September 1991**.
- 9 "Design of Salmas City gas Network, School of Chemical Engineering, College of Engineering, University of Tehran, September 1990.
- 8 **Etminan Deilamaghani, Quader**, "Design of Islam Shahr City gas Network School of Chemical Engineering, College of Engineering, University of Tehran, **September 1990**.
- 7 **Elyasvand, Gholamreza**, "Design of Sirjan City gas Network", School of Chemical Engineering, College of Engineering, University of Tehran, **September 1990**.
- 6 "Assignment of "a" and "b" Parameters in state equations, independent of Critical Point Properties School of Chemical Engineering, College of Engineering, University of Tehran, **September 1990**.
- 5 "Distillation Towers Simulation of Iso-max Unit of Tehran Refinery, School of Chemical Engineering, College of Engineering, University of Tehran, **September 1990**.
- 4 "Computing Program for Phase- Equilibrium Calculation using Unifac Method", School of Chemical Engineering, College of Engineering, University of Tehran, **September 1990**.
- 3 "Assignment of Phosphoric Acid Preparation and Design of a Phosphoric Acid Unit in Iran School of Chemical Engineering, College of Engineering, University of Tehran, **September 1990**.
- 2 "Recognition, Formulation and Laboratory Sample Production of an Allegation", School of Chemical Engineering, College of Engineering, University of Tehran, **September 1990**.

- 1) "Computing Program for Multicomponent Systems Phase- Equilibrium Calculation using Unifac Method", School of Chemical Engineering, College of Engineering, University of Tehran, **September 1990**.

## **B: Master Thesis Supervised:**

**۱۶۲** "Optimization of the simultaneous production of helium and liquid gas". Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran. 4 October 2025.

**۱۶۱** "Lower global warming potential in the production process of liquefied natural gas". Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran. 13 September 2025.

**160 Aida Azamati** "Technical and Economic Feasibility Assessment of Integrating the LNG Gasification Process with the Methanol Conversion Processes". Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran. 4 August 2025.

**159 Sam Fereydounpour** "Feasibility studies on optimizing natural gas liquefaction for reducing energy consumption through modifications in the pure refrigerant cycle and the utilization of LNG steam." Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran. 17 February 2025.

**158 Amir Esfandani** "Experimental investigation of the effect of nano aerosols on the surface properties of sandstone reservoirs" School of Chemical Engineering & Institute of Petroleum Engineering, College of Engineering, University of Tehran, 17 September 2024.

**157 Pegah Fotouhi Chahouki** "Simulation and optimization of compressed air energy storage in aquifers" School of Chemical Engineering & Institute of Petroleum Engineering, College of Engineering, University of Tehran, 17 September 2024.

**156 Mostafa Gilavand** "Optimization of operating parameters of the underground hydrogen storage process in natural fractured aquifers using machine learning algorithms" School of Chemical Engineering & Institute of Petroleum Engineering, College of Engineering, University of Tehran, 16 September 2024.

- 155 Hosein Nedjadigelkoh** “Technological and Economic Analysis and Optimization of different plans for simultaneous production of LNG and helium” Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran.15 September 2024.
- 154 Mohammad Hosein Khodabandeh** “Presenting a new process for power generation using the cold energy of liquefied natural gas and its advanced exergy-economic analysis” Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran.15 September 2024.
- 153 Mohammad Najafian** “Enviro-economic optimization of a single mixed refrigerant LNG liquefaction process” Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran.11 September 2024.
- 152 Hamed Moeinfard** “Using the cold energy of liquid natural gas in the liquid oxygen production unit and its advanced exergy-economic analysis” Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran.11 September 2024.
- 151 Ahmad Ghasemi** “Feasibility and economic analysis of increasing methanol production using combustion gases from reformer furnaces in a methanol production complex” Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran.11 September 2024.
- 150 S. Reza Hoseini** “Design and techno-economic analysis of a simultaneous natural gas and hydrogen liquefaction **process from flare gas: A case study of an Iranian refinery**” Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran.11 September 2024.
- 149 Morteza Havaei Pacheh kenari**, “Advanced Exergy – Environmental Analysis of LNG Chain with Energy Consumption Optimization Approach” Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran.11 September 2024.
- 148 Fatema Sabouri**, “Laboratory investigation of the possibility of making gas wetting carbonate rocks using nano aerosols” School of Chemical Engineering & Institute of Petroleum Engineering, College of Engineering, University of Tehran, 28 August 2024.
- 147 S. Morteza Moniri**, “Presenting the evaluation model of flare gas recovery technologies considering the connection of water, food, energy and environment in the residential sector of oil and gas regions of Iran” School of Chemical Engineering, College of Engineering, University of Tehran, 19 January 2024.

- 146 Mohadeseh Ghahri**, “Integrated technical and economic review of LNG regasification process with natural gas conversion processes”, Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran, 20 October 2023.
- 145 Aliakbar Kargar** “Multi objective optimization of gas injection in common fields (Case study, AZADEGAN)” School of Chemical Engineering & Institute of Petroleum Engineering, College of Engineering, University of Tehran, 19 September 2023.
- 144 Amin Ghaderifar** “Technical and economic review of the performance of OCX self-refrigeration processes in Natural gas liquefaction” Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran. 18 September 2023.
- 143 Saina Rahbari** “Simulation and analysis of combination of the expansion and vapor-compression cycles in natural gas liquefaction with techno-economic approach” Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran. 18 September 2023.
- 142 Soheila Jahangiri**, Advanced exergy analysis of a natural gas liquefaction unit with an approach to optimizing energy consumption using liquid air “Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran. 17 September 2023.
- 141 Nasrin Zomorodi** “Simulation and technical and economic study of AP-X® process for liquefaction of natural gas and simulation of its heat exchangers “Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran. 14 June 2023
- 140 Mohammadreza Alian** “Simulation and technical and economic analysis of the performance of classical and optimized cascade processes in natural gas liquefaction “*Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran. 22 October 2022.*
- 139 Seyed Hossein Mousavi**, “*Simulation and technical and economic study of sequential or cascading processes of group for liquefaction of natural gas*” *Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran. 21 September 2022.*
- 138 Javad Zarkash**, “*Simulation and technical and economic analysis of the performance of two-stage mixed refrigerant processes of DMR Shell and Liquefin for liquefaction of natural gas*” *Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran. 22 October 2022.*

- 137 Shahab Taleghani**, *“Comparative study of two-stage mixed refrigerant processes DMR Shell, DMR APCI, TEALARC and Liquefin in liquefied natural gas production in terms of technical and economic parameter”*, Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran. 22 October 2022.
- 136 Somayyeh Bagheri**, *Technical and economic study of the performance of single-stage and two-stage expansion processes of liquefaction of natural gas with different and combined refrigerants* “Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran. 21 September 2022.
- 135 Mohammad Shahab Deljoo** “Analysis of various flare-gas-reduction Techniques and Simulation of Shazand oil Refinery using Optimized Technology” Institute of LNG, School of Chemical Engineering, College of Engineering, University of Tehran, 14 July 2021
- 134 Ahmad Shams “Investigation on the effect of changing natural gas composition on the operational parameters of selected single mixed refrigerant liquefied natural gas processes” School of Chemical Engineering, College of Engineering, University of Tehran, 23 June 2021.
- 133 Arash Daneshfar** “Simulation of the effect of adding inhibitors to pipelines transporting an oil field and selecting the appropriate and optimal inhibitor using Olga software” School of Chemical Engineering & Institute of Petroleum Engineering, College of Engineering, University of Tehran, 17 March 2021.
- 132 Ahmad Siadat** “Exergoeconomic investigation on two single mixed refrigerant and N<sub>2</sub> expansion liquefaction processes” School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **21 October 2020**.
- 131 Farshid Faraji** “Investigating the Impact of LNG Technology on Natural Gas Productivity in Industrial Subdivisions and Energy Security Index of Selected Countries” School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **20 October 2020**.
- 130 **Pouriya Zand** “Examining the types of existing technologies and simulation and optimization of Dimethyl Ether (DME)” School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **20 September 2020**.
- 129 **Fatemeh Zarezadeh** “Simulation and optimization of sweetening and dehydration processes in feed pretreatment unit of a natural gas liquefaction Process” School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **29 April 2020**.

- 128 Hamed Mosanejad Kermani "Oil-water separation using innovative insitu molecular membrane encapsulation based on polymer surfactant interaction" School of Chemical Engineering & Institute of Petroleum Engineering, College of Engineering, University of Tehran, **3 February 2020**.
- 127 **Alireza Boorboor** "Optimization of SMR LIMIUM Process Performance in Natural Gas Liquefaction by Factorial and Response Surface Methods" School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **2 February 2020**.
- 126 Amirali Haddadi "Technical and economic feasibility study of carbon dioxide refrigerant in natural gas liquefaction process" School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **21 January 2020**.
- 125 **Mohammad SheikhLari** "Advanced Economic Exergy Analysis of Single-stage Liquid Natural Gas Refrigerant Process with Compressive Surface Approach" School of Chemical Engineering & Institute of LNG, College of Engineering, U niversity of Tehran, **22 September 2019**.
- 124 Amirreza Ghavi, "Investigation of the effect of changing scale on the operational parameters of selected single mixed refrigerant liquefied natural gas processes" School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **4 September 2019**.
- 123 Parham Najmoddini "study the effect of ambient temperature on prico smr refrigerant composition and linear regression (using genetic algorithm)" School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, 17 February 2019.
- 122 **Amirhasan Asli, Simulation** and Exergoeconomic Analysis of KSMR Process in Liquefied Natural Gas (LNG)" School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, 26 January **2019**.
- 121 Saman Fattahi "Simulation and optimization of the proper process for liquefaction of natural gas in Floated LNG, FLNG". School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, 11 November 2018.
- 120 Hossein Sadeghi Paland "Simulation and optimization of natural gas purification and liquefaction processes" School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **30 September 2018**.
- 119 Amirhossein Yazdan Nia "Exergy analysis and optimization of expansion processes of the open and closed cycle of natural gas liquefaction with the approach of selecting the optimal process at small scale" School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **23 September 2018**.

- 118 **Mehdi Falsafi**, **Optimization of Natural Gas Liquefaction (LNG) for Single Mixed Refrigerant Process with the Purpose of Efficiency Improvement**, School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **19 September 2017**.
- 117 Bahareh Hasani, "Energy optimization potential for a small-scale LNG process using CO<sub>2</sub> capture approach" School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **22 November 2016**.
- 116 Seyed Abolfazl Alavi, "**Study on the suitable separation methods for raising heating value of natural gas using cooling, adsorption and membrane processes**" School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **29 September 2016**.
- 115 **Jalal Sadeghi Ahari**, "Optimization of a mixed refrigerant of low temperature natural gas processes by developing a conceptual-mathematical based model" School of Chemical Engineering, IPE, College of Engineering, University of Tehran, **27 September 2016**.
- 114 **Mohammad Jamaloo**, "Evolution of Capillary and Relative Permeability Hysteresis", School of Chemical Engineering, IPE, College of Engineering, University of Tehran, **21 February 2016**.
- 113 **Reza Hasannejad Porshokoh** "Effect of Nano particles injection on the critical flow rate change for the Control of fine Migration of Formation", School of Chemical Engineering, IPE, College of Engineering, University of Tehran, **November 2015**.
- 112 **Mahshid Zare Sharif** "**Simulation**, Exergy Analysis, Economic Exergy and environmental of Gas Flare Recovery Cycle" Faculty of Environment, University of Tehran, **October 2015**.
- 111 Adel Moghaddam "Characterization and modeling of the thermodynamic solubility of acid gases dissolved in activated MDEA", Faculty of Mechanical Engineering, Islamic Azad University (Semnan Branch), August 2015.
- 110 **Ali Ebrahimpour Gorji** "Modeling and forecasting of **Co<sub>2</sub>** Henry Constant in different solutions using QSPR Method", School of Chemical Engineering, College of Engineering, University of Tehran, **June 2015**.
- 109 Ebrahim Solimani "**Optimization of production rate under Gas Lift conditions and Coning**" School of Chemical Engineering, College of Engineering, University of Tehran, **February 2015**.
- 108 **Mohammad Khanchi** "Investigation of Gas Condensate Dropout at Kish gas field and Feasibility study of the best gas injection composition to reduce condensate in the reservoir", School of Chemical Engineering &

Institute of LNG, College of Engineering, University of Tehran, **January 2015.**

- 107 **Zahra Nargesi** “Design and Optimization of Control System for Single Mixed Refrigeration (SMR) Cycles in LNG Processes”, School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **January 2015.**
- ۱۰۶ **Talieh Ramezani** “Design & Optimization of Control Systems for Refrigeration Cycles of Mixed-Fluid Cascade Process for LNG Production” School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **January 2015.**
- 105 **Sadegh Safian Boldaji** “Petrophysical and geomechanical study the stability of well for one of the Iranian hydrocarbon fields using under balance drilling” School of Mining Engineering, College of Engineering, University of Tehran, **August 2014.**
- ۱۰۴ **Mehdi Omidi** “Providing a new process for LNG production using absorption cooling cycles to reduce energy consumption” School of Chemical Engineering, College of Engineering, University of Tehran, **July 2014.**
- 103 **Mohammad Dallal Moghaddam** “Cryogenic multistream plate fin heat exchangers modeling” School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **July 2014.**
- 102 **Majid Gholami Shirkohi** “Development of Efficient Methods for Energy Saving and GHG Emission Mitigation in Oil and Gas Upstream Processes” School of Chemical Engineering, College of Engineering, University of Tehran, **June 2014.**
- 101 **Amir Zalnejad** “Modeling and Simulation of Gas Sweetening using Nanopore Zeolite Membrane”, School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **June 2014.**
- 100 **Arman Hakimi** “Modeling and Simulation of gas permeation through improved polymeric membrane with Nano-particles”, School of Chemical Engineering, Institute of LNG, College of Engineering, University of Tehran, **June 2014.**
- 99 **Sima Hejazi** “Nonlinear control of a chemical plant employing a combination of fuzzy logic and evolutionary optimization”, School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **June 2014.**
- 98 **Mostafa Sepahvandi**, Effect of Operational Parameters on the Natural Production and Gas Lift production Process in Iran South West Oil Fields, School of Chemical Engineering & Institute Petroleum Engineering, University of Tehran, **February 2014.**

- 95 **Ardavan Zanganeh** “Subcooled flow boiling heat transfer of Graphene oxide/water Nano-fluid in vertical annulus”, School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **February 2014**.
- 96 **Aliasghar Alizadeh Mogarrad** “Study of reservoir rock and ions influence on heavy molecules behavior in nanopores, using Molecular Dynamics simulation (MD) “, School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, February **2014**.
- 95 **Elnaz Seyyevalizadeh** “Economic Evaluation of Flare Gas Gathering System” Faculty of Economic, University of Tehran, **February 2014**.
- 94 **Maryam Bahrami Kahishnejad** “” Feasibility study and simulation of underground natural gas storage in depleted reservoirs in one of the hydrocarbon fields in southwest Iran”, School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **January 2014**.
- 93 **Sanaz Kasebi** “Feasibility study and simulation of underground hydrocarbon storage in one of the salt plugs in Central Iran zone” School of Chemical Engineering & Institute of LNG, College of Engineering, University of Tehran, **January 2014**.
- 92 **Abolhasan Hoseinzadeh** “Modeling and simulation of simultaneous removal of CO<sub>2</sub> and SO<sub>2</sub> from gas streams using hollow fiber membrane contactor”, School of Chemical Engineering, Institute of LNG, College of Engineering, University of Tehran, **January 2014**.
- 91 **Mohammad Reza Bohlol** “Thermodynamic and Kinetic analysis of solubility of CO<sub>2</sub> in physical solvents NMP and K<sub>2</sub>CO<sub>3</sub>”, School of Chemical Engineering, Institute of LNG, College of Engineering, University of Tehran, **January 2014**.
- 90 **Seyyd Esmail Moosavi** “Design, calculation and simulation of a vacuum system ejector, School of Chemical Engineering, Institute of LNG, College of Engineering, University of Tehran, **November 2013**.
- 89 **Hosein Hemmati** “**Feasibility** Study for Construction of Oil Refinery using Crude Oil Feed and Comparison with Gas Condensate Feed, Faculty of Economic, University of Tehran, **September 2013**.
- 88 **Mehdi Zare**” **Analysis** of liquid water transport in polymer electrolyte membrane fuel cell gas diffusion media using pore network simulation” School of Chemical Engineering, Institute of LNG, College of Engineering, University of Tehran, **September 2013**.
- 87 **Mehdi Enayati Sangsaraki** “Evaluation of Different Flare Types and Simulation of Flare Gas Recovery System with Implement Case Study in

South Pars” School of Chemical Engineering, Institute of LNG, College of Engineering, University of Tehran, **September 2013.**

- 86 **Ehsan Jabbari** “Modeling and Simulation of OCM on Li/MgO Catalyst, School of Chemical Engineering, College of Engineering, University of Tehran, **September 2013.**
- 85 **Mohammad Javad Mohammadi** “Fluid Flow dynamic modeling in a well with ESS system due to reduction in corrosion and collapse. Department of Petroleum Engineering, Drilling and Production, Azad University (Omidieh Branch), **March 2012.**
- 84 **Mohammad Ali Mohammadi** “Multiphase Fluid Flow Dynamic Modeling from Bottom hole to Separator” Department of Petroleum Engineering, Drilling and Production, Azad University (Omidieh Branch), **March 2012.**
- 83 **Sepehr Amin Jafari** “Thermo-economic Analysis & Optimization of Liquefied Natural Gas Mixed Refrigerant Cycles” School of Chemical Engineering, College of Engineering, University of Tehran, **February 2012.**
- 82 **Sepide Akbarpour** “Modeling and optimum design of hybrid solid oxide fuel cell-gas turbine power plants” School of Chemical Engineering, College of Engineering, University of Tehran, **February 2012.**
- 81 **Sajad Ataei** “Effect of Nanoparticles on Promotion of Hydrate Formation” School of Chemical Engineering, College of Engineering, University of Tehran, **December 2012.**
- 80 **Puriya Gholy nejad** “CFD simulation of two-phase gas-liquid separation in horizontal and vertical separators because of efficiency increase separation and dynamic flow behavior” University of Sistan and Baluchistan, **October 2012.**
- 79 **Vida Balkeh Jani** “Modeling and case study on Finger type Slug Catcher” University of Sistan and Baluchistan (Chahbahar Campus), **September 2012.**
- 78 **Mohammad Sheydaei Mehr** “Investigation of fluid Flow and Gas Condensate Formation Around a Deviated Well of South Pars Field” School of Chemical Engineering, IPE, College of Engineering, University of Tehran, **September 2012.**
- 77 **Seyyed Mohammad Hoseini** “Design and Optimization of cogeneration LNG and NGL process recovery, School of Chemical Engineering, College of Engineering, University of Tehran, **September 2012.**
- 76 **Mehran Samadi** “Dynamic modeling of gas compressor station “School of Chemical Engineering, College of Engineering, University of Tehran, **September 2012.**

- 75 **Farid Sadeghian Jahromi** "A novel process configuration for hydrocarbon recovery process with auto refrigeration system" School of Chemical Engineering, College of Engineering, University of Tehran, **September 2012.**
- 74 **Ali Palizdar** "Advanced exergy analysis and optimization of mixed refrigerant LNG processes, "School of Chemical Engineering, College of Engineering, University of Tehran, **September 2012.**
- 73 **Mahdi Alizad** "Concentrating on important parameters at South Pars gas purification by modeling and simulating of natural gas Sweetening units of 4<sup>th</sup> and 5<sup>th</sup> phases and evaluation of merging gas Sweetening and Mercaptane removal processes" School of Chemical Engineering, College of Engineering, University of Tehran, **September 2012.**
- 72 **Mohammad Ghanbarnejad**, Analysis of reducing procedures for gas flaring of associated gas and evaluation and design of its unit system for one of the Production Unit in Maroon Oil & Gas Company, Ahwaz. Graduate School of South Tehran Branch of Islamic Azad University, Tehran, Iran, **July 2012.**
- 71 **Atefeh Jehandideh Koudehi**, "Modeling & Simulation of Injection of Different Inhibitors to Gas Reservoirs for Prevent of Gas Hydrate Formation, School of Chemical Engineering, IPE, College of Engineering, University of Tehran, **July 2012.**
- 70 **Farhad Ghadayanlou**, "Design of Gas Flaring Recovery Systems and Proposed Methods for Reducing of Gas Flaring in the Olefin Unit of Morvarid Petrochemical", South Tehran Branch of Islamic Azad University, Tehran, Iran, **May 2012.**
- 69 **Mehdi Solgi**, "Optimization of Well Drilling using Genetic Algorithms and Particles Swarm" School of Chemical Engineering, IPE, College of Engineering, University of Tehran, **May 2012.**
- 68 **Ali Khazaeli**, "Feasibility Studies on the Production of LPG from Natural Gas Pressure Reduction Stations", School of Chemical Engineering, College of Engineering, University of Tehran, **February 2012.**
- 67 **Mohammad Amin Sedghamiz**, "Experimental Studies on Production & Storage of Natural Gas by Hydrates" School of Chemical Engineering, College of Engineering, University of Tehran, **January 2012.**
- 66 **Ali Neamati Rozbahani**, "Evaluation of Effective Parameters on the Efficiency of Natural Gas Transmission", School of Petroleum Engineering, Amir Kabir University of Technology, **September 2011.**

- 65 **Ahmad Zarei**, "Evaluation of Current Process Decision of Gas Injectuin for Iranian Oil Field," School of Chemical Engineering, IPE, College of Engineering, University of Tehran, September 2011.
- 64 **Saleh Nasiri**," Evaluation of Multiple Branch of Wells at South Pars Gas Field, Science & Technology Islamic Azad University, September 2011.
- 63 **Abolfazl Mokhtari**, "Modeling and Simulation of Finger bType Slug Catcher uding Theoretical and Experimental Two-Phase Flow" School of Chemical Engineering, College of Engineering, University of Tehran, **June 2011**.
- 62 **Hadi Ramzani Lahmani**, "Modeling and Simulation of Adsorption and regeneration Cycle Process and Parsian Gas Refinery Performance" School of Chemical Engineering, College of Engineering, University of Tehran, **June 2011**.
- 61 **Masoumeh Hekmat**, "Enhanced Oil Recovery using Biotechnology, School of Chemical Engineering, College of Engineering, University of Tehran, **January 2011**.
- 60 **Moslem Najafi**, "Experimental Studies on the Liquid-holdup in the Pipeline", School of Chemical Engineering, College of Engineering, University of Tehran, **March 2010**.
- 59 **Korush Borbor**, " Experimental Studies on Reological Changes of Crude Oil usind Mud Nano Particles", School of Chemical Engineering, College of Engineering, University of Tehran, **Feb. 2010**.
- 58 **Khoshgoftar, B., Mohammad**," Simulation & Optimization of GTL Process" School of Chemical Engineering, College of Engineering, University of Tehran, **September 2009**.
- 57 **HoMayuni, Fatemeh**"Experimental Evaluation of Viscosity reduction of Heavy crude Oil in Order to Transport by Transmission Pipelines for Long Sea Line" School of Chemical Engineering, College of Engineering, University of Tehran, **September 2009**.
- 56 **Haji Heydari, Ameneh**, "Feisibility Studies on the Natural Gas Conversion to the Liquefied Naturan Gas", School of Economic, University of Tehran, **March 2009**.
- 55 **Kasraei, Zaynab**, "Feisibility Studies on the Gas to Liquid", School of Economic, University of Tehran, **March 2009**.
- 54 **Bahri Sis, Nader**, "Well Test Analysis and Comparison with the Result of the Core Experiments for One of the Iranian South West Reservoirs", Department of Petroleum Engineering, School of Chemical Engineering, College of Engineering, University of Tehran, **March 2009**.

- 53 **Jafari Chashmi, Hamed**, "Nodal Analysis and Well Modeling for an Iranian Petroleum Reservoir, " Department of Petroleum Engineering, School of Chemical Engineering, College of Engineering, University of Tehran, **March 2009**.
- 52 **Azar Pira, Anahita**, "Modeling of Bubble-Slurry Reactor using Fischer-Tropsch Synthesis", School of Chemical Engineering, College of Engineering, University of Tehran, **February 2009**.
- 51 **Tirandazi, Behnam**, "Simulation and Exergy Method Analysis of the Refrigeration Cycle used in Marun Petrochemical C2+ Recovery Unit", School of Chemical Engineering, College of Engineering, University of Tehran, **September 2009**.
- 50 **Qasemzadeh, Amir**, "Simulation, Optimization and Evaluation of Performance and Gas Injection Efficiency in an Iranian South West Reservoir", Department of Petroleum Engineering, School of Chemical Engineering, College of Engineering, University of Tehran, **January 2009**.
- 49 **Momeni Maklavani, Ali.**, "Optimization and Modeling Studies of Miscible Gas Injection by Injected Gas Enrichment with Pentane and Separator Gas in Chshmeh Khosh Petroleum Reservoir", Department of Petroleum Engineering, School of Chemical Engineering, College of Engineering, University of Tehran, **January 2009**.
- 48 **Alvand, Ehsan**, "Scanning Tanks and Process Towers and Evaluating the Reability of an Accurate Performance Using Gama Ray and Neutron Back Scattering", Department of Petroleum Engineering, School of Chemical Engineering, College of Engineering, University of Tehran, **September 2008**.
- 47 **Alizadeh, Amrollah**, "Modeling Sand Production Using Finite Element Method" Department of Petroleum Engineering, School of Chemical Engineering, College of Engineering, University of Tehran, **May 2008**.
- 46 **Siahpush, Mohsen**, "Modeling of Dehydration Process using Adsorption Beds and Specification of Governing Equation on Adsorption and Regeneration Cycle", School of Chemical Engineering, College of Engineering, University of Tehran, **February 2008**.
- 45 **Anvaripoor, Mohammad Amin**, "Under Balanced Drilling in Karanj Oil Field According to the Drilling Mud Lost", Department of Petroleum Engineering, School of Chemical Engineering, College of Engineering, University of Tehran, **February 2008**.
- 44 **Zadakbar, Omid**, "Flaring and Flare Gas Recovery in Iran" School of Chemical Engineering, College of Engineering, University of Tehran, **February 2008**.

- 43 **Atighi, Hmid Reza**, "Evaluation of Effective Parameters on Hydrocarbon Wax Formation in Oil Transmission Pipelines and Methods for Prevention", the Azad University of Science and Research, **January 2008**.
- 42 **Rafiei, Ahmad**, "Simulation and Modeling Study on Gas Transmission Pipeline for Transportation of Natural Sour Gas Related to the Phases 6, 7 and 8 of South Pars Field from Assaluye to Aghajari Oil Field", Department of Energy, School of Mechanical Engineering, Sharif University of Technology, **January 2008**.
- 41 **Razmi, Feroji Nastaran**, "Kinetic Simulation of Surface Reactions of Oxidative Coupling Methane on Proskite Catalyst", School of Chemical Engineering, College of Engineering, University of Tehran, **December 2007**.
- 40 **Mokhtari, Shahrnaz**, "Homogeny Kinetic Modeling of Oxidative Coupling Methane on Proskite Catalyst Gas Phase Reactions", School of Chemical Engineering, College of Engineering, University of Tehran, **December 2007**.
- 39 **Nikkam, Nader**, "Pore network simulation for determination of residual oil in pore scale" Chemical Engineering Department, Engineering School of South Unit of The Azad University, **December 2007**.
- 38 **Maghsudloo, Mohsen**, "Reservoir Characterization of an Iranian Oil Field Using Analytical Well Testing" Department of Petroleum Engineering, School of Chemical Engineering, College of Engineering, University of Tehran, **December 2007**.
- 37 **Rabiei, Ali Reza**, "Fractured Reservoir Well Testing Using Conventional & Modern Methods" Department of Petroleum Engineering, School of Chemical Engineering, College of Engineering, University of Tehran, **October. 2007**.
- 36 **Khirkhah, Ramin**, "Optimization and Modeling Studies on Assaluye-Iranshar Gas Transmission Pipeline and Prediction of Suitable Position for Gas Compressor Stations" School of Chemical Engineering, College of Engineering, University of Tehran, September **2007**.
- 35 **Dehghani, Babak**, "Permeability Estimation by Using Proper Artificial Intelligent Method and Result Comparison with Core Data in Iranian Oil Reservoir", Department of Petroleum Engineering, School of Chemical Engineering, College of Engineering, University of Tehran, May **2007**.
- 34 **Amini, Harandi, Mohammad, Hadi**, "Evaluation of Natural Gas Demand Function of Regional Countries and Determination of End Use Market Iranian Gas Export", School of Chemical Engineering, College of Engineering, University of Tehran, February 2007.

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- 32 **PourAbed, Hamid Reza**, "Modeling Studies of Capillary Interaction in Fracture/Matrix Systems and its Effect on Reservoir Recovery Factor", Department of Petroleum Engineering, School of Chemical Engineering, College of Engineering, University of Tehran, February .2007.
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## C: Ph. D. Students

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- 20 Mehdi Falsafi “The study of the phenomenon for cryogenic heat exchanger design with aim of performance improvement in liquefaction of natural gas process”, School of Chemical Engineering, College of Engineering and Institute of Liquefied Natural Gas, University of Tehran, **17 September 2024**.
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- 17 **Farzad Mokhless-o-laemmeh** “The future of the oil market and its impact on the national security of the Islamic Republic of Iran in the context of a resistance economy”, University of Higher National Defense, **20 October 2020**.
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- 14 **Hossein Heyrani**, Evaluating Science, Technology and Innovation Policies in Iran Energy Section: Case study on the Underground Gas Storage Technologies and CHP, Iran Scientific Policies Center, **19 March 2018**.
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- 11 **Azadeh Amrollahi Biyouki**, Nanotechnology for in-situ upgrading of heavy oil: In-situ synthesis of nonoparticles and their effects on asphaltene adsorption, pyrolysis and oxidations, School of Chemical Engineering, College of Engineering and Institute of Petroleum Engineering, University of Tehran, **17 October 2017**.
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- 7 **Mashaallah Rezakazemi**, Fabrication of PDMS/POSS-Fumed Silica nanocomposite membrane for separation of C<sub>3</sub>H<sub>8</sub> from H<sub>2</sub>, CO<sub>2</sub>, CH<sub>4</sub>, School of Chemical Engineering, College of Engineering, University of Tehran, **November 2015**.
- 6 **Ali Fereidounpour**, Experimental Study of the Effect of Drilling Fluids on the stability of Hydrate Bearing Sediments, School of Chemical Engineering, College of Engineering and Institute of Petroleum Engineering, University of Tehran, **September 2015**.
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- 1 **Sadri, Mohammad Reza**, "Experimental Studies and Modeling of Immiscible Gas Injection in Iranian Carbonate Reservoirs", School of Chemical Engineering, College of Engineering, University of Tehran, **March 2010**.

### Supervision of Post Doctorial:

- 1- **Ali Palizdar** "Introducing a new process for liquefied natural gas with self-refrigeration technology and feasibility of integrating it with helium extraction

processes and converting natural gas into liquid hydrocarbons” School of Chemical Engineering & Institute of Liqueified Natural Gas, College of Engineering, University of Tehran, **October 2021**.

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## **Supervision of Industrial Projects:**

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## Reviewer of the international Journals:

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- *Energy Journal,*
- *International Journal of Energy Conversion Management,*
- *Journal of Applied Thermal Engineering,*
- *Iranian Journal of Chemistry & Chemical Engineering,*

## Biography:

- *Professor Ali Vatani is adviser to the Vice presidency for Science & Technology and currently works as National Project Director (NPD) of Energy Efficiency & Environment in Building and simultaneously as National Project Director (NPD) of Underground Gas Storage in the I.R. of Iran.*

- **Professor Vatani** works at the School of Chemical Engineering and as Head of Institute of LNG at University of Tehran. His research interests include Oil & Gas processes such as LNG, NGL, GTL, GTH and Multiphase Flow pipelines, Gas Transmission and Distribution Network.

### **International Cooperation:**

- 1) **1987-1989** **President of Abadan Institute of Technology and Coordinator of “Enhanced Oil Recovery (EOR) Excellency Research Center”** Project with Cooperation of UNDP.
- 2) **2018-2022** **“Advisor to Vice Presidency for Science & Technology of I.R. of Iran and National Director of Energy Efficiency and Environment in Building, Joint Project with UNDP & GEF.**