



## Reza Alizadeh

Professor

College: Faculty of Chemical Engineering

### Education

Degree	Graduated in	Major	University
BSc	1999	Petrochemical Engineering	Shiraz University
MSc	2002	Chemical Engineering	Amirkabir University of Technology
Ph.D	2007	Chemical Engineering	Amirkabir University of Technology

### Employment Information

Faculty/Department	Position/Rank	Employment Type	Cooperation Type	Grade
Sahand University Of Technology	Professor	Tenured	Full Time	

### Work Experience

#### Journal Papers:

- 1- "Catalytic effect of zinc oxide on the reduction of barium sulfate by methane". R.Alizadeh, E. Jamshidi, H. Ale Ebrahim. *Thermochimica Acta*, Vol. 460,2007, p 44.
- 2- "Kinetic study of nickel oxide reduction by methane". R. Alizadeh, Esmail Jamshidi, Habib Ale ebrahim, *Chemical engineering and technology*, vol.30 (8), 2007, p1123.
- 3- "Transformation of methane to synthesis gas over metal oxides without using catalyst". R.Alizadeh, E. Jamshidi, G. Zhang. *Journal of Natural Gas chemistry*, Vol. 18 No 2, 2009, p.124-130
- 4- "Modeling of catalyst effect on the reduction rate enhancement of barium sulfate by methane and

- developing two environmentally friendly processes." R.Alizadeh, E. Jamshidi, H. Ale Ebrahim. A.A Ebrahimi, Iranian Journal of chemical Engineering( IChE), Vol. 7, No 1, 2010
- 5- "Optimal Control Method of Exit Pollutants of Sulfur Recovery Unit in an Oil Refinery" L. Khazini, E. Fatehifar, R. Alizadeh, Iranian Chemical Engineering Journal ( IChE)Vol. 10 - No. 54 (2011) (In Persian)
- 6- " Application of Taguchi Method for Optimization of Amine- Based Tail Gas Treating Unit in Petroleum Refineries", L. Khazini, E. Fatehifar , B. Fouladpanjeh, R. Alizadeh, Energy Sources, Part A, 709–718, 2014,Volume 36, Issue
- 7- "Kinetic study of synthesis of titanium carbide by Methanothermal reduction of titanium dioxide". R.Alizadeh, O.Ostrovski, Iranian journal of materials sience & engineering(IJMSE), Vol. 8,Number 1, Autumn 2011
- 8- "Estimation and evaluation of new CO, CO<sub>2</sub> and NO<sub>x</sub> emission factors for gas flares using pilot scale flare". A. Talebi, E. Fatehifar, R. Alizadeh, D. Kahforoushan, Energy Sources, Part A, 36:719–726, 2014
- 9- "Thermodynamic Equilibrium Modeling of Tri-Reforming of Methane" M. Abdollahifar, M. Haghghi, R. Alizadeh , Iranian Chemical Engineering Journal ( IChE) Vol. 11 No. 60 (2012) (In Persian)
- 10- "The study of the Performance of various reducing factors in the catalytic reduction on the sulfur dioxide and converting it into elemental sulfur", M. Kanani , R. Alizadeh, E. Fatehifar, Farayandno Scientific- Propative Monthly-March 2012- 35,36 Issue(In Persian)
- 11- "Fire retardants and mechanism of their performance in polymers and coatings- A review", M.Salehi, R.Alizadeh, M. Mahdavian, Journal of Studies in Color World, 3(1392)/ 21-36(In Persian)
- 12- "Application of Finite Element Method for Modeling of Multi-tube Fixed Bed Catalytic reactors" P.Roohi, R.Alizadeh, E.Fatehifar, M.Salami, Published by Chemical Product and Process Modeling ,Volume 9, Issue 1, Pages 1–8, ISSN (Online) 1934-2659, ISSN (Print) 2194-6159, DOI: 10.1515/cppm-2013-0030, November 2013
- 13- "Using Dynamic Model for Determination of Heat Losses in Cold Weather from a Typical House in Tabriz Constructed by Lightweight Concrete Blocks", M. Darghazi, R.Alizadeh, Published by Energy efficiency journal;Vol.7, page: 609-626; 2014, DOI 10.1007/s12053-013-9243-5
- 14- "Preparation of Thin Membrane Layers of Polyamide-Polyether Block Copolymer (PEBA) on the Ceramic Nanocomposite Support for Separation of CO<sub>2</sub> from CH<sub>4</sub> and N<sub>2</sub>", Y.Bayat, A. Babaluo, R.Alizadeh, Journal of Separation Science and Engineering (JSSE Journal), Vol.4. No.1, page:. 69-75(In Persian)
- 15- "Simulation of gas absorption into string-of-beads liquid flow with chemical reaction", S. M. Hosseini, R. Alizadeh, E. Fatehifar, A. Alizadehdakheel, Heat and Mass Transfer journal Vol. 50 Pages:1393-1403 (2014)
- 16- "Kinetic study of the PVC/TiO<sub>2</sub> nanocomposites photodegradation under accelerated UV and visible light exposure",S.GhaebiMehmandoust, R. Alizadeh, A. Babaluo, Published by Polymers for Advanced Technologies, (Polym. Adv. Technol.) 2014, Vol. 25, page: 799–8082014,DOI: 10.1002/pat.3298
- 17- "Synthesis and characterization of nanostructured CuO/CeO<sub>2</sub>catalysts via ultrasound assisted techniques used for selective oxidation of CO" A.Karimi, E. Fatehifar, R.Alizadeh, Iranian Journal of chemical Engineering( IChE), Vol., No 1,2014
- 18-"Experimental Study and Modeling of Hydrogen Sulfide Absorption with Amine Solutions in a Wetted Wire Column", M.Ghasemzadeh, R. Alizadeh, E. Fatehifar, P.Roohi, M. Banihashemi, Journal of Separation Science and Engineering (JSSE Journal), Vol.7, No 1,2015 (In Persian)
- 19-"Thermodynamic study of transformation of methane to synthesis gas over metal oxides" P.Roohi, R.Alizadeh, E.Fatehifar, International Journal of Thermophysics(IJOT), Vol. 36 , 2015
- 20-"Steady State Modeling of Multi-Cylinder Dryers in Corrugating Paper Machine" S.ghodbanan, R.Alizadeh and Sirius shafiei, Drying Technology Vol. 33: p.1474–1490, 2015
- 21-"Effect of long time exposure on the chemical and physical properties of polyvinyl chloride/titanium dioxide nanocomposites" S.Mehmandoust, P.Sokhandani, M.Abdi, A.Babaluo, R.Alizadeh, Journal of Thermoplastic Composite Materials January Vol.29, 2016

- 22-"Effect of second metal on the selectivity of Mn/H-ZSM-5 catalyst in methanol to propylene process" N. Hadi, A. Niaei, S.R. Nabavi, M. Navaei Shirazi, R. Alizadeh, Journal of Industrial and Engineering Chemistry, Vol.29.pp.52-62, 2015
- 23-"Simulation and Optimization of Styrene Monomer Production Using Neural Network", M. Aghayarzadeh, R. Alizadeh, S. Shafiei, Iranian Journal of Chemical Engineering, Vol. 11, No. 1 (Winter), 2014, IACHE
- 24-"Analytical investigation of temperature changes by the forced convection in a porous bed with consideration of viscous dissipation", A.Karimi, R. Alizadeh, Tabriz Mechanic Research and Scientific Journal. Vol.46 No.2(summer), (In Persian)
- 25-"Simulation of hydrogen desorption from large metal hydride storages and investigation of efficiency enhancement by using metal fins", S.M.Hosseini, R.Alizadeh, H.Targholizadeh, Modares Mechanical Engineering,Vol.15,No.11,pp.63-72,2015(In Persian)
- 26-"An intelligent approach to design and optimization of M-Mn/H-ZSM-M:(Ce,Cr,Fe,Ni) catalysts in conversion of methanol to propylene", N.Hadi, A.Niaei, SR.Nabavi, R.Alizadeh, M.N Shirazi,B. Izadkhan Journal of the Taiwan Institute of Chemical Engineers, Vol. 59,pp. 173-185, 2016
- 27-"Thermodynamic Study and Methanothermal TPR Synthesis of Molybdenum Carbide", P.Roohi, R.Alizadeh, E.Fatehifar, International Journal of Minerals, Vol.23,p. 339-347,2016
- 28-" Modeling of Ethylbenzene Dehydrogenation Catalyst Deactivation on an Industrial Scale", A.Haghlesan, R.Alizadeh, E.Fatehifar, Petroleum Science and Technology Journal (PET), Vol. 34, Issue 6, pp. 499-504, 2016
- 29- "Thermodynamic and Heat Transfer Evaluation of Pocket Drying Section in the Multi-Cylinder Dryers of Paper Machine " , S.ghodbanan, R.Alizadeh and Sirus shafiei . Iranian Journal of Chemical Engineering, Vol. 13, pp.57-70, 2016
- 30- "Simulation of Carbon Dioxide Absorption by Monoethanolamine Solution in Wetted Wire Column", S.Abouali, R.Alizadeh, E.Fatehifar, E.Soroush , Chemical Engineering & Processing: Process Intensification, Vol.102,pp. 59-69, 2016
- 31- "Modeling and optimization of removal of toluene from aqueous solutions using iron oxide nanoparticles by RSM method", N.Gharibzadeh, E.Fatehifar, R.Alizadeh, A.Haghlesan, Modarres civil-environmental eng. Journal, Vol.16No2,pp.203-213,2016(In Persian)
- 32-"Rapid degradation of contaminated soil with 2-methylpropane-2-thiol by H<sub>2</sub>O<sub>2</sub>/KMnO<sub>4</sub>/NaClO system: process modeling and optimization", P.roohi, E.Fatehifar, R.Alizadeh, Asia-Pacific Journal of Chemical Engineering, DOI: 10.1002/apj
- 33-"Dry Reforming of Methane over Nano-Mo<sub>2</sub>C/Al<sub>2</sub>O<sub>3</sub> Catalyst: Effect of Carburization Conditions on Excess Carbon Deposition " P.Roohi, R.Alizadeh, E.Fatehifar Energy Sources, Part A. Journal. Vol.38, 2016
- 34-"Evaluation of Spent Catalyst Structural Changes during Ethylbenzene Dehydrogenation in Different Technologies", A.Haghlesan, R.Alizadeh, E.Fatehifar, Iranian Journal of Chemistry and Chemical Engineering (IJCCE), Vol. 36, No. 1, 2017,45-57
- 35-"Ultrasonic assisted synthesis and characterization of xcuo/ceoc<sub>2</sub>-□al<sub>2</sub>o<sub>3</sub> nanocatalysts", A Karimi, E Fatehifar, R Alizadeh, M Jamili, A Jafarizad, Iranian Journal of Chemical Engineering , Vol.13 NO.3
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- 37-" Mathematical modeling and optimization of sonication remediation of soil polluted with 2-methylpropane-2-thiol", P.roohi, E.Fatehifar, R.Alizadeh, Advances in Environmental Technology 3 (2015) 137-146
- 38-"Regeneration of Spent Caustic of Olefin Unit in a Bubble Column Reactor: Treatment and Recovery ",A. Karimi,E.Fatehifar, R.Alizadeh,I.Ahadzadeh, Environmental Progress & Sustainable Energy, Vol.36 No.2,(2017) 341-347
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42- "CO<sub>2</sub>/O<sub>2</sub>Oxidative Dehydrogenation of Ethane to Ethylene over Highly Dispersed Vanadium Oxide on MgO Promoted Sulfated Zirconia Nanocatalyst: Effect of Sulfation on Catalytic Properties and Performance", P.Taghavinezhad, M.Haghighi, R.Alizadeh, Korean Journal of Chemical Engineering. Vol.35(5),(2017) 1346-1357

43- "Selective Production of Propylene from Methanol over Nanosheets of Metal-Substituted MFI Zeolites", N.Hadi, R.Alizadeh, A.Niaei, Journal of Industrial and Engineering Chemistry, Vol.54,(2017) 82-97

44- "Modeling and Optimization of Fast Degradation of Contaminated Soil with 2-Methylpropane-2-Thiol by Modified Fenton Process", P.roohi, E.Fatehifar, R.Alizadeh, Modares Civil Engineering Journal (M.C.E.J),Vol.17, No.4, October 2017

45- "CFD modeling for selective formation of propylene from methanol over synthesized Mn-substituted MFI metallosilicate catalyst", N.Hadi, A.Niaei, R.Alizadeh, accepted by Iranian Journal of Chemical Engineering.

46-"Sonosynthesis of VO<sub>x</sub>/MCM-41 Nanocatalyst Enhanced by various Metal Oxides (Mg, Al, Zr) for CO<sub>2</sub>-OxidativeDehydrogenation of Ethane to Ethylene" , P.Taghavinezhad, M.Haghighi, R.Alizadeh. Microporous & Mesoporous Materials, Vol.261,(2018) 63-78

47- "Adsorption Modeling of CO<sub>2</sub> in Fluidized Bed Reactor", S.Yaghoobi, R.Alizadeh, R.Zarghami, Chemical Engineering Research and Design, Vol.129,(2018) 111-121

48- "Durable and highly selective tungsten-substituted MFI metallosilicate catalysts for methanol to propylene process by designing a novel feed-supply technique", N.Hadi, A.Niaei, R.Alizadeh, Comptes Rendus Chimie Journal, Vol.21,(2018)

49- "Sonoprecipitation dispersion of ZnO nanoparticles over graphene oxide used in photocatalytic degradation of methylene blue in aqueous solution: Influence of irradiation time and power " M. Zarrabi, M.Haghighi, R.Alizadeh, Ultrasonics Sonochemistry, Vol.48, 2018, P. 370-382

50- "Solar-light-driven photodegradation of organic dyes on sono-dispersed ZnO nanoparticles over graphene oxide: Sono vs. conventional catalyst design", M. Zarrabi, M.Haghighi, R.Alizadeh, Separation and Purification Technology, Vol.211, 2019, P. 738-752

51- "Enhanced Sono-Dispersion of Bi<sub>5</sub>O<sub>7</sub>I and Bi<sub>2</sub>ClH<sub>3</sub>O<sub>3</sub> Oxides over ZnO Used as Nanophotocatalyst in Solar-Light-Driven Removal of Methylene Blue from Water", M. Zarrabi, M.Haghighi, R.Alizadeh, Journal of Photochemistry and Photobiology A: Chemistry

52-"Synthesis and characterization of MFI zeolite nanosheets for optimizing the dominant operational conditions of methanol to propylene process", N.Hadi, R.Alizadeh, A.Niaei, Accepted by Journal of Nanostructures

53-"Influence of aging temperature and Mg/Zr molar ratio on transformation of C<sub>2</sub>H<sub>6</sub> to C<sub>2</sub>H<sub>4</sub> over VO<sub>x</sub> catalyst supported on Mg-Zr nanocomposite " , P.Taghavinezhad, M.Haghighi, R.Alizadeh. Research on Chemical Intermediates, Vol.45,(2019) 1907-1927

54-"Simulation of Fuel Storage Hazards Associated With Petroleum Refineries Tanks " , M.Pourgol, M.Pourghafari, R. Alizadeh, M. Kaleibar and M. Soleimani, Accepted by ASCEASME Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering.

55-" Enhancement of Gas Distribution Uniformity ina Claus Process Catalytic Reactor Using Computational Fluid Dynamics", M. Hosseini, R. Alizadeh, A. Alizadehdakhel, Y. Behjat, P. Nooriasl, Chemical Engineering and Processing - Process Intensification, Vol.144(2019)

56- "Fractional Calculus Method Applied To the Apple Rings Candyng in Osmotic Drying Process", A.

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- 57- "A stochastic approach for predicting tortuosity in porous media via pore network modeling ",R. Nemati, J. R. Shahrouzi, R. Alizadeh, Computers and Geotechnics, Vol. 120(April 2020)
- 58- " Efficient photocatalytic degradation of furosemide by a novel sonoprecipitated ZnO over ion exchanged clinoptilolite nanorods " Z. Heidari, R. Alizadeh, A. Ebadi, N. Oturan, M.A. Oturan, Separation and Purification Technology, Vol.242(2020),
- 59- " Enhanced heterogeneous catalytic ozonation of pharmaceutical pollutants using a novel nanostructure of iron-based mineral prepared via plasma technology: A comparative study ", R. Pelalak, R. Alizadeh, E. Ghareshabani, Journal of Hazardous Materials , Vol.392(2020)
- 60- "Degradation of sulfonamide antibiotics using ozone-based advanced oxidation process: Experimental, modeling, transformation mechanism and DFT study , R. Pelalak, R. Alizadeh, E. Ghareshabani, Zahra Heidari, Science of the Total Environment journal. Vol.392(2020)
- 61- " Metal-substituted sponge-like MFI zeolites as high performance catalysts for selective conversion of methanol to propylene", N. Hadi , A. Farzi, R. Alizadeh, A. Niaei Microporous & Mesoporous Materials, Vol.306,(2020)
- 62- " The Influence of Natural Basil Seed Gum Coats on the Kinetics of Osmotic Dehydration of Apple Rings ",A. Etemadi, R. Alizadeh, M. Sirousazar, Food and Bioprocess Technology, Vol.13,(2020)
- 63- " Degradation of furosemide using photocatalytic ozonation in the presence of ZnO/ICLT nanocomposite particles: Experimental, modeling, optimization and mechanism evaluation", Z. Heidari, R. Alizadeh, A. Ebadi, R. Pelalak, N. Oturan, M. Oturan, Journal of Molecular Liquids. 2020, Vol.319
- 64- " High-efficient hierarchical [B]-ZSM-5 catalyst by simultaneously using of CTAB surfactant and boron promoter for methanol to olefins reaction", F. Dalirian, M. Rostamizadeh and R.Alizadeh, Research on Chemical Intermediates 2021, Vol. 47
- 65- "High performance ozone based advanced oxidation processes catalyzed with novel argon plasma treated iron oxyhydroxide hydrate for phenazopyridine degradation", R. Pelalak, Z. Heidari, M. Forouzesh, E. Ghareshabani, R. Alizadeh, A. Marjani & S. Shirazian, Scientific Reports, 2021, Vol. 11
- 66- "Dual-templated synthesis of Si-rich [B]-ZSM-5 for high selective light olefins production from methanol",S. Beyraghi, M. Rostamizadeh , R. Alizadeh, Polyolefins Journal 2021, Vol. 8
- 67- "Efficient oxidation/mineralization of pharmaceutical pollutants using a novel Iron (III) oxyhydroxide nanostructure prepared via plasma technology: Experimental, modeling and DFT studies, R. Pelalak,Z. Heidari,R.Alizadeh,E.Ghareshabani,N.Nassehe, A. Marjani, Journal of Hazardous Materials Volume 411, 5 June 2021, 125074
- 68- " Application of Mineral Iron-Based Natural Catalysts in Electro-Fenton Process: A Comparative Study ", Z. Heidari ,R. Pelalak ,R. Alizadeh ,N. Oturan,S. Shirazian, M. Oturan, Catalysts 2021, Vol. 11(1), 57;
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- 70- "Development of mean isosteric heat activity coefficient model for the prediction of multicomponent liquid phase adsorption ", A. Mottaghitlab, R. Alizadeh , H. Maghsoudi, Fluid Phase Equilibria, 2022, Vol.556
- 71- "Ozone-assisted detemplation of SSZ-13 zeolite at low temperature", E. Delshad, H. Maghsoudi , R.Alizadeh, R. Ebadi, Microporous and Mesoporous Materials, 2022, Vol.334
- 72-"Hybrid Sonoprecipitation Fabrication of Magnetic ZnO-GO-Fe<sub>3</sub>O<sub>4</sub> Nanophotocatalyst for Solar-Light-Driven Degradation of Dyes in Water ", M Zarrabi, M Haghighi, R Alizadeh, S Mahboob, Materials Research Bulletin, 2022, Vol.153
- 73-" Visible-light-driven impressive activation of persulfate by Bi<sub>50</sub>Br<sub>7</sub>-modified ZnO for photodegradation of tetracycline: Facile synthesis, kinetic and mechanism study", H.Seyyedbagheri, R. Alizadeh, B. Mirzayi, Journal of Molecular Liquids, 2022, Vol.365
- 74-" Modeling of carbon dioxide and hydrogen sulfide pollutants absorption in wetted-wire columns

with alkanolamines" A. Jasour, R. Alizadeh, H. Ahmadian, Chemical Product and Process Modeling, 2023, doi.org/10.1515/cppm-2022-0056

75-"Experimental study and Machine learning simulation of Pb (II) separation from aqueous solutions via a nanocomposite adsorbent", H. Abedpour, J. Moghaddas, A. Sori, R. Alizadeh, Journal of the Taiwan Institute of Chemical Engineers, Vol. 147, pp. , 2023

76-"A novel heterostructure ZnO/PbBiO<sub>2</sub>Cl as a type-II photocatalyst for persulfate activation in tetracycline degradation under visible light", H. Seyyedbagheri, R. Alizadeh, B. Mirzayi, Journal of Molecular Liquids, 2023, Vol.383

77-"Insights into transport in mucus barrier: Exploring particle penetration through the intestinal mucus layer ", M. Valibeknejad, M. Abdoli, R. Alizadeh, SM. Mihail, A. Raoof, Journal of Drug Delivery Science and Technology, 2023, Vol.86

78-"Improvement of energy efficiency and heat recovery performance within the paper machine drying section", S. Ghodbanan, R. Alizadeh, S. Shafiei, J. Shahrouzi, Accepted by Journal of Computational & Applied Research in Mechanical Engineering (JCARME), doi.org/10.22061

79-" Modeling and CFD simulation of photocatalytic removal of tetracycline by ZnO/PbBiO<sub>2</sub>Cl nanocomposite catalyst ", H. Seyyedbagheri, R. Alizadeh, B. Mirzayi, M. Valibeknejad, Journal of Molecular Liquids, 2024, Vol.383

80- "Technical-economic analysis of chemical hydrolysis of microalgae for bioethanol production using SuperPro Designer", H. Shokrkar, E. Bahmani, R. Alizadeh, accepted for publication in Iranian Journal of Chemical Engineering (IJChE)

81-" Photocatalytic Degradation of Linezolid Antibiotic from Aqueous Solution by Magnetically Separable Nanoheterostructure Fe<sub>3</sub>O<sub>4</sub>/ MgAl<sub>2</sub>O<sub>4</sub>/BiOBr<sub>0.5</sub>Cl<sub>0.5</sub> Synthesized Composite catalyst", E. Yaghinirad, R. Alizadeh, A. Ebadi, D. Ekinci, Journal of Molecular Liquids, 2024, Vol.403

## Subjects Taught

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### Teaching Experience:

Advanced Reaction Kinetics and Reactor Design  
Advanced Engineering mathematics  
Advanced Conduction heat transfer  
Advanced Fluid Mechanics  
Advanced Convection Heat Transfer  
Petroleum Engineering Heat transfer  
Heterogeneous Catalytic and Non-catalytic reaction  
Advanced Drying Technologies  
Advanced Adsorption Technology  
Fluid mechanics  
Thermodynamics