Fereshteh Meshkani

Catalyst and Advanced Materials Research Laboratory (CAMRL)

Chemical Engineering Department - University of Kashan

Nano Science and Technology Institute - University of Kashan

Tel: (+98 31) 55912476

Email: meshkani@kashanu.ac.ir,

fereshteh.meshkani4@gmail.com

https://scholar.google.com/citations?hl=en&user=8Ccr5OYAAAAJ

https://www.scopus.com/authid/detail.uri?authorId=30767771500

Birthday: 12/09/1983

Nationality: Iranian

Education

Ph.D. Chemical Engineering, University of Kashan, 2011-2015. (GPA:19.75/20)

M.Sc. Chemical Engineering, University of Kashan, 2007-2010. (GPA:18.85/20)

B.Sc. Chemical Engineering, Persian Gulf University, 2002-2006. (GPA:15.39/20)

Work Experience

02/2015 - Present

Assistant Professor of Chemical Engineering Department, Faculty of Engineering, University of Kashan, Kashan, Iran.

04/2015 - Present

Researcher, Sarv Oil & Gas Industries Development Company, Tehran, Iran.

Responsibilities:

Industrial scale production of high temperature water gas shift reaction catalyst.

Research Interests

- Heterogeneous Catalysis & Porous Materials
- Natural Gas Catalytic Conversion & Processing
- Characterization and Application of Mesoporous Materials
- Nanocatalysis & Nanomaterials
- Water gas shift process
- Hydrogen Production

Research Projects

- Synthesis of bi-metallic catalysts (Ni-Pt) supported on nanocrystalline MgO for methane reforming with carbon dioxide
- Synthesis of $MgAl_2O_4$ spinel and its application as carrier for dry reforming catalysts.
- Design and manufacturing of catalytic evaluation setup for nano catalysts in laboratory scale (Cata-Test)
- Preparation of mesoporous nanocrystalline iron oxide catalysts for high temperature water gas shift reaction.
- Preparation and evaluation of Cr- Free promoted iron based nanocatalysts with mesoporous structure for hydrogen production via high temperature water gas shift reaction
- Mesoporous nanocrystalline Ni- based catalyst for CO_2 methanation
- Syngas Production by glycerol reforming
- COx-free hydrogen production by catalytic decomposition of CH_4 over supported Ni catalysts

Graduate and Undergraduate Courses

- Basic Principles and Calculations in Chemical Engineering
- Gas Processing
- Heat transfer I
- Heat transfer II
- Heterogeneous Catalysis
- Nanomaterial synthesis methods

- Introduction to Petroleum Engineering
- Petroleum refining processes

Honors and Awards

- Research Excellence Award in 2009, University of Kashan (Faculty of engineering).
- Ranked 1st among M.Sc. admitted students in Chemical engineering, University of Kashan, 2007
- Ranked 3rd GPA among all M.Sc. students of the whole Engineering Department, University of Kashan, 2007.
- Research Excellence Award in 2011, University of Kashan (Faculty of engineering).
- Ranked 1st among Ph.D. admitted students in Chemical engineering, University of Kashan, 2012
- Research Excellence Student Award in 2014, Isfahan Province
- Teaching Excellence Award in 2015, University of Kashan (Faculty of Engineering)
- Research Excellence Award in 2016, University of Kashan (Faculty of Engineering).
- Khwarizmi Youth Award (Rank. 1, Fundamental researches), 2016.
- Research Excellence Award in 2017, University of Kashan.
- Dr. Ali Kazemi Ashtiani Award from the National Elite Foundation, 2018
- Research Excellence Award in 2018, University of Kashan.
- Research Excellence Award in 2019, University of Kashan.
- Research Excellence Award in 2020, University of Kashan.

Publications

❖ *Journal publications*

- Effect of mesoporous nanocrystalline supports on the performance of the Ni–Cu catalysts in the high-temperature water-gas shift reaction, NS Maboudi, F Meshkani, M Rezaei, Journal of the Energy Institute, 2021, 96, 75-89
- Preparation and improvement of the mesoporous nanostructured nickel catalysts supported on magnesium aluminate for syngas production by glycerol dry reforming, A Dehghanpoor-Gharashah, M Rezaei, F Meshkani, International Journal of Hydrogen Energy, 2021
- Promotional roles of second metals in catalyzing methane decomposition over the Ni-based catalysts for hydrogen production: A critical review, S Karimi, F Bibak, F Meshkani, A Rastegarpanah, J Deng, Y Liu, H Dai, 2021, International Journal of Hydrogen Energy
- Enhanced low-temperature activity of CO_2 methanation over ceria-promoted Ni-Al_2O_3 nanocatalyst, R Daroughegi, F Meshkani, M Rezaei, Chemical Engineering Science, 2021, 230, 116194
- Thermocatalytic decomposition of CH_4 over Ni/SiO_2 center dot MgO catalysts prepared via surfactant-assisted urea precipitation method, S Karimi, F Meshkani, M Rezaei, A Rastegarpanah, Fuel, 2021, 284
- One-pot hard template synthesis of mesoporous spinel nanoparticles as efficient catalysts for low temperature CO oxidation, S Mobini, M Rezaei, F Meshkani, Environmental Science and Pollution Research, 2021, 28 (1), 547-563,

- Preparation of the Mn/Co mixed oxide catalysts for low-temperature CO oxidation reaction, M Ghiassee, M Rezaei, F Meshkani, S Mobini, Environmental Science and Pollution Research, 2021, 28 (1), 379-388,
- A dual-layer, nanofibrous styrene-acrylonitrile membrane with hydrophobic/hydrophilic composite structure for treating the hot dyeing effluent by direct contact membrane …, MMA Shirazi, S Bazgir, F Meshkani, Chemical Engineering Research and Design, 2020, 164, 125-146
- R Daroughegi, F Meshkani, M Rezaei,Enhanced low-temperature activity of CO_2 methanation over ceria-promoted Ni-Al_2O_3 nanocatalyst, 2020, Chemical Engineering Science, 116194
- Z Taherian, VS Gharahshiran, A Khataee, F Meshkani, Y Orooji, Comparative study of modified Ni catalysts over mesoporous CaO-Al_2O_3 support for CO_2/methane reforming, 2020, Catalysis Communications 145, 106100
- Ali Rastegarpanah, Fereshteh Meshkani, Yuxi Liu, Jiguang Deng, Lin Jing, Wenbo Pei, Kunfeng Zhang, Zhiquan Hou, Zhuo Han, Mehran Rezaei, and Hongxing Dai, Toluene Oxidation over the M–Al (M = Ce, La, Co, Ce–La, and Ce–Co) Catalysts Derived from the Modified "One-Pot" Evaporation-Induced Self-Assembly Method: Effects of Microwave or Ultrasound Irradiation and Noble-Metal Loading on Catalytic Activity and Stability, 2020, Ind. Eng. Chem. Res. 2020, 59, 13, 5624–5635
- NS Maboudi, F Meshkani, M Rezaei, Effect of mesoporous nanocrystalline supports on the performance of the Ni–Cu catalysts in the high-temperature water-gas shift reaction, 2020, Journal of the Energy Institute

- S Mobini, M Rezaei, F Meshkani, One-pot hard template synthesis of mesoporous spinel nanoparticles as efficient catalysts for low temperature CO oxidation, Environmental Science and Pollution Research, 1-17
- M Ghiassee, M Rezaei, F Meshkani, S Mobini, Preparation of the Mn/Co mixed oxide catalysts for low-temperature CO oxidation reaction, 2020, Environmental Science and Pollution Research, 1-10
- F Meshkani, M Rezaei, A Rastegarpanah, Preparation and improvement of nickel catalyst supported ordered mesoporous spherical silica for thermocatalytic decomposition of methane, 2020, Journal of the Energy Institute
- MMA Shirazi, S Bazgir, F Meshkani, A novel dual-layer, gas-assisted electrospun, nanofibrous SAN4-HIPS membrane for industrial textile wastewater treatment by direct contact membrane distillation (DCMD), 2020, Journal of Water Process Engineering 36, 101315
- R Daroughegi, F Meshkani, M Rezaei, Characterization and evaluation of mesoporous high surface area promoted Ni-Al_2O_3 catalysts in CO_2 methanation, 2020, Journal of the Energy Institute 93 (2), 482-495
- A Rastegarpanah, M Rezaei, F Meshkani, H Dai, 3D ordered honeycomb-shaped CuO·Mn_2O_3: Highly active catalysts for CO oxidation,2020, Molecular Catalysis 485, 110820
- MMA Shirazi, S Bazgir, F Meshkani, Electrospun Nanofibrous Membranes for Water Treatment, 2020, Advances in Membrane Technologies
- VS Gharahshiran, Z Taherian, A Khataee, F Meshkani, Y Orooji, Samarium-impregnated nickel catalysts over SBA-15 in steam reforming of CH_4 process, 2020, Journal of Industrial and Engineering Chemistry

- F Meshkani, MMA Shirazi, Current status of hydrogenation of carbon dioxide, 2020, New Dimensions in Production and Utilization of Hydrogen, 215-239
- SV Moghaddam, M Rezaei, F Meshkani, Surfactant-Free Sol–Gel Synthesis Method for the Preparation of Mesoporous High Surface Area NiO–Al_2O_3 Nanopowder and Its Application in Catalytic CO2 Methanation, 2020, Energy Technology 8 (1), 1900778
- S Amini, F Meshkani, M Rezaei, 2020, Catalytic Oxidation of CO over Nanocrystalline $La_{1-x}Ce_xNiO_3$ Perovskite-Type Oxides, Chemical Engineering & Technology 42 (11), 2443-2449
- Rezaei, P., Rezaei, M., Meshkani, F., 2019, Ultrasound-assisted hydrothermal method for the preparation of the M-Fe2O3-CuO (M: Mn, Ag, Co) mixed oxides nanocatalysts for low-temperature CO oxidation, Ultrasonics Sonochemistry, 57, pp. 212-222
- Ghiassee, M., Rezaei, M., Meshkani, F., Mobini, S., 2019, Preparation and optimization of the $MnCo_2O_4$ powders for low temperature CO oxidation using the Taguchi method of experimental design, Research on Chemical Intermediates 45(9), pp. 4501-4515
- Rastegarpanah, A., Rezaei, M., Meshkani, F., Zhang, K., Zhao, X., Pei, W., Liu, Y., Deng, J., Arandiyan, H. and Dai, H., 2019. Influence of group VIB metals on activity of the Ni/MgO catalysts for methane decomposition. Applied Catalysis B: Environmental, 248, pp.515-525.
- Rastegarpanah, A., Rezaei, M., Meshkani, F., Zhang, K., Zhao, X., Pei, W., Liu, Y., Deng, J., Arandiyan, H. and Dai, H., 2019. Mesoporous Ni/MeOx (Me= Al, Mg, Ti, and Si): Highly efficient catalysts in the decomposition of methane for hydrogen production. Applied Surface Science, 478, pp.581-593.

- Mobini, S., Meshkani, F. and Rezaei, M., 2019. Supported Mn catalysts and the role of different supports in the catalytic oxidation of carbon monoxide. Chemical Engineering Science, 197, pp.37-51.
- Maboudi, N.S., Meshkani, F. and Rezaei, M., 2019. Influence of group IIA metals on the performance of the NiCu/$CeO_2Al_2O_3$ catalysts in high-temperature water gas shift reaction. International Journal of Hydrogen Energy, 44(5), pp.2694-2703.
- Daroughegi, R., Meshkani, F. and Rezaei, M., 2019. Characterization and evaluation of mesoporous high surface area promoted Ni-Al2O3 catalysts in CO_2 methanation. Journal of the Energy Institute.
- Alipour, Z., Meshkani, F., Rezaei, M., 2019, Kinetic comparison of Ni/Al_2O_3 and Ni/MgO-Al2O3 nano structure catalysts in CO2 reforming of methane, Iranian Journal of Catalysis, 9(1), pp. 51-61.
- Rahmani, S., Meshkani, F. and Rezaei, M., 2019. Preparation of Ni-M (M: La, Co, Ce, and Fe) catalysts supported on mesoporous nanocrystalline γ-Al_2O_3 for CO_2 methanation. Environmental Progress & Sustainable Energy, 38(1), pp.118-126.
- Ramezani, Y., Meshkani, F. and Rezaei, M., 2018. Promotional effect of Mg in trimetallic nickel-manganese-magnesium nanocrystalline catalysts in CO_2 reforming of methane. International Journal of Hydrogen Energy, 43(49), pp.22347-22356.
- Moghaddam, S.V., Rezaei, M., Meshkani, F. and Daroughegi, R., 2018. Synthesis of nanocrystalline mesoporous Ni/Al2O3SiO2 catalysts for CO2 methanation reaction. International Journal of Hydrogen Energy, 43(41), pp.19038-19046.

- Rezaei, P., Rezaei, M. and Meshkani, F., 2018. Low temperature CO oxidation over mesoporous iron and copper mixed oxides nanopowders synthesized by a simple one pot solid-state method. Process Safety and Environmental Protection, 119, pp.379-388.
- Moghaddam, S.V., Rezaei, M., Meshkani, F. and Daroughegi, R., 2018. Carbon dioxide methanation over Ni-M/Al2O3 (M: Fe, CO, Zr, La and Cu) catalysts synthesized using the one-pot sol-gel synthesis method. International Journal of Hydrogen Energy, 43(34), pp.16522-16533.
- Rastegarpanah, A., Rezaei, M., Meshkani, F., Dai, H. and Arandiyan, H., 2018. Thermocatalytic decomposition of methane over mesoporous Ni/xMgO· Al_2O_3 nanocatalysts. International Journal of Hydrogen Energy, 43(32), pp.15112-15123.
- Rategarpanah, A., Meshkani, F., Wang, Y., Arandiyan, H. and Rezaei, M., 2018, Thermocatalytic conversion of methane to highly pure hydrogen over Ni–Cu/MgO· Al_2O_3 catalysts: influence of noble metals (Pt and Pd) on the catalytic activity and stability. Energy conversion and management, 166, pp.268-280.
- Mousavi, S.M., Meshkani, F. and Rezaei, M., 2018. Preparation of nanocrystalline Zr, La and Mg-promoted 10% Ni/$Ce_{0.95}Mn_{0.05}O_2$ catalysts for syngas production via dry reforming reaction. International Journal of Hydrogen Energy, 43(13), pp.6532-6538.
- Tavanarad, M., Meshkani, F. and Rezaei, M., 2018. Production of syngas via glycerol dry reforming on Ni catalysts supported on mesoporous nanocrystalline Al_2O_3. Journal of CO_2 Utilization, 24, pp.298-305.
- Meshkani, F. and Rezaei, M., 2018. Effects of alkali promoters on the textural and catalytic properties of mesoporous Fe–Al–Cu catalysts for water gas shift reaction. International Journal of Green Energy, 15(1), pp.28-36.

- Ramezani, Y., Meshkani, F. and Rezaei, M., 2018. Preparation and evaluation of mesoporous nickel and manganese bimetallic nanocatalysts in methane dry reforming process for syngas production. Journal of Chemical Sciences, 130(1), p.11.
- Tavanarad, M., Meshkani, F. and Rezaei, M., 2018. Synthesis and Application of Noble Metal Nanocatalysts Supported on $MgAl_2O_4$ in Glycerol Dry Reforming Reaction. Catalysis Letters, 148(1), pp.164-172.
- Senseni, A.Z., Meshkani, F., Fattahi, S.M.S. and Rezaei, M., 2017. A theoretical and experimental study of glycerol steam reforming over Rh/MgAl2O4 catalysts. Energy Conversion and Management, 154, pp.127-137
- Mousavi, S.M., Meshkani, F. and Rezaei, M., 2017. Synthesis of nanocrystalline Ce0. 95Mn0. 05O2 solid solution powders as support for nickel catalyst in dry reforming reaction. Journal of Environmental Chemical Engineering, 5(6), pp.5493-5500.
- Shamskar, F.R., Meshkani, F. and Rezaei, M., 2017. Preparation and characterization of ultrasound-assisted co-precipitated nanocrystalline La-, Ce-, Zr–promoted $NiAl_2O_3$ catalysts for dry reforming reaction. Journal of CO_2 Utilization, 22, pp.124- 134.
- Ghods, B., Rezaei, M. and Meshkani, F., 2017. CO_2 Methanation on Nickel Catalysts Supported on Mesoporous High-Surface-Area $MgSiO_3$. Chemical Engineering & Technology, 40(10), pp.1861-1866.
- Mobini, S., Meshkani, F. and Rezaei, M., 2017. Surfactant-assisted hydrothermal synthesis of CuCr2O4 spinel catalyst and its application in CO oxidation process. Journal of environmental chemical engineering, 5(5), pp.4906-4916.

- Mousavi, S.M., Meshkani, F. and Rezaei, M., 2017. Preparation of mesoporous nanocrystalline 10% Ni/$Ce_{1-x}Mn_xO_2$ catalysts for dry reforming reaction. International Journal of Hydrogen Energy, 42(39), pp.24776-24784.
- Rastegarpanah, A., Meshkani, F. and Rezaei, M., 2017. Thermocatalytic decomposition of methane over mesoporous nanocrystalline promoted Ni/MgO·Al_2O_3 catalysts. international journal of hydrogen energy, 42(26), pp.16476-16488.
- Daroughegi, R., Meshkani, F. and Rezaei, M., 2017. Enhanced activity of CO_2 methanation over mesoporous nanocrystalline Ni–Al_2O_3 catalysts prepared by ultrasound-assisted co-precipitation method. international journal of hydrogen energy, 42(22), pp.15115-15125.
- Ghods, B., Rezaei, M. and Meshkani, F., 2017. Ni catalysts supported on mesoporous nanocrystalline magnesium silicate in dry and steam reforming reactions. Chemical Engineering & Technology, 40(4), pp.760-768.
- Shamskar, F.R., Rezaei, M. and Meshkani, F., 2017. The influence of Ni loading on the activity and coke formation of ultrasound-assisted co-precipitated Ni–Al_2O_3 nanocatalyst in dry reforming of methane. International Journal of Hydrogen Energy, 42(7), pp.4155-4164.
- Rastegarpanah, A., Meshkani, F., Rezaei, M., 2013, COx -free hydrogen and carbon nanofibers production by thermocatalytic decomposition of methane over mesoporous $MgOAl_2O_3$ nanopowder-supported nickel catalysts, Fuel Processing Technology, 167, pp. 250-262
- Senseni, A.Z., Rezaei, M. and Meshkani, F., 2017. Glycerol steam reforming over noble metal nanocatalysts. Chemical Engineering Research and Design, 123, pp.360-366.

- Mobini, S., Meshkani, F. and Rezaei, M., 2017. Synthesis and characterization of nanocrystalline copper–chromium catalyst and its application in the oxidation of carbon monoxide. Process Safety and Environmental Protection, 107, pp.181-189.
- Bayat, N., Rezaei, M. and Meshkani, F., 2017. Methane dissociation to COx-free hydrogen and carbon nanofiber over Ni-Cu/Al_2O_3 catalysts. Fuel, 195, pp.88-96.
- Rahbar Shamskar, F., Meshkani, F., Rezaei, M., 2017, Ultrasound assisted coprecipitation synthesis and catalytic performance of mesoporous nanocrystalline NiOAl_2O_3 powders, Ultrasonics Sonochemistry, 34, pp. 436-447.
- Meshkani, F., Golesorkh, S.F., Rezaei, M. and Andache, M., 2017. Nickel catalyst supported on mesoporous $MgAl_2O_4$ nanopowders synthesized via a homogenous precipitation method for dry reforming reaction. Research on Chemical Intermediates, 43(1), pp.545-559.
- Ghods, B., Meshkani, F. and Rezaei, M., 2016. Effects of alkaline earth promoters on the catalytic performance of the nickel catalysts supported on high surface area mesoporous magnesium silicate in dry reforming reaction. International Journal of, Hydrogen Energy, 41(48), pp.22913-22921.
- Shiraz, M.H.A., Rezaei, M. and Meshkani, F., 2016. The effect of promoters on the CO_2 reforming activity and coke formation of nanocrystalline Ni/Al_2O_3 catalysts prepared by microemulsion method. Korean Journal of Chemical Engineering, 33(12), pp.3359-3366.
- Senseni, A.Z., Meshkani, F. and Rezaei, M., 2016. Steam reforming of glycerol on mesoporous nanocrystalline Ni/Al_2O_3 catalysts for H_2 production. International Journal of Hydrogen Energy, 41(44), pp.20137-20146.

- Zarei, M., Meshkani, F. and Rezaei, M., 2016. Preparation of mesoporous nanocrystalline Ni-MgAl2O4 catalysts by sol-gel combustion method and its applications in dry reforming reaction. Advanced Powder Technology, 27(5), pp.1963- 1970.
- Meshkani, F., Rezaei, M. and Shiraz, M.H.A., 2016. Preparation of high temperature water gas shift catalyst with coprecipitation method in microemulsion system. Chemical Engineering Research and Design, 113, pp.9-16.
- Bayat, N., Meshkani, F. and Rezaei, M., 2016. Thermocatalytic decomposition of methane to COx-free hydrogen and carbon over Ni–Fe–Cu/Al_2O_3 catalysts. International Journal of Hydrogen Energy, 41(30), pp.13039-13049.
- Shiraz, M.H.A., Rezaei, M. and Meshkani, F., 2016. Ni catalysts supported on nanocrystalline aluminum oxide prepared by a microemulsion method for dry reforming reaction. Research on Chemical Intermediates, 42(8), pp.6627-6642.
- Senseni, A.Z., Fattahi, S.M.S., Rezaei, M. and Meshkani, F., 2016. A comparative study of experimental investigation and response surface optimization of steam reforming of glycerol over nickel nano-catalysts. International Journal of Hydrogen Energy, 41(24), pp.10178-10192.
- Shiraz, M.H.A., Rezaei, M. and Meshkani, F., 2016. Preparation of nanocrystalline Ni/Al2O3 catalysts with the microemulsion method for dry reforming of methane. The Canadian Journal of Chemical Engineering, 94(6), pp.1177-1183.
- Ghods, B., Rezaei, M. and Meshkani, F., 2016. Synthesis of nanostructured magnesium silicate with high surface area and mesoporous structure. Ceramics International, 42(6), pp.6883-6890.

- Shiraz, M.H.A., Rezaei, M. and Meshkani, F., 2016. Microemulsion synthesis method for preparation of mesoporous nanocrystalline γ-Al_2O_3 powders as catalyst carrier for nickel catalyst in dry reforming reaction. International Journal of Hydrogen Energy, 41(15), pp.6353-6361.
- Bayat, N., Rezaei, M. and Meshkani, F., 2016. Hydrogen and carbon nanofibers synthesis by methane decomposition over Ni–Pd/Al_2O_3 catalyst. International Journal of Hydrogen Energy, 41(12), pp.5494-5503.
- Bayat, N., Rezaei, M. and Meshkani, F., 2016. COx-free hydrogen and carbon nanofibers production by methane decomposition over nickel-alumina catalysts. Korean Journal of Chemical Engineering, 33(2), pp.490-499.
- Bayat, N., Rezaei, M. and Meshkani, F., 2016. Methane decomposition over Ni–Fe/Al_2O_3 catalysts for production of COx-free hydrogen and carbon nanofiber. International Journal of Hydrogen Energy, 41(3), pp.1574-1584.
- Meshkani, F. and Rezaei, M., 2015. High-temperature water-gas shift reaction over nanostructured Cr-free Fe_2O_3-Al_2O_3-CuO-MO (M: Ba, Ca, Mg and Sr) catalysts for hydrogen production. Journal of Industrial and Engineering Chemistry, 30, pp.353- 358.
- Meshkani, F., Rezaei, M. and Jafarbegloo, M., 2015. Applying Taguchi robust design to the optimization of the synthesis parameters of nanocrystalline Cr-free Fe–Al–Cu catalyst for high temperature water gas shift reaction. Materials Research Bulletin, 70, pp.229-235.
- Meshkani, F. and Rezaei, M., 2015. Hydrogen production by high temperature water gas shift reaction over highly active and stable chromium free Fe–Al–Ni catalysts. International Journal of Hydrogen Energy, 40(34), pp.10867-10875.

- Meshkani, F., Rezaei, M. 2015, Promoted Fe_2O_3 -Al_2O_3 -CuO Chromium-Free Catalysts for High-Temperature Water-Gas Shift Reaction, Chemical Engineering and Technology, 38(8), pp. 1380-1386
- Meshkani, F. and Rezaei, M., 2015. The effect of preparation factors on the structural and catalytic properties of mesoporous nanocrystalline iron-based catalysts for high temperature water gas shift reaction. Korean Journal of Chemical Engineering, 32(7), pp.1278-1288.
- Meshkani, F. and Rezaei, M., 2015. Preparation of nanocrystalline metal (Cr, Al, Mn, Ce, Ni, Co and Cu) modified ferrite catalysts for the high temperature water gas shift reaction. Renewable energy, 74, pp.588-598.
- Mirzaei, F., Rezaei, M., Meshkani, F. and Fattah, Z., 2015. Carbon dioxide reforming of methane for syngas production over Co–MgO mixed oxide nanocatalysts. Journal of Industrial and Engineering Chemistry, 21, pp.662-667.
- Meshkani, F. and Rezaei, M., 2015. Preparation of mesoporous nanocrystalline iron based catalysts for high temperature water gas shift reaction: effect of preparation factors. Chemical Engineering Journal, 260, pp.107-116.
- Meshkani, F., Rezaei, M., 2015, Mesoporous Ba-promoted chromium free Fe_2O_3 - Al_2O_3-NiO catalyst with low methanation activity for high temperature water gas shift reaction, Catalysis Communications, 58, pp. 26-29
- Meshkani, F. and Rezaei, M., 2015. Comparison of Preparation Methods of Iron-Based Catalysts for High-Temperature Water-Gas Shift Reaction. Chemical Engineering & Technology, 38(8), pp.1460-1468.

- Meshkani, F. and Rezaei, M., 2015. Simplified direct pyrolysis method for preparation of nanocrystalline iron based catalysts for H2 purification via high temperature water gas shift reaction. Chemical Engineering Research and Design, 95, pp.288-297.
- Meshkani, F. and Rezaei, M., 2015. Preparation of mesoporous chromium promoted magnetite based catalysts for high temperature water gas shift reaction. Industrial & Engineering Chemistry Research, 54(4), pp.1236-1242.
- Meshkani, F. and Rezaei, M., 2015. Preparation of mesoporous nanocrystalline alkali promoted chromium free catalysts (Fe_2O_3–Al_2O_3–NiO) for a high temperature water gas shift reaction. RSC Advances, 5(13), pp.9955-9964.
- Meshkani, F., Rezaei, M., Jafarbegloo, M., 2015, Preparation of nanocrystalline Fe_2O_3 - Cr_2O_3-CuO powder by a modified urea hydrolysis method: A highly active and stable catalyst for high temperature water gas shift reaction, Materials Research Bulletin 64, pp. 418-424
- Khajenoori, M., Rezaei, M. and Meshkani, F., 2015. Dry reforming over CeO_2-promoted Ni/MgO nano-catalyst: effect of Ni loading and CH_4/CO_2 molar ratio. Journal of Industrial and Engineering Chemistry, 21, pp.717-722.
- Meshkani, F. and Rezaei, M., 2014. High temperature water gas shift reaction over promoted iron based catalysts prepared by pyrolysis method. International Journal of Hydrogen Energy, 39(29), pp.16318-16328.
- Meshkani, F. and Rezaei, M., 2014. A facile method for preparation of iron based catalysts for high temperature water gas shift reaction. Journal of Industrial and Engineering Chemistry, 20(5), pp.3297-3302.

- Alipour, Z., Rezaei, M. and Meshkani, F., 2014. Effect of alkaline earth promoters (MgO, CaO, and BaO) on the activity and coke formation of Ni catalysts supported on nanocrystalline Al2O3 in dry reforming of methane. Journal of Industrial and Engineering Chemistry, 20(5), pp.2858-2863.
- Alipour, Z., Rezaei, M. and Meshkani, F., 2014. Effects of support modifiers on the catalytic performance of Ni/Al2O3 catalyst in CO2 reforming of methane. Fuel, 129, pp.197-203.
- Meshkani, F., Rezaei, M. and Andache, M., 2014. Investigation of the catalytic performance of Ni/MgO catalysts in partial oxidation, dry reforming and combined reforming of methane. Journal of Industrial and Engineering Chemistry, 20(4), pp.1251-1260.
- Rahmani, S., Rezaei, M. and Meshkani, F., 2014. Preparation of highly active nickel catalysts supported on mesoporous nanocrystalline γ-Al_2O_3 for CO_2 methanation. Journal of Industrial and Engineering Chemistry, 20(4), pp.1346-1352.
- Meshkani, F. and Rezaei, M., 2014. A highly active and stable chromium free iron based catalyst for H2 purification in high temperature water gas shift reaction. International Journal of Hydrogen Energy, 39(32), pp.18302-18311.
- Alipour, Z., Rezaei, M. and Meshkani, F., 2014. Effect of Ni loadings on the activity and coke formation of MgO-modified Ni/Al_2O_3 nanocatalyst in dry reforming of methane. Journal of Energy Chemistry, 23(5), pp.633-638.
- Rahmani, S., Rezaei, M. and Meshkani, F., 2014. Preparation of promoted nickel catalysts supported on mesoporous nanocrystalline gamma alumina for carbon dioxide

methanation reaction. Journal of Industrial and Engineering Chemistry, 20(6), pp.4176-4182.

- Khajenoori, M., Rezaei, M. and Meshkani, F., 2014. Characterization of CeO_2 promoter of a nanocrystalline Ni/MgO catalyst in dry reforming of methane. Chemical Engineering & Technology, 37(6), pp.957-963.
- Mirzaei, F., Rezaei, M. and Meshkani, F., 2014. Coprecipitated Ni-Co Bimetallic Nanocatalysts for Methane Dry Reforming. Chemical Engineering & Technology, 37(6), pp.973-978. I
- Naeimi, H., Rabiei, K., Rezaei, M. and Meshkani, F., 2013. Nanocrystalline magnesium oxide as a solid base catalyst promoted one pot synthesis of gem-dichloroaziridine derivatives under thermal conditions. Journal of the Iranian Chemical Society, 10(1), pp.161-167.
- Mosayebi, Z., Rezaei, M., Hadian, N., Kordshuli, F.Z. and Meshkani, F., 2012. Low temperature synthesis of nanocrystalline magnesium aluminate with high surface area by surfactant assisted precipitation method: effect of preparation conditions. Materials Research Bulletin, 47(9), pp.2154-2160.
- Hadian, N., Rezaei, M., Mosayebi, Z. and Meshkani, F., 2012. CO_2 reforming of methane over nickel catalysts supported on nanocrystalline $MgAl_2O_4$ with high surface area. Journal of Natural Gas Chemistry, 21(2), pp.200-206.
- Rezaei, M., Meshkani, F., Ravandi, A.B., Nematollahi, B., Ranjbar, A., Hadian, N. and Mosayebi, Z., 2011. Autothermal reforming of methane over Ni catalysts supported on nanocrystalline MgO with high surface area and plated-like shape. International journal of hydrogen energy, 36(18), pp.11712-11717.

- Meshkani, F. and Rezaei, M., 2011. Nickel catalyst supported on magnesium oxide with high surface area and plate-like shape: a highly stable and active catalyst in methane reforming with carbon dioxide. Catalysis Communications, 12(11), pp.1046- 1050.
- Meshkani, F. and Rezaei, M., 2011. Ni catalysts supported on nanocrystalline magnesium oxide for syngas production by CO_2 reforming of CH_4. Journal of Natural Gas Chemistry, 20(2), pp.198-203.
- Safari, J., Khalili, S.D., Rezaei, M., Banitaba, S.H. and Meshkani, F., 2010, Nanocrystalline magnesium oxide: a novel and efficient catalyst for facile synthesis of 2, 4, 5-trisubstituted imidazole derivatives. Monatshefte für Chemie-Chemical Monthly, 141(12), pp.1339-1345.
- Meshkani, F. and Rezaei, M., 2010. Nanocrystalline MgO supported nickel-based bimetallic catalysts for carbon dioxide reforming of methane. International journal of hydrogen energy, 35(19), pp.10295-10301.
- Meshkani, F. and Rezaei, M., 2010. Effect of process parameters on the synthesis of nanocrystalline magnesium oxide with high surface area and plate-like shape by surfactant assisted precipitation method. Powder Technology, 199(2), pp.144-148.
- Meshkani, F. and Rezaei, M., 2009. Facile synthesis of nanocrystalline magnesium oxide with high surface area. Powder Technology, 196(1), pp.85-88.

❖ *Conference Proceedings:*

- Fereshteh Meshkani, Mehran Rezaei, “Nanotechnology: Applications in Heterogeneous Catalysis”,6th International Chemical Engineering Congress & Exhibition (2009
- Fereshteh Meshkani, Mehran Rezaei, “Synthesis of Nanostructured Magnesium Oxide with Polyvinyl alcohol and Sucrose as Surfactant and Chelating Agent”, 6th International Chemical Engineering Congress & Exhibition (2009)
- Fereshteh Meshkani, Mehran Rezaei, “Synthesis of Nanocrystalline Magnesium Oxide with Plate-Like Shape”, 6th International Chemical Engineering Congress & Exhibition (2009)
- Fereshteh Meshkani, Mehran Rezaei, “Stable Nickel Catalyst Supported on Nanocrystalline MgO in Methane Reforming with Carbon Dioxide” 13th Iranian National Chemical Engineering Congress & 1st International Regional Chemical and Petroleum Engineering (2010)
- F. Meshkani, M.J. Parnian, M.Rezaei, “Preparation of NiO-MgO Catalysts for Dry Reforming Reaction” 13th Iranian National Chemical Engineering Congress & 1st International Regional Chemical and Petroleum Engineering (2010)
- A biabani Ravandi , M. Rezaei, B. Nematollahi, F. Meshkani, “Effect of calcination temperature on structrural properties of Iron-Cobalt nanocatalysts in low temperature CO oxidation” 7th International Chemical Engineering Congress & Exhibition, Kish, Iran (2011)
- A biabani Ravandi, M. Rezaei, B. Nematollahi, F. Meshkani, Z. Fattah, “CO Oxidation over iron oxide nanocatalysts prepared via different methods and preparation” 7th International Chemical Engineering Congress & Exhibition (2011)

- N hadian, M. Rezaei, Z. Mosayebi, F. Meshkani, “CO_2 Reforming of Methane over Nickel Catalysts Supported on Nanocrystalline $MgAl_2O_4$ with High Surface Area” 7th International Chemical Engineering Congress & Exhibition, Kish, Iran (2011)
- Atiyeh Ranjbar, M. Rezaei, F. Meshkani, “Dry reforming reaction over nickel catalysts supported on calcium aluminates with different CaO/Al_2O_3 ratio” 7th International Chemical Engineering Congress & Exhibition, Kish, Iran (2011)
- Atiyeh Ranjbar, M. Rezaei, F. Meshkani, “Low temperature synthesis of nanocrystalline calcium aluminate compounds with surfactant-assisted precipitation method” 7th International Chemical Engineering Congress & Exhibition, Kish, Iran (2011)
- A biabani Ravandi, M. Rezaei, B. Nematollahi, F. Meshkani, Z. Fattah, “Carbon Monoxide Oxidation over Iron – Cobalt Mixed Oxide Nanocatalysts” 8th International Chemical Engineering Congress & Exhibition, Kish, Iran (2011)
- F. Meshkani, M.R. Mozdianfard, M.V. Maghrebi; " Nanotechnology; Positive and Negative Environmental Impact"; International Congress on Nanoscience & Nanotechnology (ICNN2012) 8–10, September 2012, Kashan, Iran
- F. Mizaei, M. Rezaei, F. Meshkani, "Syngas production by carbon dioxide reforming of methane ”4 th International Conference on Ultrafine Grained and Nanostructured Mateials) UFGNSM2013), Tehran, Iran
- S. Rahmni, M. Rezaei, F. Meshkani, "Ni/Al_2O_3 nanocatalyst for CO_2 methanation”, 4 th International Conference on Ultrafine Grained and Nanostructured Mateials (UFGNSM2013), Tehran, Iran

- Fereshteh Meshkani, Mehran Rezaei, Preparation of Iron Based Catalysts via Simple Pyrolysis Method for High Temperature Water Gas Shift Reaction, 8th International Chemical Engineering Congress & Exhibition, Kish, Iran (2014)
- Masoud Khajenoori, Mehran Rezaei, Fereshteh Meshkani, Investigation of CeO_2 Promoter on The Activity and Coke Formation of Ni/MgO nano-catalyst in CO_2 Reforming of Methane, 8th International Chemical Engineering Congress & Exhibition, Kish, Iran (2014)
- Fereshteh Meshkani, Mehran Rezaei, Preparation of nanostructured magnetite based catalyst for high temperature water gas shift reaction, 2nd International Conference on Nanotechnology (ICN 2014), 10-12 April 2014, Istanbul University, Oral presentation
- F. Meshkani, M. Rezaei, M Jafarbegloo, Effect of Iron Precursor on the Preparation of Mesoporous Nanocrystalline Chromium Free Fe_2O_3-Al_2O_3-NiO Catalyst for High Temperature Water Gas Shift Reaction, 2nd International Conference Of Oil, Gas And Petrochemical, December 18, 2014, Tehran, Iran
- Fereshteh Meshkani, Mehran Rezaei, Preparation of mesoporous nanocrystalline chromium free Fe_2O_3-Al_2O_3-NiO catalyst for high temperature water gas shift reaction: Effect of precipitant agent, 5th International Congress on Nanoscience & Nanotechnology (ICNN2014), 22-24 October 2014, Tehran, Iran

❖ **Journal Reviewer**

- International Journal of Hydrogen Energy
- Adsorption Science and Technology
- Chemical Engineering Journal
- Applied Catalyst B: Environmental
- Applied Catalyst A
- Renewable Energy
- Catalyst Communication
- Journal of Natural Gas Science & Engineering
- Journal of Cleaner Production
- Fuel Processing Technology
- Journal of CO_2 Utilization
- Journal of Environmental Chemical Engineering
- Chemical Engineering Research and Design
- Iranian Journal of Hydrogen & Fuel Cell