
# Mehran Rezaei

Associate Professor

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**Birthday:** 20/09/1977
**Nationality:** Iranian

## Education

**Ph.D.** Chemical Engineering, Iran University of Science and Technology, 2002-2007.
**M.Sc.** Chemical Engineering, Iran University of Science and Technology, 2000-2002.
**B.Sc.** Chemical Engineering, Isfahan University, 1996-2000.

## Research Interests

- Heterogeneous Catalysis&Porous Materials
- Natural Gas Catalytic Conversion&Processing
- Characterization and Application of Mesoprous Materials
- Nanocatalysis and Nanomaterials.
- Reaction Engineering

## Industrial Experiences

- Sarv Oil and Gas Industries Development Co., 2006-Present. (Catalyst Research and Engineering Manager)
- State Key Laboratory for Heavy Oil Processing, Key Laboratory of Catalysis, CNPC, China,2005-2006.
- Haldor Topsoe A/S company, Denmark , 2005.

- Iran Barit Company, 2003-2005.
- Ross Kimia Company, 2001-2003.
- Karkanehe Chini Iran, 2000.

**Industrial Projects**

- Preparation of primary steam reforming catalysts in industrial scale for Petrochemical and Petroleum industries (Successfully tested in Shiraz petrochemical complex), 1387.
- Preparation of Direct reduction of iron catalysts (Midrex catalysts) in industrial scale for Steel industries (Successfully tested in Mobarakeh and Khoozestan steel companies), 1389 and 1390.
- Preparation of promoted primary steam reforming catalysts in industrial scale for Petrochemical and Petroleum industries (Successfully tested in Razi petrochemical company), 1392.
- Preparation of secondary steam reforming catalysts in industrial scale for Petrochemical industries (will be tested in Shiraz petrochemical complex).
- Preparation of platforming catalyst in bench scale, 1389-1391.
- Preparation of ammonia catalyst in bench scale, 1390.
- Preparation of prereforming catalyst in bench scale, 1390.
- Preparation of Methanation catalyst in bench scale, 1392.
- Preparation of paraffin dehydrogenation catalyst in bench scale, 1392.
- Preparation of $SO_2$ oxidation catalyst in bench scale, 1392.

**Research Projects**

1. Synthesis of bi-metallic catalysts (Ni-Pt) supported on nanocrystalline MgO for methane reforming with carbon dioxide
2. Preparation of aluminosilicate catalyst for DME synthesis from methanol dehydration
3. Synthesis of noble metals nanocatalysts for syngas production by partial oxidation
4. Preparation of NiO-MgO solid solution catalysts and evaluation of their catalytic performances in dry reforming of methane
5. Synthesis of $MgAl_2O_4$ spinel and its application as carrier for dry reforming catalysts.
6. Design and manufacturing of catalytic evaluation setup for nano catalysts in laboratory scale (Cata-Test)
7. Design and manufacturing of temperature programmed analyses setup for heterogeneous catalysts (TPR-TPO-TPD)
8. Preparation of nanoporous metallic oxides for high energetic materials.
9. Preparation of Fe based nanocatalysts for low temperature CO oxidation.
10. Preparation of $MnO_2$-CuO nanocatalysts for low temperature CO oxidation.
11. Preparation of mesoporous nanocrystalline iron oxide catalysts for high temperature water gas shift reaction.
12. Synthesis of nickel based catalyst supported on nanostructured cerium oxide in methanation reaction

## Graduate and Undergraduate Courses

- Basic Principles and Calculations in Chemical Engineering
- Construction Processes I & II
- Chemical Reaction Engineering.
- Advanced Chemical Reaction Engineering.

- Heterogeneous catalysis
- Nanocatalysis

## Awards and honors

- Research Excellence Award in 2012, Isfahan Province.
- The Highest H index researcher (H-Index: 14) in Faculty of Engineering, University of Kashan, 2014.
- Research Excellence Award in 2010, Isfahan Province.
- Technology Excellence Award in 2014, University of Kashan
- Technology Excellence Award in 2012, University of Kashan
- Research Excellence Award in 2013, University of Kashan
- Research Excellence Award in 2012, University of Kashan.
- Research Excellence Award in 2011, University of Kashan.
- Research Excellence Award in 2010, University of Kashan.
- Research Excellence Award in 2008, University of Kashan (Faculty of Engineering).
- Teaching Excellence Award in 2008, University of Kashan (Faculty of Engineering).
- Distinguished as one of the top 20 researchers in the field of nanotechnology in Iran, 2008.
- Distinguished as one of the top 15 researchers in the field of nanotechnology in Iran, 2007.
- The highest-ranked researcher in chemical engineering in the field of nanotechnology in Iran, 2007.
- The third highest-ranked researcher in chemical engineering in the field of nanotechnology in Iran, 2008.
- Member of Youth Researcher Club, 2007 Up to now
- Khwarizmi Youth Award (Rank. 3, Fundamental researches), 2007.
- Awarded as the best student of the chemical engineering department, IUST University, 2007.
- Awarded as the best student of the chemical engineering department, IUST University, 2001.
- Awarded as the best student of the chemical engineering department, IUST University, 2000.

## Publications

## Journal Papers

1. **M.Rezaei**, S.M.Alavi, S.Sahebdelfar, Zi-Feng Yan ,Nanocrystalline zirconia as support for nickel catalyst in methane reforming with $CO_2$, Energy & Fuels 20 (2006) 923-929

2. **M.Rezaei**, S.M.Alavi, S.Sahebdelfar, Zi-Feng Yan, Tetragonal nanocrystalline zirconia powder with high surface area and mesoporous structure, Powder Technology 168 (2006) 59–63.

3. **M.Rezaei**, S.M.Alavi, S.Sahebdelfar, Zi-Feng Yan, Syngas production by methane reforming with carbon dioxide on noble metal catalysts, Journal of Natural Gas Chemistry 15 (2006) 327-334.

4. **M.Rezaei**, S.M.Alavi, S.Sahebdelfar, Liu Xinmei, Ling Qian, Zi-Feng Yan, $CO_2$-$CH_4$ reforming over nickel catalysts supported on mesoporous nanocrystalline zirconia with high surface area, Energy&Fuels 21 (2007) 581-589..

5. **M.Rezaei**, S.M.Alavi, S.Sahebdelfar, Zi-Feng Yan, J.H. Jacobsen, H. Teunissen, J.Sehested, Synthesis of pure tetragonal zirconium oxide with high surface area, Journal of Materials Science 42 (2007) 1228–1237.

6. **M.Rezaei**, S.M.Alavi, S.Sahebdelfar, Zi-Feng Yan, Mesoporous nanocrystalline zirconia powders: A promising support for nickel catalyst in $CH_4$ reforming with $CO_2$, Materials Letters 61 (2007) 2628–2631

7. **M.Rezaei**, S.M.Alavi, S.Sahebdelfar, Zi-Feng Yan, Synthesis of mesoporous nanocrystalline zirconia with tetragonal crystallite phase by using ethylene diamine as precipitation agent, Journal of material science, 42 (2007) 7086-7092.

8. **M.Rezaei**, S.M.Alavi, S.Sahebdelfar, Zi-Feng Yan, $CO_2$ reforming of $CH_4$ over nanocrystalline zirconia-supported nickel catalysts, Appl. Catal. B., 77 (2007) 346.

9. **M.Rezaei**, S.M.Alavi, S.Sahebdelfar, Zi-Feng Yan, Effect of process parameters on the synthesis of mesoporous nanocrystalline zirconia with triblock copolymer as template, Journal of porous materials, 15 (2008) 171-179

10. **M.Rezaei**, S.M.Alavi, S.Sahebdelfar, Zi-Feng Yan, Effects of $K_2O$ promoter on the activity and stability of nickel catalysts supported on mesoporous nanocrystalline zirconia in $CH_4$ reforming with $CO_2$, Energy&Fuels, 22(4) (2008) 2195.

11. **M.Rezaei**, S.M.Alavi, S.Sahebdelfar, Zi-Feng Yan , Effect of CO2 content on the activity and stability of nickel catalyst supported on mesoporous nanocrystalline zirconia, Journal of Natural Gas Chemistry, 2008, 17 (2008) 278.

12. E. Navaei, M.R. Golmohammadi, **M. Rezaei**, H. Navaei, A. Mardanloo, S. Habibzad, M. Didari, Preparation and Thermal Treatment of Pd/Ag Composite Membrane by Sequentional Electroless Plating Technique, Journal of Natural Gas Chemistry, 17 (2008) 321.

13. **M.Rezaei**, S.M.Alavi, S.Sahebdelfar, Zi-Feng Yan Synthesis of ceria doped nanozirconia powder by a polymerized complex method, Journal of Porous Materials, 16 (2009) 497–505.

14. E. Navaei, **M. Rezaei**, H. Navaei, Zi-Feng Yan, Synthesis of Nanocrystalline $MgAl_2O_4$ Spinel by Using Ethylene Diamine as Precipitation Agent, Chemical Engineering Communications, 196 (2009) 1417-1424

15. M. Akia, S.M. Alavi, **M. Rezaei,** Zi-Feng, Optimizing the sol gel parameters on the synthesis of mesostructure nanocrystalline gamma-alumina, Microporous and Mesoporous Materials, 122 (2009) 72–78 .

16. **M.Rezaei**, S.M.Alavi, S.Sahebdelfar, Zi-Feng Yan , A highly stable catalyst in methane reforming with carbon dioxide, Scripta Materialia, 61 (2009) 173–176.

17. E. Navaei, **M. Rezaei**, Mesoporous nanocrystalline $MgAl_2O_4$ spinel and its applications as support for Ni catalyst in dry reforming, Scripta Materialia, Scripta Materialia, 61 (2009) 212–215.

18. Fereshteh Meshkani, **Mehran Rezaei**, Facile Synthesis of Nanocrystalline Magnesium Oxide with High Surface Area, Powder Technology, 196 (2009) 85–88.

19. M. Akia, S.M. Alavi, **M. Rezaei,** Zi-Feng Yan**,** Synthesis of high surface area as an efficient catalyst support for dehydrogenation of n-docecane, Journal of Porous Materials, 17 (2010) 85-90.

20. Fereshteh Meshkani, **Mehran Rezaei**, 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 (2010) 144–148

21. A. Keshavarz, **M. Rezaei**, F. Yaripour, Nanocrystalline γ-$Al_2O_3$: A Highly Potential Catalyst for Dimethyl Ether Synthesis, Powder Technology, 199 (2010) 176–179.

22. E. Navaei, **M. Rezaei**, H. Navaei, Synthesis of Mesoporous Nanocrystalline $MgAl_2O_4$ Spinel via Surfactant Assisted Precipitation Route, Powder Technology, 198 (2010) 275-278.

23. **M. Rezaei**, M. Khajenoori, B. Nematolahi, Synthesis of High Surface Area Nanocrystalline MgO by Pluronic P123 Triblock Copolymer Surfactant, Powder Technology 199 (2010) 176–179.

24. F. Meshkani, **M. Rezaei**, Nanocrystalline MgO supported nickel-based bimetallic catalysts for carbon dioxide reforming of methane, International Journal of Hydrogen Energy, 35 (2010) 10295-10301.

25. J. Safari, S.D. Khalili, M. Rezaei, S.H. Banitaba,F. Meshkani, Nanocrystalline magnesium oxide: A novel and efficient catalyst for facile synthesis of 2,4,5-trisubstituted imidazole derivatives, Monatshefte fur Chemie, 141 (2010) 1339-1345

26. Fereshteh Meshkani, **Mehran Rezaei**, 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 (2011) 1046-1050.

27. A. Keshavarz, **M. Rezaei**, F. Yaripour, Preparation of γ-$Al_2O_3$ catalyst using different procedures for methanol dehydration to dimethyl ether, Journal of Natural Gas Chemistry, 20 (2011) 334-338.

28. **Mehran Rezaei**, Majid Khajenoori, Behzad Nematollahi, Preparation of nanocrystalline MgO by surfactant assisted precipitation method, Materials Research Bulletin, 46 (2011) 1632-1637.

29. **M. Rezaei**, M. Khajenoori, B. Nematolahi, Combined Dry Reforming and Partial Oxidation of Methane to Synthesis Gas on Noble Metal Catalysts, International Journal of Hydrogen Energy, 36 (2011) 2969-2978.

30. **Mehran Rezaei**, Fereshteh Meshkani, Aboulfazl Biabani, Behzad Nematollahi, Atiyeh Ranjbar, Narges Hadian, Zeinab Mosayebi, 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 (2011) 11712-11717.

31. F. Meshkani, M. Rezaei, Ni catalysts supported on nanocrystalline magnesium oxide for syngas production by CO2 reforming of CH4, Journal of Natural Gas Chemistry, 20 (2011) 198-203.

32. Z. Mosayebi, **M. Rezaei**, N. Hadian, F. Zareie Kordshuli, F. Meshkani, Low temperature synthesis of nanocrystalline magnesium aluminate with high surface area by surfactant assisted precipitation method: Effect of preparation conditions, Materials Research Bulletin 47 (2012) 2154–2160.

33. A. Ranjbar, M. Rezaei, Preparation of nickel catalysts supported on CaO.2Al2O 3 for methane reforming with carbon dioxide, International Journal of Hydrogen Energy, 37 (2012) 6356-6362.

34. A. Biabani, **M. Rezaei**, Low temperature CO oxidation over Fe–Co mixed oxide nanocatalysts, Chemical Engineering Journal, 184 (2012) 141-146.

35. A. Biabani, **M. Rezaei**, Z. Fattah, Optimization of Preparation Conditions of Fe-Co Nanoparticles in Low-Temperature CO Oxidation Reaction by the Taguchi Design Method, Journal of Natural Gas Chemistry, 21(2012)415–420.

36. A. Ranjbar, **M. Rezaei**, Dry Reforming Reaction over Nickel Catalysts Supported on Nanocrystalline Calcium Aluminates with Different $CaO/Al_2O_3$ Ratios, Journal of Natural Gas Chemistry, 21 (2012) 178-183.

37. 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, Journal of Natural Gas Chemistry, 21 (2012) 200-206.

38. H. Eltejaei, H. R. Bozorgzadeh, J. Towfighi, M. Reza Omidkhah, M. Rezaei, R. Zanganeh, A. Zamaniyan, A. Zarrin Ghalam, Methane dry reforming on Ni/Ce0.75Zr0.25O 2-MgAl2O4 and Ni/Ce0.75Zr 0.25O2-γ-alumina: Effects of support composition and water addition, International Journal of Hydrogen Energy, 37 (2012) 4107-4118.

39. Z. Mosayebi, M. Rezaei, A.B. Ravandi, N. Hadian, Autothermal reforming of methane over nickel catalysts supported on nanocrystalline MgAl2O4 with high surface area, International Journal of Hydrogen Energy, 37 (2012) 1236-1242

40. B. Nematollahi, **M. Rezaei**, E. Nemati, M. Khajenoori, Thermodynamic analysis of combined reforming process using Gibbs energy minimization method: In view of solid carbon formation, Journal of Natural Gas Chemistry, 19 (2013) 234–23939.

41. A. Biabani, **M. Rezaei**, Z. Fattah, Synthesis of Fe-Co nanoparticles and its application in catalytic low-temperature CO oxidation, Process Safety and Environmental Protection, 91 (2013) 489-494.

42. A. Biabani, **M. Rezaei**, Z. Fattah, Catalytic performance of Ag/Fe2O3 for the low temperature oxidation of carbon monoxide, Chemical Engineering Journal 219 (2013) 124–130

43. R. Zanganeh, **M. Rezaei**, A. Zamanian, Dry reforming of methane to synthesis gas on NiO-MgO nanocrystalline solid solution catalysts, International Journal of Hydrogen Energy, 38 (2013) 3012 - 3018.

44. **M. Rezaei**, M. Khajenoori, B. Nematolahi, Preparation of noble metal nanocatalysts and their applications in catalytic 3 partial oxidation of methane, Journal of Industrial and Engineering Chemistry 19 (2013) 981-986.

45. H. Naeimi, Kh. Rabiei, **M. Rezaei**, F. Meshkani, Nanocrystalline magnesium oxide as a solid base catalyst promoted one pot synthesis of gem-dichloroaziridine derivatives under thermal conditions, IRAN CHEM SOC (2013) 10:161–167.

46. A. Biabani, **M. Rezaei**, Z. Fattah, Low-Temperature CO oxidation over nanosized Fe-Co mixed oxide catalysts: Effect of calcination temperature and operational conditions, Chemical Engineering Science, 94 (2013) 237-244.

47. R. Zanganeh, **M. Rezaei**, A. Zamanian, H. R. Bozorgzadeh, Preparation of Ni0.1Mg0.9O nanocrystalline powder and its catalytic performance in methane reforming with carbon dioxide, Journal of Industrial and Engineering Chemistry, 19 (2013) 234–239.

48. N. Hadian, **M. Rezaei**, Combination of dry reforming and partial oxidation of methane over Ni catalysts supported on nanocrystalline $MgAl_2O_4$, Fuel 113 (2013) 571–579

49. M. Andache, **M. Rezaei**, M. Kazemimoghadam, A nanocrystalline MgO support for Ni catalysts for steam reforming of CH4, Chinese Journal of Catalysis 34 (2013) 1443–1448

50. E. Amini, **M. Rezaei**, M. Sadeghinia, Low temperature CO oxidation over mesoporous CuFe2O4 nanopowders synthesized by a novel sol-gel method, Chinese Journal of Catalysis 34, 2013

51. S. Rahmani, **M. Rezaei**, F. Meshkani, Preparation of Highly active nickel catalysts supported on mesoporous nanocrystalline $\gamma$-$Al_2O_3$ for $CO_2$ methanation, Journal of Industrial and Engineering Chemistry, 2013, In Press.

52. A. Ranjbar, **M. Rezaei**, Low Temperature Synthesis of Nanocrystalline Calcium Aluminate Compounds with Surfactant-assisted Precipitation Method, Advanced Powder Technology, 2013, In Press.

53. E. Amini, **M. Rezaei**, M. Sadeghinia, Preparation of $MnO_2$ nanowires and its application in low temperature CO oxidation, Korean Journal of Chemical Engineering, 2013, In Press.

54. N. Majidian, N. Habibi, **M. Rezaei**, CH4 reforming with CO2 for syngas production over nickel catalysts supported on mesoporous nanostructured $\gamma$-Al2O3, Korean Journal of Chemical Engineering, In Press, 2014.

55. M. Zanganeh, **M. Rezaei**, A. Zamaniyan, Preparation of nanocrystalline NiO–MgO solid solution powders as 5 catalyst for methane reforming with carbon dioxide: Effect of preparation conditions, Advanced Powder Technology, 2014, In Press.

56. Z. Fattah, **M. Rezaei**, A. Biabani-Ravandi, Abdullah Irankhah, Preparation of Co-MgO mixed oxide nanocatalysts for low temperature CO oxidation: Optimization of preparation conditions, Process Safety and Environmental Protection, 2014, In Press.

57. N. Habibi, **M. Rezaei**, N. Majidian, M. Andacheh, $CH_4$ Reforming with $CO_2$ for Syngas Production over $La_2O_3$ promoted Ni Catalysts Supported on Mesoporous Nanostructured $\gamma$-$Al_2O_3$, Journal of Energy Chemistry, 2014, In Press.

58. F. Meshkani, **M. Rezaei**, Iron based catalysts prepared via simple and direct pyrolysis method for high temperature water gas shift reaction, Journal of Industrial and Engineering Chemistry, 2014, In Press.

59. M. Khajenoori, **M. Rezaei**, F. Meshkani, Effect of CeO2 promoter on the activity and coke formation of nickel catalyst supported on nanocrystalline MgO in dry reforming, Chemical Engineering& Technology, 2014, In Press.

60. F. Mirzaei, **M. Rezaei**, F. Meshkani, Syngas production via carbon dioxide reforming of methane over Co-MgO mixed oxide nanocatalysts, Journal of Industrial and Engineering Chemistry. 2014, In Press

61. S. Rahmani, **M. Rezaei**, F. Meshkani, Preparation of promoted nickel catalysts supported on mesoporous nanocrystalline gamma alumina for carbon dioxide methanation reaction, Journal of Industrial and Engineering Chemistry. 2014, In Press

62. Z. Alipour, **M. Rezaei**, F. Meshkani, 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. 2014, In Press

63. F. Meshkani, **M. Rezaei**, M. Andache, 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, 2012, In Press.

64. Z. Alipour, **M. Rezaei**, F. Meshkani, 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, 2014, In Press**.**

## Conference Papers

1. **M. Rezaei**, S.M.Alavi, A. Taeb, S. Sahebdelfar, A Comparison between combined processes for producing of synthesis gas, 9th Chemical Engineering Congress, IUST University, Tehran, Iran,2004.

2. **M. Rezaei**, S.M. Alavi, S. Sahebdelfar, Preparation of nanocrystallite of zirconium oxide by hydrolysis of $ZrOCl_2$ solution in the reverse micelle system, First international congress of nanotechnology and its application in Petroleum, Gas and Petrochemical industries, Tehran, Iran, 2007.

3. **M.Rezaei**, S.M.Alavi, S.Sahebdelfar, Zi-Feng Yan, $CO_2$ reforming of methane to syngas over highly active and stable nickel catalyst supported on mesoporous nanocrystalline zirconia, First international congress of nanotechnology and its application in Petroleum, Gas and Petrochemical industries, Tehran, Iran, 2007.

4. **M.Rezaei**, S.M.Alavi, S.Sahebdelfar, Zi-Feng Yan, Synthesis of nano zirconia powders by sucrose as a chealating agent and template materials and their applications for $CH_4/CO_2$ reforming, Submitted to the 5th International Chemical Engineering Congress (IChEC 2008).

5. **M.Rezaei**, Traditional applications for industrial clays, 7th World Congress of chemical engineering, Glasgow, 2005.

6. **M. Rezaei**, S.M.Alavi, A. Taeb, S. Sahebdelfar, A Comparison between combined processes for producing synthesis gas, 9th Chemical Engineering Congress, IUST University, Tehran, Iran,2004.

7. N. Habibi, **M. Rezaei**, Methods for treatment of contaminated water and soil with MTBE, 9th Chemical Engineering Congress, IUST University, Tehran, Iran,2004.

8. **M. Rezaei**, S.H. Jazayeri , Raw materials selection for chemical stoneware, 9th Chemical Engineering Congress, IUST University, Tehran, Iran,2004.

9. **M. Rezaei**, N. Habibi, MTBE and Human Healt, 8th Chemical Engineering Congress, Mashhad University, Iran,2003.

10. **M. Rezaei**, A. Taeb, Plasma catalytic treatment of volatile organic compounds, 8th Chemical Engineering Congress, Mashhad University, Iran,2003.

11. **M. Rezaei**, H. Jazayeri, Production of Alum, 8th Chemical Engineering Congress, Mashhad, Iran,2003.

12. **M. Rezaei**, A. Taeb, Non-thermal plasma treatment of automotive exhaust gases, 44th Scandinavian Conf. on Simulation and Modeling SIMS2003, Vasteras, Sweden

13. **M. Rezaei**, H. Jazayeri, Studies on the acid activation of Bentonite Clays, 15th International Congress of Chemical and Process Engineering, 25 - 29 August 2002, Praha, Czech Republic

14. **M. Rezaei**, H. Jazayeri, Anti acid tile production, 7th Chemical Engineering Congress, Tehran University, Iran,2002.

15. **M. Rezaei**, H. Jazayeri, M.M. Rezaei, Activation of Bentonite based on the Isomorphus substitution on clay minerals, 7th Chemical Engineering Congress, Tehran University, Iran,2002.

16. M.M. Rezaei, **M. Rezaei**, M.T. Beheshti, Modeling and Neural Network of Steam Pressure in Drum Boliers, 7th Chemical Engineering Congress, Tehran University, Iran,2002.

17. M.M. Rezaei, **M. Rezaei**, Modeling of Drum Boiler, 7th Chemical Engineering Congress, Tehran University, Iran,2002.

18. **M. Rezaei**, S.M. Alavi, S. Sahebdelfar, Zi-Feng Yan, Synthesis of nano zirconia powders by sucrose as a chelating agent and template material and their applications for $CH_4/CO_2$ reforming, 5th International Chemical Engineering Congress & exhibition (IChEC 2008), 2008.

19. M. Akia, **M. Rezaei**, S.M. Alavi, Synthesis of mesoporous nanocrystalline γ-Alumina by sol-gel method with using cationic surfactant, 5th International Chemical Engineering Congress & exhibition (IChEC 2008), 2008.

20. M. Akia, **M. Rezaei**, S.M. Alavi, Synthesis of nano crystalline sized gamma-alumina with thermal stability by sol-gel method, 2nd Conference on NanoStructures - NS 2008, 2008.

21. E. Navaei, M.R. Golmohammadi, **M. Rezaei**, H. Navaei, A. Mardanloo, M. Didari, Preparation of Pd/Ag composite membrane by sequential electroless plating technique for $H_2$ separation in steam reforming process, International catalysis conference (ICC2008), Shahid beheshti university, Tehran, Iran.

22. **M. Rezaei**, H. Navaei Alvar, M.R. Golmohammadi, A. Mardanloo, E. Navaei alvar, H. Feyzollahzadeh, An overview to development of direct reduction of iron catalysts (Midrex catalysts), International catalysis conference(ICC2008), Shahid beheshti university, Tehran, Iran.

23. M. Didari, H. Navaei Alvar, **M. Rezaei**, A. Mardanloo, H. Feyzallahzadeh, E. Navaei Alvar, S. Habibzad, M. R. Golmohammadi**,** An overview to development of steam reforming catalyst for syngas production by Sarv Oil & Gas Industries Development Co., 1st Iranian petrochemical conference, Tehran, Iran, 2008.

24. E. Navaei Alvar, **M. Rezaei**, Novel synthesis method of Nanocrystalline $MgAl_2O_4$ spinel via surfactant assisted precipitation route, Materials research bulletin, submitted.

25. E. Navaei Alvar, **M. Rezaei**, H. Navaei, A. Mardanloo, H. Feyzollahzadeh, M.R. Golmohammadi, Investigation on the structural properties of nanocrystalline $MgAl_2O_4$ spinel powder synthesized by surfactant assisted precipitation method, 12th Iranian Chemical Engineering Congress, 2008, Sahand University of Technology.

26. E. Navaei Alvar, **M. Rezaei**, H. Navaei, A. Mardanloo, H. Feyzollahzadeh, M.R. Golmohammadi, New synthesis method of nanocrystalline $MgAl_2O_4$ spinel by using ethylene diamine as precipitation agent, 12th Iranian Chemical Engineering Congress, 2008, Sahand University of Technology.

27. **M. Rezaei**, S.M. Alavi, S. Sahebdelfar, Studies on carbon deposition in $CO_2$ reforming of methane over nickel catalysts, 12th Iranian Chemical Engineering Congress, 2008, Sahand University of Technology.

28. **M. Rezaei**, Making a bleaching clay based on the bentonitic clays, 12th Iranian Chemical Engineering Congress, 2008, Sahand University of Technology.

29. **M. Rezaei**, Production of bleaching earth for decolorizing of edible oils, 6th International Chemical Engineering Congress & exhibition (IChEC 2009), 2009.

30. F. Meshkani, **M. Rezaei**, Synthesis of Nanocrystalline Magnesium Oxide with Plate-Like Shape, 6th International Chemical Engineering Congress & exhibition (IChEC 2009), 2009.

31. **M. Rezaei**, Investigation on the coke formation over Ni-$CeO_2$/$ZrO_2$ catalyst in dry reforming reaction by thermal gravimetric analysis (TGA), 6th International Chemical Engineering Congress & exhibition (IChEC 2009), 2009.

32. F. Meshkani, **M. Rezaei**, Nanotechnology: Applications in Heterogeneous Catalysis, 6th International Chemical Engineering Congress & exhibition (IChEC 2009), 2009.

33. F. Meshkani, **M. Rezaei**, Nanotechnology Synthesis of Nanostructured Magnesium Oxide with Polyvinyl alcohol and Sucrose as Surfactant and Chelating Agent, 6th International Chemical Engineering Congress & exhibition (IChEC 2009), 2009.

34. M. Khajenoori, B. Nematollahi, M. Rezaei, Combined Dry Reforming and Partial Oxidation of Methane to Synthesis Gas on Noble Metal Catalysts, 13th Iranian Chemical Engineering Congress, 2010, Razi University, Kermanshah, Iran.

35. F. Meshkani, **M. Rezaei**, Stable Nickel Catalyst Supported on Nanocrystalline MgO in Methane Reforming with Carbon Dioxide, 13th Iranian Chemical Engineering Congress, 2010, Razi University, Kermanshah, Iran.

36. F. Meshkani, **M. Rezaei**, Preparation of NiO-MgO Catalysts for Dry Reforming Reaction, 13th Iranian Chemical Engineering Congress, 2010, Razi University, Kermanshah, Iran.

37. M. Khajenoori, **M. Rezaei**, B. Nematollahi, , Preparation of Noble Metal Nanocatalysts and their Applications in Catalytic Partial Oxidation of Methane, 13th Iranian Chemical Engineering Congress, 2010, Razi University, Kermanshah, Iran.

38. M. Khajenoori, B. Nematollahi, **M. Rezaei**, Investigation of Thermodynamic analysis in methane Partial Oxidation for syngas production, 13th Iranian Chemical Engineering Congress, 2010, Razi University, Kermanshah, Iran.

39. **M. Rezaei**, Synthesis of nanocrystalline zirconia in reverse micelle system, 13th Iranian Chemical Engineering Congress, 2010, Razi University, Kermanshah, Iran.

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41. M. Khajenoori, B. Nematollahi, **M. Rezaei**, Thermodynamic Analysis of Combined $CO_2$ and O2 Reforming of Methane to Produce Syngas, 7th International Chemical Engineering Congress & Exhibition, Kish, 2011.

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