

## REZUME

### **Full Professor of Chemical Engineering Tarbiat Modarres University**

Last Up date: 15.Jul. 2016

#### **Personal:**

- **First Name:** JAFAR
- **Last Name:** TOWFIGHI DARIAN
- **Date & Place of Birth:** 19.03.1956, Tehran, Iran
- **Citizenship:** Iranian

#### **Contact:**

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#### **Education:**

- M.Sc. in Chemical Eng., Shiraz University, Shiraz, Iran, 1981
- Ph.D. in Chemical Eng., Polytechnic Institute of Bucharest, Bucharest, Romania, 1986.

#### **Positions:**

- Head of Office for Technology Development and Innovation in Oil and Gas Industries, Vice presidency of Science and Technology, 2013 ....
- Head of Engineering Group, Iran National Science Foundation, from 2014....
- Supreme Advisor for Minister of Science, Research & Technology 2014-2015
- Minister of Science, Research & Technology, 2013-2013
- Member of Supreme Council for Educational Planning 2014 .....
- Member of Council for Higher Education Development 2014 .....
- Head of Faculty of Energy, Sharif University of Technology, 2008-2010

- Minister of Science, Research and Technology 2003- 2005
- President of Council for Higher Education Development 2003-2005
- President of Supreme Council for Educational Planning 2003-2005
- Member of Supreme Council for Cultural Revolution 2003- 2005
- Member of Supreme Council for General Education 1997-2005
- Deputy Minister for Education, Ministry of Science, Research and Technology 1997-2003
- Vice President of Council for Higher Education Development 1997-2003
- President of Central Committee for Faculty Recruitment 1997-2003
- President of Central Committee for Faculty Promotion 1997-2003
- Head of Institute for Research and Educational Planning 1999-2003
- Advisor to Deputy Minister for Education, Ministry of Science, Research and Technology 1996-1997
- Vice Chancellor for Educational Affairs, Tarbiat Modares University 1990-1996
- Head of Engineering Faculty, Tarbiat Modares University 1987-1990

### **Teaching Experiences:**

#### **a: Undergraduate Courses:**

- Kinetics & Reactor Design
- Basic Principles & Calculations in Chem. Eng.

#### **b: Graduate Courses:**

- Advanced Kinetics & Reactor Design
- Mathematical Modeling & Simulation
- Heterogeneous Catalysis
- Design & Control of Biochemical Reactors
- Industrial Reactors
- Policy making and Planning in Higher Education

### **Research Areas:**

- Optimal Control of Pyrolysis Reactors
- Thermal & Catalytic Cracking
- Reforming to Synthesis Gas
- Process Modeling & Simulation
- Kinetic Models for Thermal Cracking Reactions
- Reactor & Bioreactor Design
- Pressure Swing Adsorption (PSA)
- Gas Sweetening

### **Experimental Set up:**

- Thermal Cracking of Light and Heavy Hydrocarbons
- Catalytic Thermal Cracking for Light Olefins
- Pressure & Vacuum Swing Adsorption
- Oxidative Dehydrogenation of Alkanes
- Methanol To Olefin Experimental Set up

### **Research & Development Projects:**

- Hazardous Area Classification for Process Units and LPG Tanks of Kharg Petrochemical Complex, **Project Manager**, 2016
- Design and Construction of a Vacuum Swing Adsorption Pilot Plant for Separation of CO<sub>2</sub> from Flue Gases, Oil Ministry, **Project Manager**, 2012
- Investigation of Challenges and Obstacles for Technology Development in Oil Industries, Ministry of Oil, Islamic Republic of Iran, **Project Manager**, 2011
- Synthesis of Carbon Nano Tubes Catalysts for Light Olefins Production from Thermal-Catalytic Cracking of Naphtha, Iran National Science Foundation(INSF), **Project Manager**, 2011
- Technology Development of PSA, National Iranian Gas Company, **Project Manager**, (2008)
- Feasibility Study of Methanol Reduction Methods in the Bottom of Methanol Distillation Column, Kharg Petrochemical Complex, **Project Manager**, (2008)
- Separation of Carbon Dioxide from Tail Gases using Adsorption Columns in Lab. Scale, National Iran Gas Company, M. R. Mehrnia, **Supervisor**, 2008
- Design and Set up of an Experimental Thermal Cracking Furnace, Petrochemical Research & Development Corporation, **Project Manager**, 2007
- Design and Set up of a PSA (Pressure Swing Adsorption) Pilot Plant for Separation of Gaseous Mixtures, **Project Manager**, (2005).

- Technical and Economic Evaluation of Olefin Unit of Abadan Petrochemical Company, **Project Manager**, (2003).
- Software Preparation for Simulation of Olefin Furnaces of Bandar Imam Petrochemical Complex, **Project Manager**, (2001).
- Software Preparation for Simulation of Olefin Furnaces of Abadan Petrochemical Complex, **Project Manager**, (2002).
- Basic Design of an Industrial Olefin Furnace in Bandar Imam Petrochemical Complex, **Project Manager**, (2001).
- Software Preparation for Simulation of Olefin Furnaces of Arak Petrochemical Complex, **Project Manager**, (2000).
- Optimization of Tabriz Olefin Plant Furnaces, **Project Manager**, (1998).
- Process Design of Amir Kabir Olefin Plant with Gas and Liquid Feed stocks 520000 TPY, **Project Manager**, (1998).
- Process Design of Sixth Olefin Plant 230000 TPY, **Project Manager**, (1997).

**M.Sc. Thesis Supervisor & Co supervisor:** More than 100

- The effect of synthesis parameters of SAPO-34 with various AL & Si precursors for conversion of methanol to Light olefins, F. Kalantar, **J. Towfighi**, Tarbiat Modares University, ...
- The effect of synthesis parameters of SAPO-34 with various templates for conversion of methanol to light olefins, H. Nemati, **J. Towfighi**, Tarbiat Modares University, ...
- The Effect of Different Templates on SAPO-34 Synthesis for Conversion of Methanol to Light Olefins , Sh. Masoumi, **J. Towfighi**, Tarbiat Modares University, 19 Nov 2013
- The Effects of the Si and Al Precursors on The Synthesis of SAPO-34 Catalyst for Conversion of Methanol to Light Olefins, Z. Kooshki, **J. Towfighi**, Tarbiat Modares University, 19 Nov 2013
- The Effects of Different Si/Al and H<sub>2</sub>O/Al Ratios on the Synthesis of SAPO-34 for Conversion of Methanol to Light Olefins, K. Rahimi, **J. Towfighi**, Tarbiat Modares University, 19 Nov 2013
- Micro Kinetic Modeling of Oxidative Desulfurization with Ultrasound, N. Abdous, M. Omidkhah, **J. Towfighi** , Tarbiat Modares University, 15 Jan 2014

- Effect of Graining of Core-shell Catalysts in Naphtha Thermal Catalytic Cracking for Light Olefins Production, S. M. Mousavi, M. Manteghian, **J. Towfighi**, Tarbiat Modares University, 1 Feb 2014
- The Effect of Support Thickness of Core-shell Catalyst in Naphta Thermal Catalytic Cracking for Light Olefins Production, A. Motallebzade, M. Manteghian, **J. Towfighi**, Tarbiat Modares University, 28 Jan 2014
- Synthesis of Ce and Zr/SAPO Nanocatalysts for Light Olefins Production, A. Zeinali, **J. Towfighi**, Tarbiat Modares University, 31.Dec.2012
- Synthesis of Ce-Zr / HZSM-5 Catalysts for Light Olefins Production, F. Momayyez, **J. Towfighi**, Tarbiat Modares University, 18.Nov.2012
- Separation of CO<sub>2</sub> / N<sub>2</sub> Mixture with Vacuum Pressure Swing Adsorption, F. Rezaie, S. M. Sadrameli, **J. Towfighi**, Tarbiat Modares University, 30.Dec.2012
- Synthesis of zeolite catalysts using nano Metal Particles for Production of Light Olefins, N. Taghipur, **J. Towfighi**, Tarbiat Modares University, 21.Jan.2012
- Effect of Core-shell Catalysts on the Catalytic-thermal Cracking of Naphtha, S. Tazarve, M. Manteghian, **J. Towfighi**, Tarbiat Modares University, 28.Jan.2012
- Synthesis of CNT Based Catalysts for Production of Light Olefins, S. Sheibani, **J. Towfighi**, Tarbiat Modares University, 21.Jan.2012
- Mercaptan Removal from Gas Streams Using Alumina Based Catalysts, K. Nazeri, **J. Towfighi**, Tarbiat Modares University, 23.Feb.2011
- Hydrogen Removal from Gas streams Using Modified SiC Adsorbent, M. Moradi, **J. Towfighi**, Tarbiat Modares University, 22.jun.2011
- Increasing the Stability of Transition Metal Zeolite Catalyst in the Termal-Catalytic Cracking of Naphtha, M. Teimuri, **J. Towfighi**, Tarbiat Modares University, 18.Apr.2011
- Increasing the Stability of Rare Earth Metal Zeolite Catalyst in the Thermal – Catalytic Cracking of Naphtha, F. Khodadian, **J. Towfighi**, Tarbiat Modares University, 20.Apr.2011
- Mercaptan Removal from Natural Gas Using Functional CNTs, M. Farahzadi, **J. Towfighi**, Tarbiat Modares University, 02.Mar.2011
- Experimental and Theoretical Investigation of Adsorption by Nano Active carbon, M. Afsari, **J. Towfighi**, Tarbiat Modares University, 26.Jan.2011
- Experimental Study of Thermal – Catalytic Cracking of Naphtha using Fe Over Carbon Nano Tube Support, M. Alyani, **J. Towfighi**, Tarbiat Modares University, 13.Mar.2010
- Experimental Study of N<sub>2</sub>/CO<sub>2</sub> Separation using CMS in PSA, S. Mohajerani, **J. Towfighi**, Tarbiat Modares University, 06.Jul.2010

- Experimental Study of N<sub>2</sub>/CO<sub>2</sub> Separation using Zeolite 13X in PSA, M. Keyhanizadeh, **J. Towfighi**, Tarbiat Modares University, 06.Jul.2010
- Experimental Investigation of Methane Reforming in Microreactor for Syn. Gas Production, N. Hoseini, **J. Towfighi**, Tarbiat Modares University, 02.Mar.2010
- Experimental Study of Thermal-Catalytic Cracking of Naphtha on CNT Modified by Rare Earth Metals for Olefin Production, K. Keyvanloo, **J. Towfighi**, Tarbiat Modares University, 02.Mar.2010
- Experimental Study and Kinetic Modeling of Thermal Cracking of Olefin 12<sup>th</sup> Feed, M. Sedighi, **J. Towfighi**, Tarbiat Modares University, (10.June.2009)
- The Effect of Cycle Time on the Performance of Nitrogen Separation from Air by PSA, S. Sepehri, **J. Towfighi**, Tarbiat Modares University, (10.Oct.2009)
- The Effect of Pressure on Separation of Nitrogen from Air by PSA, N. Rahmati, **J. Towfighi**, Tarbiat Modares University, (14.June.2009)
- Manufacture of Zinc Oxide nanorods and its application for separation of sulfur dioxide from tail gas, R. Habibi, **J. Towfighi**, Tarbiat Modares University, (10.Jan.2009)
- Modeling and Simulation of Recombinant Production in a Batch Mixed Bioreactor, B. Zolfaghari, **J. Towfighi**, Tarbiat Modares University, (27.Oct.2007)
- Investigation of Effective Parameters on adsorption of HF by Aluminum Oxide Adsorbent, J. Jannesary, **J. Towfighi**, Tarbiat Modares University, 27.Sep.2008
- The Effect of Feed Composition on Product Distribution in Thermal Cracking of Naphtha, Z. Momen, R. Karimzadeh, **J. Towfighi**, Tarbiat Modares University, (24.May.2008)
- Design and Set up of a Plug Flow Reactor for Anaerobic Digestion of Food Wastes, Sh. Hormozdi, M. Nosrati, **J. Towfighi**, Tarbiat Modares University, (18.Dec.2007)
- Investigation of CMS for Separation of Nitrogen from Air Using PSA, Sh. Hoseinzadeh, **J. Towfighi**, Tarbiat Modares University, (15.March.2008)
- Investigation of 13X Adsorbent for Separation of Oxygen from Air using PSA, Z. Moghaddaszadeh, **J. Towfighi**, Tarbiat Modares University, (1.March.2008)
- Experimental Study and Modeling of Kerosene Thermal Cracking, S. Sharifian, **J. Towfighi**, Tarbiat Modares University, (06.May.2008)
- Experimental Study and Modeling of Naphtha Thermal Cracking, H. Ghassabzadeh, **J. Towfighi**, Tarbiat Modares University, (21.Feb.2008)

- Modeling and Simulation of Recombinant Human Interferon Gama Production in a Stirred Fed- Batch Bioreactor, S. Hamed, **J. Towfighi**, Tarbiat Modares University, 14. January. 2008
- Biological Separation of Metal Ions from Model Oil (Vanadium & Nickle), S. Vasheghni, **J. Towfighi**, Tarbiat Modares University & RIPI, 12.May.2007
- Investigation of Different Coke Inhibitors in Thermal Cracking of Gasoil, A.G. Arkhi, **J. Towfighi**, Tarbiat Modares University (14.Feb.2007)
- Modeling & Simulation of Hydrocracking Reactor using Lumped Method, M. Bozorgnia, **J. Towfighi**, Tarbiat Modares University, 2006
- The effect of the Number of Beds on Performance of PSA for Separation of Oxygen from Air, H. Dadashi, **J. Towfighi**, Tarbiat Modares University(14.March.2007).
- Modeling & Optimization of Operating Parameters of PSA, A. K. Sayyah, **J. Towfighi**, Tarbiat Modares University(14.March.2007).
- Thermal Cracking of Liquid Hydrocarbons in Micro-Pyrolysis Reactor, G. Rahmani, **J. Towfighi**, Tarbiat Modares University(14.Feb.2007).
- Determination of Optimal Temperature Profile in OCM Reactor to Maximize Ethylene Yield, A. Nuralishahi, H. Pahlavanzadeh, **J. Towfighi**, Tarbiat Modares University, 2006
- Kinetic Model of Coke Formation in Thermal Cracking of Heavy Hydrocarbons in Micro-Pyrolysis Reactor, M. Hoseinnia, R. Karimzadeh, **J. Towfighi**, Tarbiat Modares University(14.Feb.2007).
- Dynamics of Startup & Shutdown of Thermal Cracking Reactors, M. Ghashghaee, R. Karimzadeh, **J. Towfighi**, Tarbiat Modares University(07.Feb.2007)
- Experimental Investigation of Thermal Cracking of Gasoil, H.R. Bur, **J. Towfighi**, Tarbiat Modares University, 2006.
- Theoretical and Experimental study of Overall Mass Transfer Coefficient in Packed Bed Column, E. Sadeghi, **J. Towfighi**, Tarbiat Modares University, 2005.
- Effect of Solid Particles on Holdup and Oxygen transfer in Airlift Bioreactor, M. Mansuri, **J. Towfighi**, Tarbiat Modares University, 2005.
- Separation of Oxygen from Air using PSA method, L. Fathi, **J. Towfighi**, Tarbiat Modares University, 2005.
- Biodesulfurization of Alkylated Sulfur Compounds in Model Oil, L. Rashidi, **J. Towfighi**, Tarbiat Modares University, 2004.
- Modeling of Coke Deposition and its Effect on Deactivation of Styrene Monomer Catalyst, T. Asgari, **J. Towfighi**, Tarbiat Modares University, 2003.

- Modeling of Catalytic Coke Formation in Thermal Cracking Reactors, S.A.M. Alizadeh, **J. Towfighi**, Tarbiat Modares University, 2003.

### **Ph D Thesis Supervisor and Co supervisor:**

- Synthesis of Mezopore HZSM-5 for Conversion of Methanol to Propylene, F. Gorzin, **J. Towfighi Darian**, ongoing
- Production of Improved Biodiesel from Thermal Cracking of -----Oil, R. Parvizesdghi, Tarbiat Modares University, co supervisor, 2015
- Synthesis of Graphene and Experimental and Theoretical Studies on nano size pore making for Synthesis of Graphene Membrane for Application in Gas Separation, M. Mirzaee, **J. Towfighi Darian**, Tarbiat Modares University, (ongoing)
- VOC removal using nano catalysts in super critical water, M. Gholmohammadi, **J. Towfighi**, Tarbiat Modares University, (ongoing)
- Propylene production from propane by synthesis of vanadium catalyst over titanium nano structures, M. Saeed moghadam, **J. Towfighi**, Tarbiat Modares University, ( ongoing)
- Laboratory production of improved biodiesel from catalytic cracking of non-edible vegetable oils , R. Parvizesdghi, M. Sadrameli, **J. Towfighi**, Tarbiat Modares University , (ongoing)
- Synthesis and catalytic performance of immobilized semi conductor metal oxide for removing organic pollutant under visible light, S. Alijani, **J. Towfighi**, Tarbiat Modares University, 8 Feb 2014
- Synthesis of Modified SAPO-34 for Increasing Propylene Production from Methanol, H. Bahrami, **J. Towfighi**, Tarbiat Modares University, (ongoing)
- Synthesis and Investigation of Performance of Ceramic Nano Composite Membrane for Production and Purification of Hydrogen in Steam Reforming Reactors, M. Amanipour, **J. Towfighi**, Tarbiat Modares University, (ongoing)
- Removing CO<sub>2</sub> from Flue Gas with Pressure Swing Adsorption, V. Baharmast, **J. Towfighi**, Tarbiat Modares University, (ongoing)
- Catalytic Cracking of Biodiesel for Liquid Hydrocarbons Production, A. Bayat , S. M. Sadrameli, **J. Towfighi**, Tarbiat Modares University,(ongoing)
- Synthesis and Experimental Investigation of SAPO-34 Nanocatalyst Modified with Rare Earth Metals in Catalytic Conversion of Methanol to Light Olefins, M. Sedighi, **J. Towfighi**, Tarbiat Modares University, (ongoing)



- Stabilization of Redox Catalysts for Oxidative Dehydrogenation of Propane, A.H. Shahbazi, **J. Towfighi**, Tarbiat Modares University, ( ongoing)
- Synthesis Of Nanostructure Carbon Membrane for Separation of Carbon Dioxide from Natural Gas, M. Ahangar Davoodi, **J. Towfighi**, Tarbiat Modares University, 1.jun.2013
- Deep Desulfurization of Diesel Using Ultrasond Catalytic Oxidation, A. Akbari, M. Omidhkah, **J. Towfighi**, Tarbiat Modares University, ( ongoing)
- Synthesis of Nano Porous Carbon Membrane for Separation of Hydrogen Sulfide from Natural Gas, N. Gilani, **J. Towfighi**, Tarbiat Modares University, 3.feb.2013
- Synthesis of a Peroskyte Nano catalyst for Combined Dry Reforming and Partial Oxidation of Methane, A. Jahangiri, H. Pahlavanzadeh, **J. Towfighi**, Tarbiat Modares University, 27.jun.2013
- Catalytic Cracking of Vegetable Oil triglycerides to Produce Biofuels, H. Seifi, M. Sadrameli, **J. Towfighi**, Tarbiat Modares University, (ongoing)
- Synthesis of CNT Based Nano Catalyst to remove NOx from LTSCR, M. Purkhalil, A. S. Zaringhalam, **J. Towfighi**, Tarbiat Modares University, 11.jun.2013
- Oxidation of CO using Nano Catalyst Synthesized by Gel Casting Method, Sh. Ahmadi, M. Manteghian, **J. Towfighi**, Tarbiat Modares University,28.jan.2013
- Synthesis of Metal Oxides Nano Catalysts for Oxidation of VOCs, S. Maghsudi, **J. Towfighi**, Tarbiat Modares University, 5.jun.2013
- Application of Hydrate formation in Separation of Natural Gas Components, A. Azimi, M. Manteghian, **J. Towfighi**, Tarbiat Modares University, 12.Mar.2011
- Experimental Investigation of Short Contact Time Partial Oxidation of Methane for Producing Synthesis Gas in microreactor, F. Akhlaghian, **J. Towfighi**, Tarbiat Modares University,(02.Nov.2010)
- Investigation of Different Ni Catalyst Supports and their Synthesis in combined reforming of steam and Carbon Dioxide, H. Eltejaee, **J. Towfighi**, Tarbiat Modares University,( Feb. 2012)
- Synthesis of Perovskite Membrane for Partial Oxidation of Methane, A. Ganji, **J. Towfighi**, Tarbiat Modares University, ( 15.Nov.2010)
- Natural Gas Sweetening using Carbon Nano Tubes, A.M. Alizadeh, **J. Towfighi**, Tarbiat Modares University, 22.Sep.2010
- A New Technology for Production of Synthesis Gas by Combined Reforming of Methane with Steam and Carbon Dioxide, A. Shamkhali, **J. Towfighi**, Tarbiat Modares University, 10.Jun.2010

- Kinetics Investigation of Thermal Cracking of Gasoil for Production of Olefins, S. Zahedi, **J. Towfighi**, Tarbiat Modares University, (28.Feb.2008)
- Design of the Advanced Control System for Thermal Cracking, M. E. Masoumi, M. Sadrameli, M. Shahrokhi, **J. Towfighi**, Tarbiat Modares University, 2003.
- Making a Novel Coated Adsorbent for Gas Separation Systems, M. Mofarahi, M. Sadrameli, **J. Towfighi**, P. Leitgeb, Tarbiat Modares University, 2003.
- Production of hGM-CSF using Recombinant E.Coli and Process Optimization, S.A. Fatemi, **J. Towfighi**, B. Yakhchali, S.A. Shojaosadati, Tarbiat Modares University, 2003.
- Experimental Study of Hydrodynamics and Mass Transfer in Internal-loop Airlift Bioreactors, M. Mehrnia, **J. Towfighi**, B. Bonakdarpour, M. Roostazad, Tarbiat Modares University, 2003.
- Suppression of Coke Formation in Thermal Cracking by Coke Inhibitors, A. Niaei, **J. Towfighi**, M. Sadrameli, Tarbiat Modares University, 2003.
- Olefins production by Catalytic Steam Cracking of Hydrocarbons, R. Karimzadeh, **J. Towfighi**, H. Zimmermann, Tarbiat Modares University, 2002.

**Examiner of M.Sc. & PhD. Thesis:** More than 100

- Development of a Model for Student Acceptance in Private non profit Universities of Iran based on Three Different Scenarios, A. Goldasteh, Shahid Beheshti University, 2016
- Synthesis and investigation of Transport Characteristics of Mix Matrix Polymer Membranes using Magnetic nano Particles for Separation of Oxygen and Nitrogen, S. Raveshian, Tarbiat Modares University, Ongoing
- Higher educational management PhD , Z. Karimian, Shahid Beheshti University, Jan 2014
- Design and synthesis of polyamide for separation of olefin/ paraffin, S. Najari, Tarbiat Modares University, Dec 2013
- Modeling and measurement of CO<sub>2</sub>,H<sub>2</sub>O solubility in mixture of MDEA/AMP/Piprazine at high pressure, Tarbiat Modares University, Feb.2013
- Termo kinetic modeling and optimization of reaction furnace in SRU process, Research Institute of Petroleum Industry, Feb.2013
- Propane dehydrogenation in nano membrane reactor, Tarbiat Modares University. Feb.2013

- Performance improvement of carbon nano tubes membrane for sweetening of sour water, Tarbiat Modares University, Dec.2012
- Direct esterification of algae and its thermal cracking for production of hydrocarbon fuel, Dec2012
- Hydro desulfurization of heavy crude oil with nano catalysts with carbon nano structure support, Tarbiat Modares University, Feb.2012
- Production of carbon nano structures from carbon nano tubes, Tarbiat Modares University, Feb 2012
- Production of Biodisel from canola oil with hetrogeneous catalysts, Tarbiat Modares University, Feb 2012
- Investigation of Catalyst structure Effects on HDS from DBT, Elmo-Sanat University, Feb. 2012
- Investigation of the effect of MOF in selective layer of multilayer membrane polysulfone/polyimide/silicone, Tarbiat Modares University, Feb.2012
- Modeling of catalytic polymerization process of Ethylene in gas phase by multistage reactors, Tarbiat Modares University, Dec, 2011
- Investigation of catalyst structure effects in removing of sulfur component from liquid hydrocarbon, Elmo-Sanat University, Nov,2011
- Model development for OCM process in high pressure and optimization of operational conditions in fixed bed reactor, Elmo-Sanat, Oct.2011
- ....., S. Sanjari, Amirkabir University, Oct.2011
- ....., F. Iahiazade saravi, Azad University of Tehran-North, Sep.2011
- Investigation of status of relation of Engineering faculties of Tehran public universities with industry in framework of national innovation system, Shahid beheshti University, Jun.2011
- Deep Diesel desulfurization with microwave oxidation, Tarbiat Modares University, Jun.2011
- Kinetic modeling of fisher-tropsch synthesis in slurry reactors using new isotherms, Tarbiat Modares University, Feb.2011
- Modeling of Catalytic Ethylene Polymerization in Gas Phase using Multistage Reactors, Tarbiat Modares University, Dec. 2010
- Desulfurization of light oil cuts using Oxidative desulfurization, M. A. Sobati, Sharif University, Sep. 2010

- Hydrodynamic study of three phase fluidized bed reactors, A. Sheikhi,(Msc), University of Teheran, Jul. 2010
- Kinetic Modeling of Syn. Gas to Olefin and Optimization of Catalyst Structure, F. Shayegh (PhD), Sharif University of Technology, 22.Jun. 2010
- Experimental Investigation and Modeling of Nano Fluid Heat Transfer, M. Emami Meibodi, (PhD), Tarbiat Modares University, Feb. 2010
- Study of process variables in production of SCP from natural gas, Tarbiat Modares University, April,2010
- Analysis of Chemical Reactor Networks on The Basis of Accessible Region Theory, (PhD), H. Godini, Tarbiat Modares University, Feb.2010
- Theoretical and Experimental Investigation of the Effect of Nano Particles on Pool Fire and Surrounding Equipments, A. Najafi, Tarbiat Modares University, Feb. 2010
- Experimental Investigation and modeling of Fischer-Tropsch synthesis in the presence of monolytic catalysts, S. Farzad, Tarbiat Modares University, Feb,2009
- Experimental Investigation and Numerical Simulation of a Fluid-Solid Fluidized Bed Reactor, (PhD), M. Hamzei, Amir Kabir University, Jul. 2009
- The Effect of Operating and Design Parameters on the Production of SCP from Natural Gas, (PhD), F. Yazdian, Tarbiat Modares University, May 2009
- Synthesis of Zigler-Nata Catalysts Using SiO<sub>2</sub> for Ethylene Polymerization, (PhD), A. R. Aghily, Tarbiat Modares University, Dec. 2008
- Investigation of Bithumen Structure and producing Nano Structure Compounds, (MSc), A. Zaree, Tarbiat Modares University, (Nov. 2007)
- Kinetic Studies of Hydrate Cristalization in the Presence of Facilitators, (PhD), H. Ganji, Tarbiat Modares University, (Sep. 2006)
- Membrane Manufacture and Determination of its Transport Parameters for Separation of Hydrogen, (PhD), M. Pakizeh, Tarbiat Modares University, ( Dec. 2006)
- Modeling of Desulfurization Reactor from Hydrocarbon Compounds using Hydrogen, (MSc), Tarbiat Modares University, (Feb. 2007)
- Theoretical and Experimental Study of Carbon Dioxide Separation from Gas Mixtures using Silica Membrane, M. Biglari, (MSc), Tarbiat Modares University, ( 5.March.2007)
- Modeling & Simulation of Maleic Anhydride Production from n-Butane in a Riser Reactor, (M.Sc.), H. R. Hakimelahi, Tehran University, 2006.

- Modeling and Simulation of Steam Reforming Reactor of Tehran Refinery (M.Sc.), N. Bahadori, Tarbiat Modares University, 2006.
- Control & Optimization of Thermal Cracking Reactors of Tabriz Petrochemical Complex (M.Sc.), R. Mohammadi Rad, Tarbiat Modares University, 2006.
- Control & Optimization of Thermal Cracking Reactors of Tabriz Petrochemical Complex using Statistical Models (M.Sc.), S. M. Jazayeri, Tarbiat Modares University, 2005.
- Modeling of Fischer Tropchs Synthesis in Slurry Reactors (M.Sc.), A. H. Jalaekho, Tarbiat Modares University, 2005.
- .....

## **Publications:**

### **a: Iranian Journals:**

- 1- M. Ahangar, J. Towfighi, A. Rashidi, T. Mohammadi, "Reviewing of the synthesis of carbon nano tube membrane" **Iranian Journal of Chemical Engineering**, Vol. 14, No. 82, 2016
- 2- Sh. Masoumi, **J. Towfighi**, "characterization and optimization of SAPO-34 catalysts synthesized by mixed templates in MTO reaction", **Iranian Journal of Chemical Engineering**, Vol. 12, No. 4, 2015
- 3- F. Kalantar Kohdami, **J. Towfighi Daryan**, H. Nemati Arbatani "Effect of Crystallization Temperature on the Synthesis of SAPO-34 and its Catalytic Performance in MTO Reaction" **Iranian Journal of Chemical Engineering**, Vol. 11, No. 3, 2014
- 4- H. Nemati Arbatani, J. Towfighi Daryan, F. Kalantar Kohdami, "The Synthesis of SAPO-34 at Different Crystallization Temperature and its Catalytic Performance for Methanol to Olefins Reaction" **Iranian Journal of Chemical Engineering**, Vol. 11, No. 4, 2014
- 5- F. Momayez, **J. Towfighi**, A. Mohamadalizadeh, "The Effect of Modified HZSM-5 with loading of Ce and Zr in Naphtha Thermal-Catalytic Cracking to Light Olefins", **Iranian Journal of Chemistry and Chemical Engineering**, Vol. 33, No. 1., P. 37-47, 2015
- 6- S. Ghanbary, A. Pourmazaheri, **J. Towfighi**, A. Farokhi, "Investigation of diffusivity of DMAZ & air and determination of minimum storage radius", **Iranian Journal of Chemistry and Chemical Engineering**, Vol. 33, No. 1., P. 31-35, 2015

- 7- F. Akhlaghian, **J. Towfighi**, A. Mohajeri, "Partial oxidation of methane on Rh/TiO<sub>2</sub> catalysts: Effects of the titania precursor and the presence of tungsten oxide" *Scientia Iranica C* (2012) 19 (6), 1608–1615
- 8- E. Ganji, **J. Towfighi**, L. Shirazi, Z. Taheri, M. A. Khodaghali, "Investigation of Partial Oxidation of Methane for Syngas production in ceramic BSCF Perovskite Membrane reactor ", *Journal of Petroleum Science and Engineering*, Vol. 22, No. 70, P.68-76, 2012, (Persian)
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- 88- M.Akbarnejad, **J.Towfighi** & H. Sharifi, "Design & Simulation of Abadan Refinery FCC Plant", 8<sup>th</sup> Congress of Oil, Gas and Petrochemistry, 1997, Tehran, Iran.
- 89- H.Aghaee, **J.Towfighi** & R. Karimzadeh, "Investigation of Conversion Reduction In Shiraz Petrochemical Complex Lime Kilns", 2<sup>nd</sup> International and 8<sup>th</sup> National Congress of Chemistry & Chemical Engineering, 1997, Kerman, Iran.
- 90- M.Sadrameli, H.Ebadi, **J.Towfighi**, "Simulation of Coke Formation in Gas Quenchers of Industrial Naphtha Cracking Furnaces", 2<sup>nd</sup> International and 8<sup>th</sup> National Congress of Chemistry and Chemical Engineering, 1997, Kerman, Iran.
- 91- M. Milani, **J.Towfighi**, M.Jahanshahi, "Investigation of Impact of Interaction on Computer Control of CSTR", 2<sup>nd</sup> International & 8<sup>th</sup> National Congress of Chemistry & Chemical Engineering, 1997, Kerman, Iran.
- 92- **J. Towfighi**, M.Shokuhi, "Development of a Sophisticated Model for Simulation of Thermal Cracking Reactors", First Int. Congress of Chemical Eng., 1994, Tehran, Iran.
- 93- **J. Towfighi**, S.Sharafi, "Development of a Two Dimensional Model for Simulation of Naphtha Crackers", First Int. Congress of Chemical Eng., 1994, Tehran, Iran.
- 94- A. Niaee, **J.Towfighi**, "Product Distribution of Pyrolysis of Naphtha, Kerosene and Gas oil in a Tubular Reactor", First Int. Congress of Chemistry & Chemical Eng., 1993, Tehran, Iran.
- 95- **J. Towfighi**, A.Niaee and R.Karimzadeh, "Modeling & Simulation of Thermal cracking of Naphtha", Fifth Congress of Oil, Gas & Petrochemistry, 1992, Isfahan, Iran.

**b: International Congresses:**

1. H. Bahrami, M. Sedighi, **J. Towfighi Darian**, "Effect of water, morpholine, and TEAOH on SAPO-34 synthesis and catalytic performance in MTO process", The 9<sup>th</sup> International Chemical Engineering Congress & Exhibition (IChEC 2015) Shiraz, Iran, 26-28 December, 2015
2. M. Sedighi, H. Bahrami, **J. Towfighi Darian** "Effect of metal-incorporated SAPO-34 catalysts in MTO reaction", The 9<sup>th</sup> International Chemical Engineering Congress & Exhibition (IChEC 2015) Shiraz, Iran, 26-28 December, 2015
3. M. Saei Moghaddam, **J. Towfighi**, A.H. Shahbazi Kootnaei, "Characterization of Titania Nanotubes Synthesized via Alkali Hydrothermal Treatment", The 9<sup>th</sup> International Chemical Engineering Congress & Exhibition (IChEC 2015) Shiraz, Iran, 26-28 December, 2015



4. H. Bahrami, M. Sedighi, **J. Towfighi Darian**, "Effects of WHSV on the yield in MTO process over SAPO-34", The 9<sup>th</sup> International Chemical Engineering Congress & Exhibition (IChEC 2015) Shiraz, Iran, 26-28 December, 2015
5. A. Taheri, E. Ganji Babakhani, **J. Towfighi Darian**, S. Pakseresht "Synthesis and Optimization of a Metal Organic Framework For CO<sub>2</sub> Capture", The 9<sup>th</sup> International Chemical Engineering Congress & Exhibition (IChEC 2015) Shiraz, Iran, 26-28 December, 2015
6. F. Kalantar kohdami, **J. Towfighi**, H. Nemati Arbatani, " MTO reaction over SAPO-34 catalysts synthesized by different crystallization temperature" , 2<sup>nd</sup> International Conference Oil, Gas And Petrochemical, 18 Dec 2014
7. H. Nemati Arbatani, **J. Towfighi**, F. Kalantar kohdami " The effect of synthesis temperature on the properties of SAPO-34", 2<sup>nd</sup> International Conference Oil, Gas And Petrochemical, 18 Dec 2014
8. M. Sedighi, **J. Towfighi**, " Influence of phosphorus and water contents on synthesis of SAPO-34 molecular sieve' , 2<sup>nd</sup> International Conference Oil, Gas And Petrochemical, 18 Dec 2014
9. M. Sedighi, **J. Towfighi**, " Effect of different combination of TEAOH/Morpholine on the catalytic behaviour of SAPO-34 catalyst in MTO process' , 2<sup>nd</sup> International Conference Oil, Gas And Petrochemical, 18 Dec 2014
10. F. Rezaee, **J. Towfighi**, M. Sadrameli, M. Mofarahi, "Separation of CO<sub>2</sub>/N<sub>2</sub> Mixture by Vacuum Pressure Swing Adsorption", 8<sup>th</sup> International Chemical Engineering Congress & Exhibition, 24-27 Feb, 2014
11. N. Abdoos, A. Akbari, M. R. Omidkhan, **J. Towfighi Darian**, "Micro kinetic modeling of ultrasound-assisted oxidative desulfurization(UAOD)" 8<sup>th</sup> International Chemical Engineering Congress & Exhibition, 24-27 Feb, 2014
12. F. Momayez, **J. Towfighi**, A. Mohamadalizadeh, "The Effect of Modified HZSM-5 and Temperature in Naphtha Thermal-Catalytic Cracking to Light Olefins" 8<sup>th</sup> International Chemical Engineering Congress & Exhibition, 24-27 Feb, 2014
13. K. Rahimi, **J. Towfighi**, Sh. Masoumi, Z. Kooshki, "MTO reaction over synthesized SAPO-34 catalyst with varying molar ratios of SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> and H<sub>2</sub>O/Al<sub>2</sub>O<sub>3</sub>", 8<sup>th</sup> International Chemical Engineering Congress & Exhibition, 24-27 Feb, 2014
14. A. H. Shahbazi Kootenaee, **J. Towfighi**, A. Khodadadi; Y. Mortazavi, "Oxidative Dehydrogenation of Propane Over Vanadia Supported on Nanostructured Titania" 8<sup>th</sup> International Chemical Engineering Congress & Exhibition, 24-27 Feb, 2014
15. Sh. Masoumi, **J. Towfighi**, Z. Kooshki, "MTO Reaction Over SAPO-34 Catalysts Synthesized By Combination Of TEAOH, TEA, Morpholine Templates" 8<sup>th</sup> International Chemical Engineering Congress & Exhibition, 24-27 Feb, 2014

16. Z. Kooshki, **J. Towfighi**, Sh. Masoumi, "MTO Reaction Over SAPO-34 Catalysts Synthesized Using Various Sources Of Silicon And Aluminium", 8<sup>th</sup> International Chemical Engineering Congress & Exhibition, 24-27 Feb, 2014
17. M. Golmohammadi, **J. Towfighi**, M. Assar, M. Tajvidi, "Product quality and energy consideration of crude oil stabilization plants, comparison of two different technologies", 8<sup>th</sup> International Chemical Engineering Congress & Exhibition, 24-27 Feb, 2014
18. M. Pourkhalil, A. Rashidi, A. Zarringhalam Moghaddam, **J. Towfighi**, Catalytic activity of copper oxide nanoparticles supported on functionalized multiwalled carbon nanotubes for NO<sub>x</sub> abatement" 8<sup>th</sup> International Chemical Engineering Congress & Exhibition, 24-27 Feb, 2014
19. S. Sheibani, **J. Towfighi**, A. Mohamadalizadeh, N. Taghipour, "Improvement of thermal stability of CeO<sub>2</sub> supported on MWNTs coated with SiO<sub>2</sub>" 8<sup>th</sup> International Chemical Engineering Congress & Exhibition, 24-27 Feb, 2014
20. M. Sedighi, **J. Towfighi**, " Experimental Study of Heavy Liquid Hydrocarbon Pyrolysis: Application of Neural Network to Predict the Main Product Yields", 14<sup>th</sup> Int. Oil, Gas & Petrochemical Congress, 2012, Tehran
21. N. Gilani, **J. Towfighi**, A. Rashidi, M. R. Omidkhah, Kh. Jafari, "Synthesis of vertically aligned carbon nanotubes with different diameters in porous alumina template via a simple CVD method", 7<sup>th</sup> International Chemical Engineering Congress & Exhibition, Kish Island, Iran, 21-24 Nov. 2011
22. M. Farahzadi, **J. Towfighi**, A. Mohamadalizadeh, "Gas purification from isopropyl mercaptan by catalytic oxidation process over WO<sub>3</sub> supported multiwall carbon nanotubes", 7<sup>th</sup> International Chemical Engineering Congress & Exhibition, Kish Island, Iran, 21-24 Nov. 2011
23. M. Pourkhalil, A. Zarringhalam, A. Rashidi, **J. Towfighi**, "Low temperature SCR of NO<sub>x</sub> with NH<sub>3</sub> over manganese oxides supported on multiwalled carbon nanotubes", 7<sup>th</sup> International Chemical Engineering Congress & Exhibition, Kish Island, Iran, 21-24 Nov. 2011
24. F. Khodadadian, **J. Towfighi**, "The effect of Ce and P loading on catalytic performance of HZSM-5 in thermal catalytic cracking of naphtha to light olefins", 7<sup>th</sup> International Chemical Engineering Congress & Exhibition, Kish Island, Iran, 21-24 Nov. 2011
25. N. Taghipour, **J. Towfighi**, A. Mohamadalizadeh, L. Shirazi, "Comparing of performance of HZSM-5 and SAPO-34 in the catalytic cracking of naphtha to produce light olefins", 7<sup>th</sup> International Chemical Engineering Congress & Exhibition, Kish Island, Iran, 21-24 Nov. 2011
26. S. Sheybani, **J. Towfighi**, A. Mohamadalizadeh, "Thermal catalytic cracking of naphtha over CeO<sub>2</sub> supported on multi wall carbon nanotubes coated with SiO<sub>2</sub>", 7<sup>th</sup> International Chemical Engineering Congress & Exhibition, Kish Island, Iran, 21-24 Nov. 2011

27. H. Eltejaei, **J. Towfighi**, H. R. Bozorgzadeh, M. R. Omidkhan, "Effect of support and promoter content on characteristic properties and catalytic activity of Ni/Ce<sub>0.75</sub>Zr<sub>0.25</sub>O<sub>2</sub>-MgAl<sub>2</sub>O<sub>4</sub> and Ni/Ce<sub>0.75</sub>Zr<sub>0.25</sub>O<sub>2</sub>- $\gamma$ -Alumina in methane reforming with CO<sub>2</sub>", 7<sup>th</sup> International Chemical Engineering Congress & Exhibition, Kish Island, Iran, 21-24 Nov. 2011
28. M. Alyani, **J. Towfighi**, P. Esmailnejad-Ahramjani, "Experimental investigation of thermal catalytic cracking over nanotubes catalysts", 7<sup>th</sup> International Chemical Engineering Congress & Exhibition, Kish Island, Iran, 21-24 Nov. 2011
29. **J. Towfighi**, Z. Rezaiesarlak, M. Alyani, M. E. Masoumi, " Kinetic modeling of naphtha thermal cracking", 7<sup>th</sup> International Chemical Engineering Congress & Exhibition, Kish Island, Iran, 21-24 Nov. 2011
30. F. Khodadadian, **J. Towfighi**, K. Keyvanloo, "A Deactivation Study of P-Ce/HZSM-5 in Thermal Cracking of Naphtha by Response Surface Methodology", North American Catalysis Society congress, USA, June 2011
31. M. Teimuri, **J. Towfighi**, K. Keyvanloo, "Designing a Stable HZSM-5 Catalyst Modified with Iron and Phosphorous in Thermal Catalytic Cracking of Naphtha for light Olefin Production", North America Catalysis Society Cogress, USA, Jun 2011
32. K. Keyvanloo, A. Mohamadalizadeh, **J. Towfighi**, "Thermal Catalytic Cracking of Naphtha over CeO<sub>2</sub> Supported on Carbon Nanotubes with SiO<sub>2</sub> for Olefin Production", North America Catalysis Society Congress, USA, Jun 2011
33. N. Tahouni, N. Bagheri, **J. Towfighi**, M. H. Panjeshahi, " Retrofit of Low-Temperature Gas Separation Section of Olefin Plant", Fourth International Conference on Modeling, Simulation and Applied Optimization, ICMSAO,11, Kuala Lumpur, April 2011
34. E. Ganji, **J. Towfighi**, A. Tofigh, " Performance of ceramic membrane reactor for methane conversion to syngas", 14<sup>th</sup> International Oil, Gas, and Petrochemical Congress, Tehran, 2010
35. E. Ganji, **J. Towfighi**, A. Zamanian, " Comparison of Oxygen Permeability and Stability of Perovskite Type BSCFXO Membranes for Application into a POM Membrane Reactor", Proceedings, AES-ATEMA 2010 Brixen Internation Convention, Brixen, Italy, Jul. 2010
36. E. Ganji, **J. Towfighi**, K. Nazari, " Comparative Study of Sintering Parameters of BSCFO Ceramics Mambrene Synthesized Using a Simple EDTNAD Complexing Method", Fourth International Conference on Advances and Trends in Engineering Materials and Their Applications", Hamburg, Germany, Sep. 2009
37. L. Vafajoo, Sh. Zolfaghari, A. Esmaeili, **J. Towfighi**, " Developing a Mathematical Model to Determine the Mass Transfer Coefficient in Extraction of Sunflower Oil by Supercritical Carbon Dioxide", 12<sup>th</sup> Europian Symposium on Communication and Classification 15-18 Sep. 2009, Finland

38. S. Zahedi, **J. Towfighi**, " Development of a Kinetic Model for Determination of Yield Distribution and Coke Formation in Thermal Cracking of Atmospheric Gasoil", The 6<sup>th</sup> International Chemical Engineering Congress, Nov. 2009, Kish Island, Iran
39. N. Hosseini, **J. Towfighi**, F. Bahadoran, A. Zamanian, " Preparation and Evaluation of Monolithic Catalyst for Steam Reforming of Methane", The 6<sup>th</sup> International Chemical Engineering Congress, Nov. 2009, Kish Island, Iran
40. F. Akhlaghian, **J. Towfighi**, A. Mohajeri, A. Zamanian, " A Comparison Study of Different Metal Washcoating Methods", The 6<sup>th</sup> International Chemical Engineering Congress, Nov. 2009, Kish Island, Iran
41. E. Ganji, **J. Towfighi**, K. Nazari, R. Ahmadi, " Oxygen Permeation Study of Synthetic Mixed – Zconducting Ceramic Membranes", The 6<sup>th</sup> International Chemical Engineering Congress, Nov. 2009, Kish Island, Iran
42. K. Keyvanloo, **J. Towfighi**, A. Mohamadizadeh, M. Alyani, " Optimization of Naphtha Steam Cracking Conditions for Production of Light Olefins by Statistical Design of Experiments", The 6<sup>th</sup> International Chemical Engineering Congress, Nov. 2009, Kish Island, Iran
43. A. Shamkhali, M.R. Omidkhah, **J. Towfighi**, M.R. Jafari Nasr, " One – Dimensional Pseudo-homogeneous Modeling and Simulation of Autothermal Reformer", The 6<sup>th</sup> International Chemical Engineering Congress, Nov. 2009, Kish Island, Iran
44. A. Esmaeeli, L. Vafajoo, S. Zolfaghari, **J. Towfighi**, " A Mathematical Model of Supercritical Carbon Dioxide Extraction of Sunflower Oil", 18<sup>th</sup> International Congress of Chemical and Process Engineering, 24-28 Aug. 2008, PRAGUE, CZECH REPUBLIC
45. Z. Moghaddaszadeh, **J. Towfighi**, M. Mofarrahi, " Study of a Four-Bed Pressure Swing Adsorption for Oxygen Separation from Air", XXX. WASTE International Conference, 04-06 July, 2008, France, Paris
46. D. Salari, **J. Towfighi** et.al., " Triphenyl Phosphine Oxide ( TPPO) as a Coke Inhibitor During Thermal Cracking of Naphtha", 17<sup>th</sup> International Congress of Chemical and Process Engineering, 27-31 August, 2006, Praha, Czech Republic.
47. N. Daneshvar, A. Niaei, **J. Towfighi** et.al., " Effect of Surface Coating by CVD Method During Pyrolysis of Naphtha for Reduction of Coke Deposition", 17<sup>th</sup> International Congress of Chemical and Process Engineering, 27-31 August, 2006, Praha, Czech Republic.
48. A. Niaei, D. Salari, **J. Towfighi**, R. Nabavi, " Investigation of the Cocracking of C4-Cut Raffinate and Naphtha in Industrial Cracker- Application of the Artificial Neural Network ( ANN) & Mathematical Modeling", Proceeding of the 15<sup>th</sup> IASTED International Conference, Rhodes, Greece, June 26-28, 2006.

49. A. Niaei, **J. Towfighi**, D. Salari, R. Nabavi, “ Application of the Neural Network(ANN) and the Mathematical Modeling in the Thermal Cracking of LPG”, 40<sup>th</sup> IUPAC Congress, Beijing, China, 2005.
50. **J. Towfighi**, R. Karimzadeh, A. Niaei, G. Saedi, "Application of Dynamic Programming Method in Optimal Control and Simulation of an Industrial Naphtha Cracker"; CHISA 2004, 22-26 Aug., Praha, Czech Republic.
51. A. Niaei, D. Salari, **J. Towfighi**, P.Panahi, "A Study on Coke Deposition and Coking Inhibitors during Naphtha Pyrolysis in Jet Stirred Reactor System", CHISA 2004, 22-26 Aug., Praha, Czech Republic.
52. M. Alizadeh, **J. Towfighi**, R. Karimzadeh, "Modeling of Catalytic Coke Formation in Thermal Cracking Reactors", CHISA 2004, 22-26 Aug., Praha, Czech Republic.
53. A. Niaei, **J. Towfighi**, M. Sadrameli, M.E. Masoumi, "Experimental and Sensitivity Analysis of a Thermal Cracking Pilot Plant for the Pyrolysis of Hydrocarbons", CHISA 2004, 22-26 Aug., Praha, Czech Republic.
54. A. Niaei, **J. Towfighi**, M. Sadrameli, M.E. Masoumi, “Computational Study of the Pyrolysis Reactions and Coke Deposition in Industrial Naphtha Cracking”, ICCS 2002, pp. 723-732, 21-24 April 2002, Amsterdam, Netherlands.
55. **J. Towfighi**, A. Niaei, M. Sadrameli, R. Karimzadeh, “The Combined Simulation of Radiant Box and Pyrolysis Reaction in Industrial Cracking Furnaces”, ISTP 13, pp. 743-748, 14-18 July 2002, Victoria, BC, Canada.
56. **J. Towfighi**, A. Niaei, R. Karimzadeh, “Simulation of the Pyrolysis Reactions and Coke Deposition in Industrial LPG Cracking Furnace”, 9<sup>th</sup> APCCChE, 29 Sept. – 3 Oct. 2002, Christchurch, New Zealand.
57. **J. Towfighi**, M. Sadrameli, R. Karimzadeh, A. Niaei, M. Mofarahi, B. Mokhtarani, G. Saedi, S. Hosseini, M. Karimaei, “SHAHAB-PC Based Simulator for Prediction of Furnace Run Length for the Pyrolysis of Hydrocarbons (Ethane to Naphtha)”, CHISA 2002, 25- 29 August 2002, Praha, Czech Republic.
58. **J. Towfighi**, A. Niaei, M.E. Masoumi, M. Sadrameli, M. Shahrokhi, “ A Computer Control Pilot Plant System for Studying of Pyrolysis Reactions and Coke Deposition in Thermal Cracking Process - Experimental Results, CHISA 2002, 25- 29 August, 2002, Praha, Czech Republic.
59. **J. Towfighi**, A. Niaei, R. Karimzadeh, G. Saedi, S. Hoseini, “Modeling and Simulation of the Pyrolysis Reactions and Coke Deposition in Industrial Ethane Cracker”, CHISA 2002, 25- 29 August 2002, Praha, Czech Republic.
60. M.E. Masoumi, M. Sadrameli, **J. Towfighi**, A. Niaei, ”Application of Adaptive Temperature Control for Thermal Cracking Pilot Plant Furnace”, CHISA 2002, 25- 29 August 2002, Praha, Czech Republic.
61. **J. Towfighi**, M. Sadrameli, A. Niaei, “Prediction of Furnace Runlength for the Pyrolysis

of Naphtha by a PC Based Computer Simulator”, AIChE Annual Meeting, Nov. 7, 2001, Nevada, USA.

62. M. Sadrameli, H. Manafzadeh, **J. Towfighi**, “Fouling by Physical Condensation by Heavy Hydrocarbons in the Transfer Line Exchanger”, Heat Exchanger Fouling – Fundamental Approaches & Technical Solutions, 8- 13 July 2001, Davos, Switzerland.
63. M. Sadrameli, **J. Towfighi**, P. Shokuhi, “Shadow Effect Minimization in the Thermal Cracking Reactor Coils by Variable Cross Section”, ISTP 12, Istanbul, Turkey.
64. R. Mehrabi, **J. Towfighi**, "Improvement of RDC Operation in Lube Oil Industry "Proceeding of Jordan International Chemical Engineering Conference III, 1999, 27-29 Sep, Amman, Jordan.
65. **J. Towfighi**, R. Karimzadeh, "Development of a Mechanistic Model for Pyrolysis of Naphtha", APCCHE / CHEMECA, 93, 1993, Melbourne, Australia.
66. **J. Towfighi**, H. Nazari, "Simulation of Light Hydrocarbons Pyrolysis Using Radical Mechanism", APCCHE / CHEMECA 93, 1993, Melbourne, Australia.

### **Reviewer of Scientific Journal :**

- 1- Industrial and Engineering Chemistry
- 2- Hydrogen Energy
- 3- Science of Advanced Materials
- 4- Fuel Processing Technology
- 5- Asia-Pacific Journal of Chemical Engineering
- 6- Journal of Analytical and Applied Pyrolysis
- 7- Korean Journal of Chemical Engineering
- 8- Scientia Iranica(Sharif University of Technology)
- 9- Iranian Journal of Chemistry and Chemical Engineering
- 10- Iranian Journal of Chemical Engineering(Iranian Association of Chem. Eng.)
- 11- Higher Education Buletin(NOET&IRPHE)
- 12- Engineering Education Journal(Iran Academy of Science)
- 13- Journal of association of educational research
- 14- Chemical Engineering Communication

**Patents:**

- 1- S. Tazarv, **J. Towfighi**, Synthesis of Ni/Mo Core-shell Nano Catalysts on clay support, **Iran Patent**, No. 79354, 1392/02/10
- 2- A. Mohamadaizadeh, **J. Towfighi**, A. Rashidi, " Hybrid Nano Sorbent", **US Patent No.: US 2011/0168018 A1, Jul. 14, 2011**
- 3- K. Keyvanloo, **J. Towfigh**, M. Mohamadalizadeh, "Carbon Nanotube Catalyst for Olefin Production", **US Patent** No. 2010/0317909 A1, Dec. 16, 2010
- 4- A. Mohamadalizadeh, A. Rashidi, **J. Towfighi**, A. Mohajeri, M. Rezapur, Kh. Juzani, M. Vahidi, " Nano Catalyst and Sulfur Removal Process, **Iran Patent**, No. 67823, 1389/09/20
- 5- A. Mohamadalizadeh, A. Rashidi, **J. Towfighi**, A. Mohajeri, M. Manteghian, "Hybrid Nano Sorbent", **Iran Patent** No. 61501, 2009
- 6- A. Shamkhali, M.R. Omidkhah, **J. Towfighi**, M.R. Jafari Nasr, " Synthesis Gas Production Using GHR Reactor and Pressure Furnace", **Iran Patent** No. 59493, 2009
- 7- A. Shamkhali, M.R. Omidkhah, **J. Towfighi**, M.R. Jafari Nasr, " Design and Manufacture of GHR with Free Expansion of Tubes without Leakage of gases from Shell and Tubes", **Iran Patent** No. 61303. 2009

**Books:**

**J. Towfighi**, "Chemical Reactor Design", E. B. Nauman, Tarbiat Modarres Univ.Press, 1994, (Translation)

### **Awards:**

- Distinguished Faculty Member, Tarbiat Modares University, 2015
- Distinguished Researcher, Tarbiat Modares University, 2013
- Distinguished Researcher, Tarbiat Modares University, 2006, 2007, 2008
- First winner of Iranian Oil Industries Innovations Award for “**Design and Setup of Olefin Furnace Pilot Plant and Developing Software for Simulation of Thermal Cracking Reactors**”, Tehran, 2003
- Distinguished Faculty Member, Tarbiat Modares University, 1996
- Distinguished Faculty Member, Cross- National, 1997

### **Membership & Scientific Positions:**

- Member National Higher Education Committee, National YUNESCO Commission I. R. IRAN, 2016.....
- Member Research Council Institute for International Energy Studies, from 2012
- Associate Member of Academy of Sciences Islamic Republic of Iran, from 2011
- Member Engineering Committee, Iranian National Science Foundation, INSF, 2010-2011
- Secretary Scientific Committee, 6<sup>th</sup> International Chemical Engineering Congress, Kish Island, Iran, Nov. 2009
- Head Scientific Committee, Iran Third Gas Conference, Oct. 2009-08-23
- Member of Scientific Committee, 12<sup>th</sup> Congress of University, Industry and Government Collaboration for National Development, 2008
- Member of the Editorial Board, Journal of University and Industry, from 2008
- Member of the Editorial Board, “Nameh Amuzeshe Ali” Journal, from Nov. 2008
- Head Scientific Committee of 3<sup>rd</sup> Conference on Technology Development in Oil Industries, 2007-2008



- Member of The Steering Committee of Engineering Education Conference, University of Teheran, from May 2008
- Member of the Board of Incubator, National Institute of Genetic Engineering and Biotechnology, from 05.May.2008
- Editor-In-Chief Journal of Chemistry and Chemical Engineering, from April 2008
- Head of Scientific Committee, 11<sup>th</sup> Congress of Chemical Engineering( International), Kish Island, 3-5 January 2008
- Member editorial board higher education letter journal , from 2007
- Member of National Committee of Higher Education, Affiliated to National Commission of UNESCO, from 2006
- Member of Editorial Board, International Journal of Science & Technology, from 2007-07-03
- Member of The Strategic Planning Committee for the Advanced Science & Technology Center, Isalmic Azad University, from 2007-05-07
- Member of Evaluation Committee for academic staff, National Petrochemical Industries Company, from 2007-05-15
- Chief Scientific Committee of 11<sup>th</sup> National Chemical Engineering Congress, Nov. 2006
- Chief Scientific Committee of 3<sup>rd</sup> National Conference on Technology Development in The Oil Industries, Management & Planning, Dec. 2007
- Member of Research Council National Iran Gas Company, from 2006
- Editor– in-Chief, Journal of Science and Technology Parks & Incubators ( Roshd-e-Fanavari, from 2006
- Advisor to Secretary of Supreme Council for Cultural Revolution, from 2006
- Member of Editorial board, Iranian Journal of Chemistry & Chemical Engineering, from 2006
- Member of Permanent Committee affiliated to the Board of Trustees of Tarbiat Modares University, from 2006-2011
- Member of the Evaluation Committee of the School of Engineering, Tarbiat Modares University, from 2006.
- Member of Advisory Committee, Affiliated to Supreme Council for Cultural Revolution, 1997-2003
- Editor- in- chief : Iranian Journal of Chemical Engineering - From 2000

- Member of Editorial Board , Sharif Journal of Science and Technology
- Member of Editorial Board , Journal of Research and Planning in Higher Education 1999-2006
- Member of Editorial Board, “Journal of Research on Science and Engineering of Petroleum”, Research Institute of Petroleum Industry, from 2002
- Member of “Iranian Biotechnology Society”
- Member of “Iranian Chemical Engineering Society”
- Member of the Board of Trustees of Tehran University from 2002-2010
- Member of the “Cultural and Scientific Evaluation Board” affiliated to Supreme Council for Cultural Revolution from 2002
- Member of board of Referees in the 8<sup>th</sup> National Congress of Chemical Engineering Mashad University, Mashad, 2002
- Member of board of Referees for the 7<sup>th</sup> National Congress of Chemical Engineering, Tehran University, Tehran, 2001
- Member of board of Referees and Member of Scientific Committee in the 5<sup>th</sup> National and 4<sup>th</sup> International Congress of Chemical Eng., Shiraz University, Shiraz, 2000
- Member of board of Referees for the 4<sup>th</sup> National Congress of Chemical Engineering Sharif University, Tehran, 1998
- Member of board of Referees for the 2<sup>nd</sup> National Congress of Chemical Engineering Amir Kabir University, Tehran, 1996
- Member of Scientific Committee in the First National Congress of Chemical Engineering Tarbiat Modares University, Tehran, 1994

### **Papers & Seminars in the field of Higher Education, Science & Technology:**

- 1- Kh. Abili, **Jafar Towfighi Dariyan**, Saeed Khodamoradi, Lotfali Jabbari, “Structural requirements for auditing educational and research processes (Case Shahed University)”, Iranian Journal of Management Studies, Vol. 9, No. 2, Spring 2016, pp. 287-304

- 2- M.M. Moghadam, S.S. Ghazinoori, **J. Towfighi**, S. Elahi, "Technological learning in the oil industry: a case study of development phases of South Pars gas field" , Science & Technology policy, summer 2015
- 3- **J. Towfighi**, N. Nurshahi, "Strategies For Strengthening the University- industry collaboration in Iran", Iranian Journal of Engineering Education ,23 May 2012
- 4- **J.Towfighi**, " National Training Workshhop on Innovative Concepts and System of Lifelong Learning" Tehran, IR of Iran, 11 to 14 Feb 2013
- 5- **J. Towfighi**, N. Nurshahi, M. Farastkhah, " Analysis of Relationship between Defense and Higher Education Systems based on key Informants' points of view" **Journal of Defense Strategy Quarterly**, Vol. 10, No.36, Spring 2012 ( In Persian)
- 6- **J. Towfighi**, N. Nurshahi, " Industry-University collaboration in Iran in National Innovation System", Seminar: The role of universities in human resource development, Iran Academy of Sciences, Spring 2012
- 7- **J. Towfighi**, H. Javdani, " Interdisciplinary Courses: Concepts, Approaches, Geneology and Typology", **Journal of Interdisciplinary Studies in the Humanities**, Vol. 1, No.1, Winter 2009 ( In Persian)
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