

# **REZUME**

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

Last Up date: 3 March. 2018

### **Personal:**

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

### **Contact:**

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Department of Chemical Engineering  
Faculty of Engineering  
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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

- Head of Office for Technology Development and Innovation in Oil and Gas Industries, Vice presidency of Science and Technology, 2013 - 2017
- 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 Naphtha 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 Thermal-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. Hamedi, **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. Parvizsedghi, 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. Parvizsedghi, 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. Omidkhah, **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 NO<sub>x</sub> 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 Disel 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 Crisitalization 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:

- ۱- امانی پور، مهدی، توفیقی، جعفر، گنجی باباخانی، انسیه. (۱۳۹۶). 'عملکرد غشاهای کامپوزیت سرامیکی در تولید و خالص سازی هیدروژن در راکتورهای ریفرمینگ بخار', فصلنامه علمی ترویجی فرآیند نو، ۱۲(۵۹)، pp. 134-143.
- 2- M. S. Moghaddam and J. Towfighi, "Vanadium Oxide Supported on Al-modified Titania Nanotubes for Oxidative Dehydrogenation of Propane," Journal of Chemical and Petroleum Engineering, vol. 51, no. December, pp. 113–121, 2017.
- 3- N. Abdoust, A. Akbari, M. Omidkhah, **J. Towfighi Darian**, "Optimization of Micro Kinetics Parameters of Oxidative Desulfurization Processes of 4,6-Dimethyl Dibenzothiophene with Ultrasound Waves and without Ultrasound Waves from Model Diesel", Journal of Petroleum Research, Vol. 26, 95-2, 2016, Page 52-63
- 4- 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
- 5- 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
- 6- F. Kalantar Kohdami, **J. Towfighi Daryan**, H. Nemat 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

- 7- 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
- 8- 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
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### **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
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### **Patents:**

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### **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, 2012-20`14
- 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 2006-2013
- 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 -2010
- 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)
- 8- H. Javdani, **J. Towfighi**, "Structures, Processes and Factors affecting the Development of Interdisciplinary Courses", **Journal of Interdisciplinary Studies in the Humanities**, Vol. 2, No. 1, Winter 2009 (In Persian)

- 9- E. Azargashb, H. R. Arasteh, Z. Sabaghian, **J. Towfighi**, “ Functions of the Boards of Trustees in Public Universities Affiliated to Ministry of Science, Research and Technology”, **Journal of Research and Planning in Higher Education**, Vol. 13, No. 4, 2008 (In Persian)
- 10- H. Javdani, **J. Towfighi**, M. Ghazi Tabatabaee, M. H. Pardakhtchi, “Investigation of Management of Higher Education System from Senior Managers viewpoint”, **Journal of Research and Planning in Higher Education**, Vol. 14, No. 2, Summer 2008 ( In Persian)
- 11- E. Azargashb, H. R. Arasteh, Z. Sabaghian, **J. Towfighi**, “Investigation of The Functions of the Boards of Trustees and their Role in Autonomy of public Universities from the Viewpoint of the Member of the Boards and University Council”, **Journal of Development Steps in Medicine Education**, Vol. 4, No. 1, 2007 ( In Persian)
- 12- **J. Towfighi**, “ The Role of Science and Technology Parks and Incubators in Quality Enhancement of Higher Education”, AUA/COE-GIAN-DAAD Conference: Knowledge and Technology Management in Information Society, Yerevan, Armenia, 27-28 Aug. 2008
- 13- **J. Towfighi**, “Necessity for Quality Enhancement in Iran Higher Education”, 3<sup>rd</sup> Conference on Internal Evaluation of Quality in Universities, University of Tehran, 29.oct.2007
- 14- **J. Towfighi**, “ The Role of Science and Technology Parks and Incubators in Quality Enhancement of Higher Education”, 4<sup>th</sup> International GIAN Conference, Tehran, 2007-09-07
- 15- **J. Towfighi**, “ Pathology of University – Industry Relationship”, **Iranian Journal of Engineering Education** , Iran Academy of Science Vol. 9, 36, 2007 (In Persian)
- 16- **J. Towfighi**, “ The New Regulations for PhD courses: The Reasons & Justifications”, Conference on Investigation of Domestic PhD Courses, IRPHE, Tehran, 16.May.2007
- 17- **J. Towfighi**, “ Pathology of Industry – University relationship”, The 3<sup>rd</sup> International and 10<sup>th</sup> National Congress on Government, University & Industry Cooperation for National Development, Dec. 2006, Tehran
- 18- M. K. Eghbal, M. J. Sedigh, M. Keshmiri, **J. Towfighi**, “ The Development of Science and Technology Parks and Incubators in Iran”, IASP Asian Division Conference, ASPA 10<sup>th</sup> Annual Conference, 3<sup>rd</sup> Iranian National Conference on Science & Technology Parks, 17-19 September 2006, Isfahan, Iran
- 19- **J. Towfighi**, Y. Entezari, “ Emerging Global Knowledge Economy & Necessity of Renovating Iran’s Economy of Knowledge”, Second Scientific Seminar, Iran Scientific Development Society, Tehran, 2006
- 20- **J. Towfighi**, A. Davari, M. Farasatkah, Najafian, “ Quality and Relevance of Iran Higher Education”, Quality and Relevance in Higher Education, Local and Global Perspective Workshop, Institute for Socio-Cultural Studies, Germany, 2006.

- 21- **J. Towfighi**, N. Nurshahi, “Necessity of Quality Assurance System in Higher Education”, 51<sup>th</sup> Summit of University Chancellors, 2005.
- 22- **J. Towfighi**, M. Gharoon, “Status of Human Resources in Iran and Strategies to Prevent its Wasting”, 2<sup>nd</sup> Seminar on Preventing Human Resources Wasting”, Academy of Science of Islamic Republic of Iran, 2005.
- 23- **J. Towfighi**, M. Gharoon, “ A review on Higher Education Expenses in Iran and in the World”, Seminar on Financial Issues of Higher Education in Iran”, Academy of Science of Islamic Republic of Iran, 2003.
- 24- **J. Towfighi**, M. Farasatkah, “ Structural Prerequisites for Scientific Development of Iran”, Journal of Research and Planning in Higher Education, No. 25, No.3, Autumn, 2003.
- 25- **J. Towfighi**, M. Farasatkah, “ Fundamentals of Scientific development in the World and its Historical Abstacles in Iran”, Proceeding of 47<sup>th</sup> Summit of University and Research Centers’ Chancellors, Isfahan Industrial University, 2003.
- 26- **J. Towfighi**, Y. Entezari, “ Strategies of Ministry of Science, Research and Technology for Sustainable Development”, 4<sup>th</sup> Biennial Congress of Iran Association of Environment, Tehran, 2003.
- 27- **J. Towfighi**, M. Farasatkah, “University, Islamization Discourse and some Unanswered Questions”, 44<sup>th</sup> Summit of University Chancellors, Sharif University, 2002.
- 28- **J. Towfighi**, M. A. Ghaneei Rad, “ Educational Policies for Enhancement of Effectiveness of Scientific System in the Country”, Proceeding of Science and Technology: Future and Strategies Congress, Vol. 2, Tehran, 2001.