CURRICULUM VITAE

April 16, 2024

Mohammad Haghighi, PhD

Professor of Chemical Engineering
Founding Director of Reactor & Catalysis Research Center
Sahand University of Technology

Personal Information:

Name: Mohammad Surname: Haghighi Parapari Date of Birth: 03 June 1969

Place of Birth: Azarshahr, East Azarbaijan, Iran

Nationality: Iranian

Married, Having a son and a daughter

• Address:

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Iran

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Research Media:

ResearcherID: http://www.researcherid.com/rid/O-1200-2013

Scopus: https://www.scopus.com/authid/detail.uri?authorId=35237013100

ORCID: https://orcid.org/0000-0001-6683-097X

Google Scholar https://scholar.google.se/citations?user=zXkQPnkAAAAJ&hl=en https://www.researchgate.net/profile/Mohammad_Haghighi5

Web:

Academic (Sahand University of Technology): https://fache.sut.ac.ir/ShowStaffDetails.aspx?ID=9

Reactor and Catalysis Research Center (SUT): https://rcrc.sut.ac.ir/people/members/current/haghighi/index.htm

Personal (SUT): http://staff.sut.ac.ir/haghighi/

Education:

2003-2007: PhD, Chemical Engineering, Curtin University of Technology, Perth, WA, Australia.

Thesis: Catalytic Partial Oxidation of Methane for Direct Conversion of Natural Gas to Methanol

1992-1995: M.Eng., Chemical Engineering, Isfahan University of Technology, Isfahan, Iran.

Thesis: Simulation of Multicomponent Reactive Distillation

1988-1992: B.Sc., Chemical Engineering, Shiraz University, Shiraz, Iran.

Research Project: Temperature Distribution in Fins and Calculation of Heat loss

• Research Interests:

Reaction Engineering: Nano-Catalysts and Reactor Design

Nano Materials Synthesis and Characterization Natural Gas and Carbon Dioxide Utilization

Green Fuels

Environmental Engineering: Air & Water Pollution Control and Treatment

Creative Education & E-Learning

• Language Skills:

English, Persian, Turkish

• Professional Experience:

- **2022-2023:** Vice Chancellor for Education and Postgraduate Studies, Sahand University of Technology, Sahand New Town, Tabriz, Iran.
- **2019-2022:** Head of Supervision, Evaluation and Quality Assurance, Sahand University of Technology, Sahand New Town, Tabriz, Iran.
- **2007-Date:** Founding Director of Reactor & Catalysis Research Center, Sahand University of Technology, Sahand New Town, Tabriz, Iran.
- **2016-Date:** Professor, Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.
- **2016-2018:** Secretary of Vice Chancellors of Zone-III Financial Affairs, Ministry of Science, Research and Technology, Tehran, Iran.
- **2010-2018:** Vice Chancellor of Financial Affairs, Sahand University of Technology, Sahand New Town, Tabriz, Iran.
- **2011-2016:** Associate Professor, Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.
- **2007-2011:** Assistant Professor, Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.
- 2014-2016: Catalyst Consultant of Farayand Gostar Tamin Co., Tabriz, Iran.
- **2007-2010:** Chair of Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.
- **2003-2007:** Researcher Assistant, Center for Fuel and Energy, Curtin University of Technology, Perth, WA, Australia.
- **2003-2007:** Ph.D. Student, Chemical Engineering Department, Center for Fuel and Energy, Curtin University of Technology, Perth, WA, Australia.
- **2000-2003:** Researcher, Environmental Engineering Research Center, Sahand University of Technology, Sahand New Town, Tabriz, Iran.
- **1999-2003:** Manager of Administrative Affairs, Sahand University of Technology, Sahand New Town, Tabriz, Iran
- **1997-2003:** Researcher, Reactor & Catalysis Research Center, Sahand University of Technology, Sahand New Town, Tabriz, Iran.
- **1995-2003:** Academic staff, Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

• Professional Memberships:

- **2015-Date:** Iranian Chemistry Society, ICS, Member.
- **2014-Date:** The East Azarbaijan Nanotechnology Initiative Council, Member.
- 2014-Date: The East Azarbaijan Oil & Gas Down Stream Initiative Council, Member.
- **2019-Date:** International Solar Energy Society, ISES, Member.
- 2011-Date: American Nano Society, Member.
- **2007-Date:** Australasian Association for Engineering Education, A2E2, Member.
- 2007-Date: The Combustion Institute, CI, Member.
- **2007-Date:** The Iranian Nanotechnology Initiative Council, Member.
- 1997-Date: Reactor & Catalysis Research Center, RCRC, Founding Director.
- 1995-Date: Associate Professor of Chemical Engineering Faculty, Sahand University of Technology.
- 2002-Date: Iranian Association of Catalysis, IAC, Member.

1999-Date: Iranian Association of Chemical Engineers, IAChE, Member.

2006-2010: Australian Institute of Energy, AIE, Member.

2000-2007: Environmental Engineering Research Center, EERC, Member.

2003-2007: Centre for Fuels and Energy, CFE, Curtin University of Technology, Member.

2004-2007: Australian Society for Computers in Learning in Tertiary Education, ASCILITE, Member.

2001-2002: Iranian Chemistry and Chemical Engineering Society, ICCES, Member.

Teaching Experience:

Industrial Reactor Design (2008-Date): PhD course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Development and Commercialization of Innovative Industrial Catalysts

(2014-Date):

PhD course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Heterogeneous Catalysis (2007-Date): MSc course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

MSc course, Chemical Engineering Faculty, Sahand University of Advanced Reactor Design (2007-Date):

Technology, Sahand New Town, Tabriz, Iran.

Innovative Process for Light Olefins

Production (2013-2014):

PhD course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Green Fuels (2013-2014): PhD course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Catalysts (2012-2013):

Forming and Shaping of Heterogeneous PhD course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Synthesis and Characterizations of

Aerogels and their Potential

Applications (2010-2011):

PhD course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Ultrasound Assisted Synthesis of

Nanocatalysts (2009-2010):

PhD course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Plasma Assisted Synthesis of

Heterogeneous Catalysts (2008-2009):

PhD course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Kinetic and Reactor Design:

(1996-2001 and 2007-2010)

BSc course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Process Control: BSc course, Chemical Engineering Faculty, Sahand University of

(1998-2000 and 2010-2011): Technology, Sahand New Town, Tabriz, Iran.

Engineering Software (2007-2008): BSc course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Unit Operation I (1999-2003): BSc course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Mass and Energy Balance (2000-2003): BSc course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Unit Operation Laboratory (1999- BSc course, Chemical Engineering Faculty, Sahand University of

2002): Technology, Sahand New Town, Tabriz, Iran.

Petrochemical Processes (1996-2001): BSc course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Heat Transfer Laboratory (1996-1999): BSc course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Petrochemical Processes II (1996-1999): BSc course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Petrochemical Processes I (1995-1999): BSc course, Chemical Engineering Faculty, Sahand University of

Technology, Sahand New Town, Tabriz, Iran.

Thesis Supervision:

PhD Students:

Salman Hajian Ghayemi (2020-Date):

(Supervisor)

"Proposal Preparation", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Hatam Mohammadi (2018-Date):

(Supervisor)

"Proposal Preparation", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Hessam Addin Nadernia (2018-Date):

(Supervisor)

"Synthesis of MgSn(OH)6 Nanophotocatalyst Composited with Silver-based Semiconductor/Carbon Material and Performance Evaluation in Rhodamine-B Removal from Polluted Water under solar spectrum range", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Ensie Bekhradinassab (2020-Date):

(Co-supervisor)

"Proposal Preparation", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Alireza Badi Sar (2019-Date):

(Co-supervisor)

"Evaluation of Hybrid Process of Atmospheric Dielectric Barrier Discharge Plasma Jet Enhanced with Catalyst for Elimination of Antibiotic Contaminant", Faculty of Basic Sciences, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Azadeh Talati (2015-Date):

(Supervisor)

"Single-Step Synthesis of Ag-ZnAl2O4 Nanophotocatalysts via Combustion-Microwave Method (Microwave Irradiation) for Photocatalytic Removal of Azo Acid Orange 7 from Aqueous Solutions under Simulated Solar Light", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Reza Shokrani (2015-2021):

(Supervisor)

"Nanostructured Ca/ZSM-5 Catalyst for biodiesel production from edible oil", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Seyed Mehdi Sajjadi (2014-2019):

(Supervisor)

"Synthesis of Ni-Co-W-K/Al2O3 Nanocatalysts by Sol-Gel-Plasma Method and their Evaluation for Combined Dry Reforming and Partial Oxidation of Methane", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Maryam Shabani (2016-2019):

(Supervisor)

"Synthesis of Bi_xO_vCl_z Composite Nanophotocatalyst using Combustion Method and Evaluation of its Performance under visible-light irradiation for Degradation of Antibiotic Ofloxacin from Aqueous Solutions", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz,

Mahdi Zarrabi (2013-2018):

(Supervisor)

"Ultrasound-Assisted Synthesis of Zinc-Based Nanophotocatalysts over Graphene Oxide for Degradation of Methylene Blue from Water", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz,

Behzad Ebadynezhad (2014-2021):

(Supervisor)

"Synthesis and Evaluation of Secondary Templated and Ultrasound Modified Pseudo-Zeolite SAPO-34 as Ceria-Based Nanostructured Catalyst for Biodiesel Production", Chemical Engineering Faculty, Sahand University of Technology, Sahand

New Town, Tabriz, Iran.

Sogand Aghamohammadi (2013-2019):

(Supervisor)

"Methanol to Light Olefins via Fluidizable Nanostructured Particles of SAPO-34 Used in Fluidized Bed Reactor", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Saeed Mahzoon (2013-2019):

(Co-supervisor)

"Application of Transition Metals in Photocatalytic Production of Hydrogen", Chemical Engineering Faculty, Ferdowsi University of Mashhad, Mashhad, Iran.

Parisa Sadeghpour (2013-2018):

(Supervisor)

"Synthesis of Me-ZSM-5(Me= Ni, B) Nanostructured Catalysts in High Temperature Used for Conversion of Methanol to Propylene", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Behgam Rahmani Vahid (2013-2017):

(Supervisor)

"Utilization of Combustion and Plasma Technologies in the Synthesis of MgAl2O4 Supported Nanostructure Catalysts for Biodiesel Production", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Sahar Dehghani (2012-Date):

(Supervisor)

"Sono-Dispersion of Ca & Mg on MCM-41 Based Nanocomposites for Biodiesel Production from Waste Oil", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Parisa Taghavinezhad (2012-2018):

(Supervisor)

"Ethylene Production via Oxidative Dehydrogenation of Ethane on the MgO Based Nanostructure Composite", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Hossein Ajamein (2012-2016):

(Supervisor)

"Synthesis of Nanostructured Copper Based Catalysts Using Microwave Assisted Combustion Method for Production of Fuel Cell Grade Hydrogen via Steam Methanol Reforming Process", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Sona Jamshidi (2012-2016):

(Co-supervisor)

"Preparation of Nanostructure Palladium-Silver Composite Membranes and their Performance in Membrane Reactors for Pure Hydrogen Production in Methane Autothermal Reforming Process", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Farhad Rahmani (2010-2016):

(Supervisor)

"Preparation and Characterization of Zeolite Supported Nanocatalysts for Dehydrogenation of Ethane in the Presence of CO2", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Kamran Ghasemzadeh (2011-2015):

(Advisor)

"Fabrication of Nanostructured Silicate Membrane and its Performance Study as a Membrane Reactor for Production of Hydrogen via Steam Reforming of Methanol", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Maryam Saket (2012- 2014):

(Advisor)

"Synthesis and characterization of composites as nano TiO2 and nano CdS - metalosilicates and investigation of their photocatalytic activity in water splitting", Inorganic Chemistry Department, Faculty of Chemistry, University of Tabriz, Tabriz, Iran.

Somayeh Allahyari (2009-2014):

(Supervisor)

"Synthesis of Nanostructured Catalysts for Conversion of Syngas to Dimethyl Ether in a Microreactor", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Behruz Bayati (2010-2013):

(Co-supervisor)

"Preparation, Characterization and Performance Evaluation of Membrane Reactors in Normal Pentane Isomerization Using Nanostructure Catalytic MFI Zeolite Membrane", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Nader Rahemi (2008-2013):

(Supervisor)

"CO₂-Reforming of Natural Gas over Innovative Catalysts Prepared via Plasma Technology", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Baharak Divband (2007-2012):

(Advisor)

"Heterogeneous Photocatalytic Degradation of 4-Nitrophenol in Aqueous Suspension by Ln (La3+, Nd3+ or Sm3+) Doped ZnO Nanoparticles", Inorganic Chemistry Department, Faculty of Chemistry, University of Tabriz, Tabriz, Iran.

Mohammad Ghadiri (2009-2011):

(Advisor)

"Synthesis of Novel Catalysts on the Bases of Ferrisilicate and Study of Regeneration of Used Industrial Catalysts on the Bases of Iron Oxide and Catalytic Performance of Them in Ethylbenzene Dehydrogenation Process", Inorganic Chemistry Department, Faculty of Chemistry, University of Tabriz, Tabriz, Iran.

Arash Rahimi (2006-2011):

(Advisor)

"Development of Optimal Kinetic Model of HCCI Combustion of n-Heptane and Natural Gas Mixture for prediction of their Combustion, Performance and Pollution Considerations", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Keyvan Shayesteh (2007-2010):

(Co-supervisor)

"Influence of Effective Parameters of Mixing on Solid State Reactions in Vibration Mill", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

MSc Students:

Navid Gorouhi (2020-Date)

(Supervisor)

"Proposal Preparation", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Rana Delsalem (2020-Date)

(Supervisor)

"Proposal Preparation", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Carus Almasi Jaf (2020-Date)

(Supervisor)

"Proposal Preparation", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Amir Haghighi (2020-Date)

(Supervisor)

"Proposal Preparation", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Iman Ghasemi (2019-Date)

(Supervisor)

"Proposal Preparation", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Fatemeh Yousefi (2019-Date)

(Supervisor)

"Synthesis of AgmMonOz-Based Meso-Structure Nanophotocatalysts with Plasmonic Property and Active in Sun Spectrum for the Degradation of Organic Contaminant from Polluted Aqueous Solution", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Alireza Bateni (2019-Date)

(Supervisor)

"Synthesis and Performance Evaluation of Hybrid BiOBrCl-Based Solid Solutions with Activated Optical Property in the Range of the Sun Spectrum for the Photocatalytic Removal of Organic Pollutant from Aqueous Solutions", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Mehrdad Esmaeili (2019-Date)

(Supervisor)

"Synthesis of BiOCCOH-Based Nanostructure Composites as Heterojunction and Determination of Active Species Participated in the Degradation of Organic Contaminant under Simulated Solar Light", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Fatemeh Chapari (2018-Date)

(Supervisor)

"Investigation of organic contaminant degradation in polluted aqueous solutions using CeO2-based heterojuncted nanophotocatalysts with activated optical property in solar light spectrum", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Nazanin Mikaeeli (2018-Date)

(Supervisor)

"Evaluation of photocatalytic removal of dye pollutants from synthetic aqueous solution under solar light region using AgBrxCl1-x-based solid solution nanophotocatalysts", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Amin Sokhansanj (2018-Date)

(Supervisor)

"Photo-degradation of organic pollutant in aqueous solutions by applying modified sunlight region active bismuth subcarbonate nanophotocatalyst", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Alireza Ebrahimi (2018-2021)

(Supervisor)

"Ultrasound-Assisted Synthesis of Zinc-Based Nanophotocatalysts over SAPO-34 Zeotype for Methylene Blue Degradation in Aqueous Solution Under Solar Light Irradiation", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Mahdiyeh Mohammadzadeh (2018-2020)

(Supervisor)

"One-pot sono-solvothermal synthesis of meso-structured (BiOCOOH)_x(Bi₂MoO₆)_{1-x} nanophotocatalysts and evaluation of their performance in degradation of fluoroquinolone antibiotic pollutant under solar spectrum range", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Mehdi Mohammadpour (2017-2019)

(Supervisor)

"Influence of Fuel Types on Microwave Combustion Synthesis of Layered MgO/Ca₂Mn₃O₈ Nanocatalyst for Biodiesel Production", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Zahra Abdollahizadeh (2017-2019)

(Supervisor)

"Synthesis of Co-Cr- NO₃ Layered Double Hydroxide Composite Nanophotocatalysts-Based and Evaluation of their Performance in Degradation of Organic Pollutants from Aqueous Solutions under Solar Light Irradiation", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Ataollah Niyati (2017-2019)

"Purification of Effluent Polluted to Acid Orange 7 using

(Supervisor)

Neda Vardast (2017-2020)

(Supervisor)

Ebrahim Abbasi Asl (2016-2018)

(Supervisor)

Hossein Naghavi (2016-2018)

(Supervisor)

Shalaleh Gholizadeh Fard (2016-2018)

(Supervisor)

Niloofar Mohseni (2016-2018)

(Supervisor)

Behzad Asefi Zanjani (2016-Date)

(Supervisor)

Hanieh Fallahi Motlagh (2016-2018)

(Supervisor)

Sina Yousefi (2015-2017)

(Supervisor)

Ali Ghalajkhani (2015-2018)

(Supervisor)

Shirin Heydari (2015-2017)

(Supervisor)

Tohid Amani (2015-2017)

(Supervisor)

Nanostructured $Bi_4O_5I_2$ -AgCl Photocatalyst with Plasmonic Property and Active in Solar Light Region", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Synthesis of Bifunctional Ce-ZnO Nanocatalysts to Facilitate the Diffusion in Biodiesel Production from Waste Cooking Oil", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Synthesis of BiOI/MgAl2O4 Heterojunction Nanophotocatalyst for Methylene Blue Degradation in Aqueous Solution", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Influence of Synthesis Method on Physicochemical Properties and Performance of Magnetic MgO/MgFe₂O₄ Nanocatalyst in Biodiesel Production from Sunflower Oil", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Synthesis and Performance Evaluation of $(BiOBr)_x(Bi_7O_9I_3)_{1-x}$ Solid Solution Nanophotocatalyst for Photocatalytic Removal of levofloxacin from Aqueous solution", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"One-Pot Sono-Solvothermal Synthesis of $BiOBr_XCl_{1-X}$ Nanophotocatalyst and its Performance in Degradation of Ciprofloxacin in Aqueous Solutions under Visible-Light irradiation", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Synthesis and Characterization of Zinc oxide-Metal Sulfides Nanostructure Composite Photocatalysts used in water treatment", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Synthesis of Nanophotocatalyst Bi₂O₇Sn₂-Bi₇O₉I₃ and its Performance Evaluation in Degradation of Tetracycline Antibiotic", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Effect of Various Fuels on Microwave Assisted Combustion Synthesis of MgO/MgAl2O4 Nanocatalyst Used in Biodiesel Production", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Hydrothermal Preparation of MoS₂-FeZnO Nanophotocatalyst and its Performance in Wastewater Treatment", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Photocatalytic Removal of Pharmaceutical contaminants from Aqueous Solutions over g-C₃N₄/BSO Nanocomposite Supported on Zeolite Y", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Influence of Urea Fuel Ratio on Microwave Enhanced Combustion synthesis of Magnetic MgO/MgFe₂O₄ Nanocatalyst Used in Biodiesel Production", Chemical Engineering Faculty, Sahand University of Technology,

Sahand New Town, Tabriz, Iran.

Maryam Jodeiri (2015-2017)

(Supervisor)

"Evaluation of Photocatalytic Performance of Bulk Nitride Carbon Supported on Clinoptilolite for Removal of Tetracycline Pharmaceutical contaminant from Wastewater", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Samira Ashenaeian (2014-2016)

(Co-Supervisor)

"Non-thermal Plasma Assisted Synthesis of Mo Based Nanocatalysts for Hydrodesulfurization Process", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Maryam Moradi (2014-2016)

(Supervisor)

"On the Performance of Carbon Nanotubes in Zn-Based Nanocomposites for Photocatalytic Wastewater Treatment", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Simin Matloubi Aghdam (2014-2016)

(Co-Supervisor)

"Synthesis and Evaluation of Photocatalytic Performance of BiOI/BiOCI/C3N4 Nanocatalyst for Wastewater Treatment ", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Mina Azami (2014-2016)

(Co-Supervisor)

"Synthesis and Catalytic Performance of Ag-Based Nanocomposites Used in Photocatalytic Treatment of Wastewater", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Leila Yosefi (2014-2016)

(Supervisor)

"On the Performance of BiOI/ZnFe2O4 p-n Heterojunction Nanophotocatalyst Used in Acid Orange 7 Removal From Wastewater", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

2016)

(Supervisor)

Behnam Bagherzadeh Hosseini (2014-"Synthesis of Ceria and Zirconia-Promoted Cu-Based Nanocatalysts via Oxalate Gel Co-precipitation Method Used in Methanol Steam Reforming", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Ali Motevalian Seyedi (2014-2016)

(Supervisor)

"Synthesis of Modified Cu-Based Nanocatalysts by Nonthermal Plasma for Methanol steam Reforming", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Khadijeh Mirza (2014-2016)

(Co-supervisor)

"Preparation of Nanostructure Catalysts for the Process of Methanol-to-Light Olefins (MTO)", Chemical Engineering Department, Urmia University of Technology, Urmia, Iran.

Faezeh Ahmadi (2014-2015)

(Supervisor)

"Effect of Adding ZrO₂ on CuO/ZnO/Al₂O₃ Nanocatalyst Performance Used in Steam Reforming of Methanol", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Alimoradi Hojjatolah (2014-2015)

(Supervisor)

"Sono-Synthesis and Characterization of Ag/Al₂O₃ Nanocatalyst Used in CO Oxidation Process", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Tayyebeh Hosseini (2014-2015)

(Supervisor)

"Hybrid Ultrasound-Coprecipitation Synthesis of Cu-Based Nanocatalysts Used in Methanol Reforming Process", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Mahin Maleki (2014-2015)

(Supervisor)

Payam Margan (2014-2015)

(Supervisor)

Leila Rezaee (2014-2015)

(Supervisor)

Ali Rezaei (2013-2015)

(Advisor)

Maryam Ahmadi (2013-2014)

(Supervisor)

Elmira Asghary (2013-2014)

(Supervisor)

Javad Baneshi (2013-2014)

(Supervisor)

Parastoo Delir Kheyrollahi Nezhad

(2013-2014)

(Supervisor)

Saeed Khajeh Talkhoncheh (2013-2014)

(Supervisor)

Shahab Minaei (2013-2014)

(Supervisor)

Reza Shokrani (2013-2014)

(Supervisor)

Azadeh Talati (2013-2014)

(Supervisor)

"Synthesis and Characterization of Titanium Dioxide-Metal Sulfides Nanostructure Composite Photocatalysts for Hydrogen Production in Water Splitting Process", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Synthesis and Characterization of Titania Composite Nanophotocatalyst Aiming Visible Light Utilization for Hydrogen Production through Water Photoelectrolysis Process", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Investigation of Catalytic Oxidation of Carbon Monoxide over Synthesized Ce_{0.8}Zr_{0.2}O₂/Al₂O₃ Composite Nanocatalyst", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Modeling and simulation of methanol to olefins process in fix bed reactor", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Study on the Role of Bimetallic Nanocatalysts Used for Removal of Air Pollutants", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Evaluation of Multifunctional Nanocatalysts in Production of Light Olefins from Paraffins", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Investigation of Synthesis of CuO-ZnO/Al2O3 Nanocatalysts via Precipitation Method Used in Production of Syngas from Methanol", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Using Ni-based Nanocatalysts in the Oxidative Dehydrogenation of Light Paraffins", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Investigation of the Effect of Various Nanocatalysts on the Performance of Fischer Tropsch Synthesis", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Investigation of CeO2 addition on CuO/Al2O3 Nanocatalyst Used in Steam Reforming of Methanol", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Investigating the Heterogeneous CZA Catalyst Synthesis via Urea-Nitrate Combustion Method", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

"Investigation of the Effects of Applying Combined Supports on the Nanocatalysts Performance of Light Alkanes Dehydrogenation in the Presence of Oxidizing Agents", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Maryam Hosseini (2012-2014)

(Supervisor)

"Toluene Abatement from Polluted air by Sonochemically Synthesized Nanocatalysts over Al2O3/CeO2/Clinoptilolite Composite Support", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

(Co-supervisor)

Ali Mohammad Ghazjahanian (2012-2014) "Optimization of Methanol Production from Methane Using Biological Method in Mixed Bioreactor", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Erfan Aghaei (2012-2013)

(Supervisor)

"Synthesis of Nanostructured CeSAPO-34 Catalyst via High-Temperature Hydrothermal Method and its Characterization for Using in Methanol to Olefins Process", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Sogand Aghamohammadi (2012-2013)

(Supervisor)

"Effect of Mixed Templates in Synthesis of Nanostructured CoAPSO-34 Molecular Sieves used in Methanol to Light Olefins Conversion", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Ali Alizadeh Eslami (2012-2013)

(Supervisor)

"Synthesis of Nanostructured MnSAPO-34 Molecular sieves Using Microwave Irradiation for the Process of Methanol to Light Olefins", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Abolfazl Amoozegar (2012-2013)

(Supervisor)

"Effect of Si/Al Ratio on the Physicochemical Properties of Nanostructured SAPO-34 Catalyst Modified by La Used in the Methanol to Olefins Process", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Parisa Sadeghpour (2012-2013)

(Supervisor)

"Synthesis and Evaluation of Nanostructured MnNiSAPO-34 Catalyst Used in Conversion of Methanol to Olefins", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Mohsen Yazdani (2012-2013)

(Supervisor)

"Synthesis of Nanostructured ZnSAPO-34 Catalyst via Stirred-Hydrothermal Method used for Methanol to Olefins Conversion", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Saeed Saedy (2011-2012)

(Co-supervisor)

"Synthesis and Evaluation of Nanostructured SAPO-34 Zeolite via Ultrasound Assisted Hydrothermal Method", Engineering Faculty, Tarbiat Modares University, Tehran, Iran.

Seyed Reza Yahyavi (2011-2012)

(Supervisor)

"Modeling of Dry Reforming of Methane Process Based on Nanostructured Ni-Co/Al2O3-MgO Catalysts Considering Magnesia Role in Catalytic Performance", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Mahdi Sharifi (2011-2012)

(Supervisor)

"Synthesis and Characterization of Al2O3-ZrO2 Supported Nanocatalysts Using Sol-Gel Method and Their Catalytic Performance Comparison to Impregnated Catalysts in Dry Reforming of Methane", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Seyed Mehdi Sajjadi (2011-2012)

(Supervisor)

"Synthesis of Nanostructured Co and Cu Doped Ni/Al2O3 Catalysts Using Sol-Gel Method and Their Evaluation toward Syngas Production", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Seyed Jamal Hassani Rad (2011-2012)

(Supervisor)

"Synthesis and Characterization of Nanostructured Al2O3-CeO2 and Al2O3-MgO Supported Catalysts Using Sol-Gel Method and Their Catalytic Performance Comparison to Impregnated Catalysts in Dry Reforming of Methane", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Shima Bahrampour (2011-2012)

(Advisor)

"Design of Suitable Bioreactor for Biotreatment of BTX from Waste Gas Streams", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Mohammad Khoshbahari (2011-2012)

(Advisor)

"Modeling of VOC removal from Petrochemical waste water by dissolved air floatation in bubble column", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Majid Amereh (2011-2012)

(Supervisor)

"Synthesis of Nanostructured Pt/Clinoptilolite-CeO2 catalysts using Acid Treatment and Precipitation-Ultrasound Methods for Abatement of Toluene from Polluted Air", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

(Advisor)

Shamimsadat Esmaeilnezhad (2010-2011) "Removal of VOCs From Petrochemicals Wastewater using Dissolved Air Flotation", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Yaser Vafaeian (2010-2011)

(Supervisor)

"Synthesis and Evaluation of nano catalysts supported by ZSM-5 using ultrasound energy methods to use in dry reforming of methane", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Mojtaba Charghand (2010-2011)

(Supervisor)

"Synthesis of SAPO supported nanocatalysts via hydrothermal methods", Chemical and ultrasound Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Bahman Khabiri (2010-2011)

(Co-supervisor)

"Synthesis, Characterization and Catalytic Performance of SAPO-34 & MnSAPO-34 in MTO Process", School of Chemical Engineering, Iran University of Science and Technology, Tehran, Iran.

Parisa Jabbarnezhad (2010-2011)

(Supervisor)

"Synthesis and Characterization of Supported Nanocatalysts on ZrO2-Al2O3 as Hydrodesulfurization Catalyst", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Mitra Ebrahimynejad (2010-2011)

(Supervisor)

"Evaluation of Performance of Fluorine and Phosphorus on Hydrodesulfurization Nanocatalysts", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Reza Khoshbin (2009-2011):

(Supervisor)

"Synthesis of Copper and Zinc Oxide Nanocatalysts Based On HZSM-5 Support for Direct Conversion of Synthesis Gas to Dimethyl Ether", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Nima Mohammadi (2009-2011):

(Supervisor)

"Synthesis α f Pd-Cu/Alumina Nanocatalyst via Sonochemistry Method", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town,

Tabriz, Iran.

Mohsen Parvas (2009-2011):

(Supervisor)

"Synthesis of transition metals over Ceria-Zirconia Nano catalysts using ultrasound methods and their application in the wet air oxidation process", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Solmaz Sadeghi (2009-2011):

(Supervisor)

"Synthesis of CuO/ZnO/H-ZSM-5 nanocatalyst for Conversion of Methanol to Gasoline", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Mahdi Shahrezaei (2009-2011):

(Co-supervisor)

"On the Synthesis Methods of Titanium Dioxide Nanotubes and Their Applications", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Maliheh Hosseinian (2009-2011)

(Co-supervisor)

"Conversion of Methane to Methanol Using Enzymes", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Aram Zoveydavi (2008-2010):

(Co-supervisor)

"Estimation of NO2, CO, and CO2 Concentrations nearby NGL800 Karoon Oil & Gas Production Company Unit by Focused on Emission Abatement Process", Islamic Azad University, Science & Research Branch, Khuzestan, Iran.

Maryam Ghlishkhani (2008-2010):

(Supervisor)

"Estimation of SO2, CO2, and CO Concentrations in Ahvaz Oil Operation Karoon Unit (1) by Focused on Emission Abatement Process", Islamic Azad University, Science & Research Branch, Khuzestan, Iran.

Mozaffar Abdollahifar (2008-2010):

(Supervisor)

"Synthesis of Nanocatalyst for CH₄ Reforming Using Ultrasonic Energy", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Nazli Asgari (2008-2010):

(Co-supervisor)

"Process Design of Xylene Removal from Industrial Gases by Oxidation and Investigation of Effective Parameters", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Hamed Morshedi (2008-2010):

(Supervisor)

"Kinetic modeling of removal of Toluene from Industrial Waste Gas using Thermal Incinerator", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Saeid Vosough (2008-2010):

(Supervisor)

"Experimental Study of Thermal Oxidation of Toluene and Natural Gas in Thermal Incinerator", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Nasrin Rezaei Zaki (2007-2009)

(Advisor)

"Synthesis and Characterization of SAPO Molecular Sieves and Effect of Different Parameters in Their Synthesis", Inorganic Chemistry Department, Faculty of Chemistry, University of Tabriz, Tabriz, Iran.

Zahra Abbasi (2007-2009):

(Co-supervisor)

"VOC Abatement from Polluted Air Using Cerium Oxide Nanocatalyst via Catalytic Oxidation Method", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Leila Karimnezhad (2007-2009):

(Co-supervisor)

"Removal of Benzene and toluene from Polluted Air Using Activated Carbon", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran. Ehsan Pipelzadeh (2007-2009):

(Co-supervisor)

"Study of the Key Parameters Effect on Synthesis of Titanium Oxide Nanoparticles and its Coating with Silver by Wet Chemical Method", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Somayeh Allahyari (2007-2008):

(Supervisor)

"Sono-synthesis of Wet Air Oxidation Nanocatalysts for Removal of Organic Pollutants", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Mohammad Saleh Ghodrati (2007-2008):

(Supervisor)

"Using Ultrasonic Energy for Preparation of CdSe/TiO2 Nano-photocatalyst for Removal of Phenol in Water under Solar Light Irradiation", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

Nader Rahemi (2007-2008):

(Supervisor)

"Using Ultrasonic Energy for Preparation of Hydrodesulfurization Nano Catalyst", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran.

• Research Projects:

- [1] Development of Technical Knowledge of Environmental Nanophotocatalysts In line with Resistance Economics Policies, Iran National Science Foundation, (2019-2020).
- [2] Selection of optimal VOCs removal method from TPC wastewater treatment unit, basic and detail design of selected method and control on performance, Tabriz Petrochemical Co., (Mohammad Haghighi, Esmaeil Fatehifar) (2011-2016).
- [3] Bench Scale Synthesis of Methanol to Ethylene and Propylene Catalyst and Its Catalytic Evaluation in Fluidized Bed Reactor, Petrochemical Research & Technology Company, National Petrochemical Company of Iran (2013-2015).
- [4] Design and Fabrication of a Process for Production and Purification of Hydrogen Used in Fuel Cells, Renewable Energy Organization of Iran, SANA, (Ali Akbar Babaluo, Mohammad Haghighi) (2012-2015)
- [5] Evaluation and Optimization of Flare Performance and Combustion, National Iranian Gas Company, South Pars Gas Field, (2012-2015).
- [6] Sonochemically Assisted Synthesis of Alumina Supported Nano-Catalyst for Methanol Reforming, RCRC, SUT (2009-2013)
- [7] Synthesis of Hydrodesulfurization Nano-Catalyst Using Ultrasonic Energy, Tabriz Refinery, (2009-2013).
- [8] CO₂-Reforming of Natural Gas on Innovative Catalysts Prepared via Plasma Technologies, National Iranian Oil Refining & Distribution Company, NIORDC (2008-2013).
- [9] Investigation of a Practical Method for VOC Abatement from Lost Foam Unit of ITM. CO., Iran Tractor Foundry Company, Tabriz, (Esmaeil Fatehifar, Mohammad Haghighi) (2007-2009).
- [10] Thermodynamic Evaluation of Partial Oxidation of Methane for Natural Gas Utilization, RCRC, SUT (2007-2009).
- [11] Natural Gas to Methanol, Centre for Fuels and Energy, Curtin University of Technology, Perth, WA, Australia (Dongke Zhang, Mohammad Haghighi and John Bromly) (2003-2007).
- [12] Gas to Value (G2V), Centre for Fuels and Energy (CFE), Curtin University of Technology, Prepared for Woodside Energy Limited, Perth, WA, Australia (Dongke Zhang, Mohammad Haghighi and John Bromly) (2003-2004).
- [13] Removal of Air Contaminants (VOC's) by Biofiltration, Environmental Engineering Research Center, (EERC), Sahand University of Technology, Sahand New Town, Tabriz, Iran (Jafar Sadegh Soltan Mohammadzadeh and Mohammad Haghighi) (2001-2003).

- [14] Removal of Air Contaminants (VOC's) from Petrochemicals and Refineries Wastewater, Industrial Development and Renovation Organization, Iran (Jafar Sadegh Soltan Mohammadzadeh and Mohammad Haghighi) (2000-2002).
- [15] Regeneration of Hydrocracking Catalysts, Reactor & Catalysis Research Center (RCRC), Sahand University of Technology, Sahand New Town, Tabriz, Iran (Mohammad Haghighi and Anvar Khudiev) (1998-2000).
- [16] Preparation of Dehydration Catalysts from Natural Zeolites, Reactor & Catalysis Research Center (RCRC), Sahand University of Technology, Sahand New Town, Tabriz, Iran (Mohammad Haghighi and Anvar Khudiev) (1997-2000).

Awards and Honors:

- 2018: Supervisor of the outstanding BSc project: Salar Mahboob, "Sonochemically Synthesis and Characterization of Ni-Co/Al2O3-ZrO2 and Evaluation in Dry Reforming of Methane", The National Thesis Festival: Professor Hesabi Award, International Academy of Science and Technology of Iran, Tehran, Iran, 07 October 2018.
- **2018:** Supervisor of the outstanding BSc student: Salar Mahboob, International Academy of Science and Technology of Iran, Tehran, Iran, 07 October 2018.
- **2018:** Supervisor of the outstanding PhD thesis: Parisa Sadeghpour, "Synthesis of Me-ZSM-5(Me= Ni, B) Nanostructured Catalysts in High Temperature Used for Conversion of Methanol to Propylene", The National Thesis Festival: Professor Hesabi Award, International Academy of Science and Technology of Iran, Tehran, Iran, 01 October 2018.
- **2018:** Supervisor of the outstanding PhD student: Parisa Sadeghpour, International Academy of Science and Technology of Iran, Tehran, Iran, 01 October 2018.
- **2018:** Supervisor of the outstanding MSc thesis: Seyed Mehdi Sajjadi, "Synthesis of Nanostructured Co and Cu Doped Ni/Al2O3 Catalysts Using Sol-Gel Method and Their Evaluation toward Syngas Production", The National Thesis Festival: Khayyam Award, Kish, Iran, 18 May 2018.
- **2018:** The 7th National Rank of Best Nanotechnologists Award, Mohammad Haghighi, The 12th National Nano Award Ceremony, The Iran Nanotechnology Initiative Council, Tehran, Iran, 27 February 2017.
- **2017:** Distinguished National Research Award in Engineering, Ministry of Science Research and Technology, Iran, 2017.
- **2017:** The 8th National Rank of Best Nanotechnologists Award, Mohammad Haghighi, The 11th National Nano Award Ceremony, The Iran Nanotechnology Initiative Council, Tehran, Iran, 20 February 2017.
- 2017: Distinguished Research Award, Sahand University of Technology, Sahand New Town, Tabriz, Iran, 2017.
- 2017: Distinguished Research Award of the State, East Azarbaijan, Tabriz, Iran, 2017.
- **2017:** Supervisor of Outstanding MSc Student: Ali Motevalian Seyedi, "SUT Chemical Engineering Graduate Award", Sahand University of Technology, Tabriz, Iran, May 2017.
- **2016:** The 1st Rank of Patents Stands in "Damavand Growing Regional Festival", Mohammad Haghighi and Sogand Aghamohammadi, Gilan Elite Foundation, Gilan, Iran, 22 and 23 May 20016.
- **2016:** The 1st Rank of Best Nanotechnologists Awarded in East Azarbaijan Province, Mohammad Haghighi, The East Azarbaijan Nanotechnology Initiative Council, Tabriz, Iran, 03 May 2016.
- **2016:** The 6th National Rank of the Best Nanotechnologists Award, Mohammad Haghighi, The 10th National Nano Award Ceremony, The Iran Nanotechnology Initiative Council, Tehran, Iran, 07 March 2016.
- 2016: Elite Paper Award, Ali Motevalian Seyedi, Mohammad Haghighi and Faezeh Ahmadi, "Performance Enhancement of Hydrogen Production over Modified CZA Nanocatalyst by Various Surfactant Used in Hydrocracking Process", The 1st National Refinery Processes Conference (SRP1), Sahand University of Technology and Tabriz Refinery, Tabriz, Iran, February 17, 2016.
- **2015:** Supervisor of the outstanding PhD thesis: Nader Rahemi, "CO₂-Reforming of Natural Gas over Innovative Catalysts Prepared via Plasma Technology", The 3rd Hydrogen & Fuel Cell Conference, Iranian Research Organization for Science and Technology (IROST) and Iranian Hydrogen & Fuel Cell Association, IROST, Tehran, Iran, May 12 13, 2015.
- 2015: Supervisor of the outstanding MSc thesis: Seyed Mehdi Sajjadi, "Synthesis of Nanostructured Co and Cu

- Doped Ni/Al2O3 Catalysts Using Sol-Gel Method and Their Evaluation toward Syngas Production", The 3rd Hydrogen & Fuel Cell Conference, Iranian Research Organization for Science and Technology (IROST) and Iranian Hydrogen & Fuel Cell Association, IROST, Tehran, Iran, May 12 13, 2015.
- 2015: Supervisor of the outstanding BSc thesis: Sogand Aghamohammadi, "Synthesis and Evaluation of Ni/Al2O3-MgO Nanocatalyst via Impregnation and Sol-gel Methods Used for Dry Reforming of Methane", The 3rd Hydrogen & Fuel Cell Conference, Iranian Research Organization for Science and Technology (IROST) and Iranian Hydrogen & Fuel Cell Association, IROST, Tehran, Iran, May 12 13, 2015.
- 2015: Elite Paper Award, Javad Baneshi, Mohammad Haghighi, Mozaffar Abdollahifar and Hossein Ajamein, "Fuel Cell-Grade Hydrogen Production from Methanol Steam Reforming over CuO/ZnO/Al2O3 Nanocatalyst: Effect of Ultrasound Irradiation and Urea/Nitrate Ratio", The 3rd Hydrogen & Fuel Cell Conference, Iranian Research Organization for Science and Technology (IROST) and Iranian Hydrogen & Fuel Cell Association, IROST, Tehran, Iran, May 12 13, 2015.
- **2014:** Supervisor of the 1st Rank of PhD thesis: Nader Rahemi, "CO₂-Reforming of Natural Gas over Innovative Catalysts Prepared via Plasma Technology", The 2nd National Chemical Engineering Festival on Outstanding Student Project, Iranian Association of Chemical Engineers (IAChE), Tehran University, Tehran, Iran, 22 May 2014.
- **2014:** The 8th National Rank of the Best Nanotechnologists Award, Mohammad Haghighi, The 9th National Nano Award Ceremony, The Iran Nanotechnology Initiative Council, Tehran, Iran, 11 October 2014.
- **2014:** "Distinguished Chemical Engineering Research Award", Chemical Engineering Faculty, Sahand University of Technology, Sahand New Town, Tabriz, Iran, 2014.
- **2013:** The 2nd Rank of M.Sc. thesis: Reza Khoshbin, "Synthesis of Copper and Zinc Oxide Nanocatalysts Based On HZSM-5 Support for Direct Conversion of Synthesis Gas to Dimethyl Ether", The 1st National Chemical Engineering Festival on Outstanding Student Project, Iranian Association of Chemical Engineers (IAChE)), Sharif University of Technology, Tehran, Iran, 09 May 2013.
- **2013:** Supervisor of the 1st Rank of B.Sc. thesis: Sogand Aghamohammadi, "Synthesis and Evaluation of Ni/Al2O3-MgO Nanocatalyst via Impregnation and Sol-gel Methods Used for Dry Reforming of Methane", The 1st National Chemical Engineering Festival on Outstanding Student Project, Iranian Association of Chemical Engineers (IAChE), Sharif University of Technology, Tehran, Iran, 09 May 2013.
- 2013: Elite Paper Award, Ali Alizadeh Eslami and Mohammad Haghighi, "Effect of Seed Addition on Synthesis of Nanostructured MnSAPO-34 Employing Microwave Energy Used in Production of Olefins from Methanol", The 1st Iran Energy Association National Conference (IEAC1), Niroo Research Institute, Tehran, Iran, 19-20 October 2013.
- 2012: Elite Paper Award, Mozaffar Abdollahifar, Mohammad Haghighi, Ali Akbar Babaluo and Reza Yahyavi, "Promotion of Ni/Al2O3-MgO Nanocatalyst with Cobalt Using Ultrasound Energy for Hydrogen Production from CH4 and CO2", National Conference in High Technologies in Chemical Industries (NCHTCI91), Tarbiat Modares University, Tehran, Iran, 22-23 May 2012.
- **2012** Supervisor of Outstanding MSc Student: Mozaffar Abdollahifar, "SUT Chemical Engineering Graduate Award", Sahand University of Technology, Tabriz, Iran, May 2012.
- **2012:** Elite paper award, Samira Karimipour, Mohammad Haghighi, Sogand Aghamohammadi and Nader Rahemi, "Synthesis of Metal Nano-Oxides from Al, Mg and Ni Nitrates via Sol-Gel Method Used for Hydrogen Production via Methane Reforming", The 2nd Conference on Hydrogen and Fuel Cell, Khajeh Nasir Toosi University of Technology, Tehran, Iran, 2-3 May 2012.
- 2011: Distinguished Technologist Award of the State, East Azarbaijan, Tabriz, Iran, 2011.
- **2011:** Outstanding National Research Project Award, Sahand Research Festival, Sahand University of Technology, Sahand New Town, Tabriz, Iran, 2011.
- 2011: Elite paper award, Mohsen Parvas and Mohammad Haghighi, "Synthesis of Transition Metals over Ceria-Zirconia Nano Catalysts Using Ultrasound Methods and Their Application in the Wet Air Oxidation of Phenol", The 10th Nanotechnology Student Conference, Iranian Nanotechnology Initiative Council, Tehran University, Tehran, Iran, 14-16 September 2011.
- **2009** Supervisor of Outstanding BSc Student: Saeid Saedy, "SUT Chemical Engineering Research Award", Sahand University of Technology, Tabriz, Iran, December 2009.
- 2009: "Distinguished Chemical Engineering Academic Staff", Sahand University of Technology, Sahand New

- Town, Tabriz, Iran.
- **2008** Supervisor of Outstanding MSc Student: Somaiyeh Allahyari, "SUT Chemical Engineering Graduate Award", Sahand University of Technology, Tabriz, Iran, February 2008.
- 2006: "Best Oil, Gas & Carbon Capture Project AIE Postgraduate Student Energy Award", Australia.
- **2004:** Elite Paper Award, Anvar Khudiev, Sirous Shafiei, Jafar Sadegh Soltan Mohammadzadeh, Saeed Rajabzadeh, Mohammad Haghighi and Jamileh Odak, "Removal of VOCs from Air in the Presence of Ozone over a Bed of Silicates", The 9th National Congress of Chemical Engineering of Iran, Iran University of Science & Technology (IUST), Tehran, Iran, 23-25 November 2004.
- 2002: "Distinguished IT (E-Learning) Research Award", East Azarbaijan, Iran.
- **2002:** "Distinguished Chemical Engineering Research Award", Sahand University of Technology, Sahand New Town, Tabriz, Iran.

• Workshops:

- [1] Mohammad Haghighi, "Principles of Writing and Publishing Research Papers", Azad University, Ilkhchi, Iran, 11 February 2016.
- [2] Mohammad Haghighi, "Scientific Oral and Poster Presentation", Azad University, Ilkhchi, Iran, 24 August 2014.
- [3] Mohammad Haghighi, "Research Databases and Citation Management", Azad University, Ilkhchi, Iran, 10 August 2014.
- [4] Mohammad Haghighi, "Principles of Writing and Publishing Research Papers", Azad University, Ilkhchi, Iran, 27 and 29 January 2014.
- [5] Mohammad Haghighi, "Principles of Writing and Publishing Research Papers", Vice-Chancellor in Food and Drugs Affairs, Urmia, Iran, 06 January 2014.
- [6] Mohammad Haghighi, "Principles of Writing and Publishing Research Papers", Payame Noor University, Maragheh, Iran, 03 December 2012.
- [7] Mohammad Haghighi, "Citation Management: EndNote", Azad University, Ilkhchi, Iran, 18 October 2012.
- [8] Mohammad Haghighi, "Principles of Gas Chromatography", Sahand University of Technology, Tabriz, Iran, 31 May 2012.
- [9] Mohammad Haghighi, "Principles of Modern Methods for Characterization of Nanomaterials and Nanocatalysts, XRD, SEM, TEM, TGA,TP-NH3-CO2-H2", Sahand University of Technology, Tabriz, Iran, 17 May 2012.
- [10] Mohammad Haghighi, "Principles of Writing and Publishing Research Papers", Sahand University of Technology, Tabriz, Iran, 03 and 10 May 2012.
- [11] Mohammad Haghighi, "Effective Presentations Using Power Point", Centre for Fuels and Energy, Curtin University of Technology, Perth, Western Australia, 2007.
- [12] Mohammad Haghighi, "A Workshop on Separation Processes", Chemical Engineering Faculty, Sahand University of Technology, Tabriz, Iran, 2003.
- [13] Mohammad Haghighi, "Web Design & E-learning Workshop", ICT Center, Sahand University of Technology, Tabriz, Iran, 2002.
- [14] Mohammad Haghighi, "PolyMath Workshop", Chemical Engineering Faculty, Sahand University of Technology, Tabriz, Iran, 2001.

• Technical Reports:

- [1] Mohammad Haghighi, Farhad Rahmani, Nader Rahemi, Sogand Aghamohammadi and Saeed Saedy, "Evaluation and Optimization of Flare Performance and Combustion", Final Report, Prepared for National Iranian Gas Company, South Pars Gas Field, Asaluyeh, Iran, 2015.
- [2] Mohammad Haghighi, Farhad Rahmani, Nader Rahemi, Sogand Aghamohammadi and Saeed Saedy, "Evaluation and Optimization of Flare Performance and Combustion", 4st Report (Operating Procedures for

- Optimization of Flare Performance and Environmental Considerations), Prepared for National Iranian Gas Company, South Pars Gas Field, Asaluyeh, Iran, 2015.
- [3] Mohammad Haghighi and Farhad Rahmani, "Evaluation and Optimization of Flare Performance and Combustion", 3st Report (Experimental Study and Comparison to Modeling Results), Prepared for National Iranian Gas Company, South Pars Gas Field, Asaluyeh, Iran, 2014.
- [4] Mohammad Haghighi, Nader Rahemi, Sogand Aghamohammadi and Saeed Saedy, "Evaluation and Optimization of Flare Performance and Combustion", 2nd Report (Modeling and Optimization of Combustion Performance), Prepared for National Iranian Gas Company, South Pars Gas Field, Asaluyeh, Iran, 2014.
- [5] Mohammad Haghighi, Sogand Aghamohammadi and Behgam Rahmani Vahid, "Bench Scale Synthesis of Methanol to Ethylene and Propylene Catalyst and Its Catalytic Evaluation in Fluidized Bed Reactor", Final Report, Prepared for Petrochemical Research & Technology Company, National Petrochemical Company of Iran, Tehran, Iran, 2015.
- [6] Mohammad Haghighi, Sogand Aghamohammadi and Behgam Rahmani Vahid, "Bench Scale Synthesis of Methanol to Ethylene and Propylene Catalyst and Its Catalytic Evaluation in Fluidized Bed Reactor", 3rd Report (Catalytic Performance of SAPO-34 Catalyst in a Fluidized Bed Reactor and Characterization of Used Catalysts to Establish Decoking Program), Prepared for Petrochemical Research & Technology Company, National Petrochemical Company of Iran, Tehran, Iran, 2015.
- [7] Mohammad Haghighi, Sogand Aghamohammadi and Behgam Rahmani Vahid, "Bench Scale Synthesis of Methanol to Ethylene and Propylene Catalyst and Its Catalytic Evaluation in Fluidized Bed Reactor", 2nd Report (Synthesis Catalytic Characterization of SAPO-34 Catalyst), Prepared for Petrochemical Research & Technology Company, National Petrochemical Company of Iran, Tehran, Iran, 2015.
- [8] Mohammad Haghighi, Sogand Aghamohammadi and Behgam Rahmani Vahid, "Bench Scale Synthesis of Methanol to Ethylene and Propylene Catalyst and Its Catalytic Evaluation in Fluidized Bed Reactor", 1st Report (Literature Review), Prepared for Petrochemical Research & Technology Company, National Petrochemical Company of Iran, Tehran, Iran, 2014.
- [9] Ali Akbar Babaluo, Mohammad Haghighi, Sona Jamshidi and Hossein Ajamein, "Design and Fabrication of a Process for Production and Purification of Hydrogen Used in Fuel Cells", Final Report, Prepared for Renewable Energy Organization of Iran, SANA, Energy Ministers of Iran, Tehran, Iran, 2015
- [10] Ali Akbar Babaluo, Mohammad Haghighi, Sona Jamshidi and Hossein Ajamein, "Design and Fabrication of a Process for Production and Purification of Hydrogen Used in Fuel Cells", 2nd and 3rd Reports (Design and Fabrication of Nanostructure Membranes and Evaluation of their Performance toward Hydrogen Purification), Prepared for Renewable Energy Organization of Iran, SANA, Energy Ministers of Iran, Tehran, Iran, 2013
- [11] Mohammad Haghighi, Farhad Rahmani, Nader Rahemi and Naeimeh Jodeiri, "Evaluation and Optimization of Flare Performance and Combustion", 1st Report (Literature Review), Prepared for National Iranian Gas Company, South Pars Gas Field, Asaluyeh, Iran, 2013.
- [12] Mohammad Haghighi, Esmaeil Fatehifar and Mehdi Hedayatzadeh, "Selection of Optimal VOCs Removal Method from TPC Wastewater Treatment Unit, Basic and Detail Design of Selected Method and Control on Performance", 5th Report (Basic Design), Prepared for Tabriz Petrochemical Co., Tabriz, Iran, 2013.
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