

Abdullah Irankhah

Education:

Tarbiat Modarres University

PhD, Chemical Engineering

MS, Chemical Engineering – Process Design

Ferdowsy University of Mashhad

B.S., Chemical Engineering – Gas Industries

Awards and Honors:

- 3rd rank in the 21th “**Khwarizmi International Award (KIA)**” and receiving appreciation letter from president in 2007
- Member of Iranian National Elites Foundation and receiving the institute’s scientific gift
- Member of Iran Science Association of Elites
- Honorary member of “Iran Association of Chemical Engineering”
- 1st rank in Tarbiat Modarres university’ entrance exam for PhD studies in 2001.
- 1 st rank in 6th Iranian Chem-e-car competitions, 2011.

Publications:

❖ Books

- “Hydrogen and Fuel Cell Technology, Theory and Application”, published in Jan 2009
- “Hydrogen and Fuel Cell Technology, Priorities and Strategies of Progress in the Country”, published in Jan 2009
- “Hydrogen and Fuel Cell Technology, Roadmap and Action Plans in the Country”, published in Jan 2009.
- Translation of “PEM Fuel Cells – Theory and Practice”, In Press.

❖ Papers

- A. Irankhah, Ali Haghtalab, "*Fischer-Tropsch Synthesis Over Co–Ru/γ-Al₂O₃ Catalyst in Supercritical Media*", Chemical Engineering and Technology, Vol.31, No. 4, 2008, 525-536.

- A. Irankhah, Ali Haghtalab, Ebrahim Vasheghani, Kambiz Sadaghianizadeh, "*Fischer-Tropsch Reaction Kinetics on Cobalt Catalyst in Supercritical Phase*", Journal of Natural Gas Chemistry, Vol.16, 2007, pp.115-120.3/13/2012.
- M. Sadrameli, A. Irankhah, "*Styrene monomer reactor simulation*", Petroleum Technology Quarterly, pp.147-151, 2001.
- M. Sadrameli, A. Irankhah, "*Simulation of the Fixed Bed Catalytic Reactors for the Styrene Monomer Plant*", Process Innovation and Process Intensification (PI), Edinburgh, Scotland, UK, September 8 - 13, 2002.
- A. Irankhah, N. Bagheri Moghadam, K. Mohammadi, "*National roadmap for Solid Oxide fuel cell in Iran*", Third International Conference and Exhibition on Ecological Vehicles and Renewable Energies EVER08, Monaco, France, 2008.
- N. Bagheri Moghadam, Abdullah Irankhah, K. Mohammadi, "*National Planning and Development Roadmap of Polymer Electrolyte Membrane Fuel Cell in Iran*", Third International Conference and Exhibition on Ecological Vehicles and Renewable Energies EVER08, Monaco, France, 2008.
- N. Bagheri Moghadam, M. Sahafzadeh, S.M. Emamian, A. Irankhah, "*Scenario Based Priority Setting of R&D Issues - A Case Study of Membrane Technology in National Iranian Gas Industry*", Technology Management for a Sustainable Economy, Cape Town, South Africa, July 27 - 31, 2008.
- A. Irankhah, H. Bonyad, S. K. Masoudian, "*Determination of the Reaction rate for Natural Gas Steam Reforming for Production of Hydrogen as Fuel for Fuel Cells*", The 1st International Conference on Hydrogen and Fuel Cell, Jan 2009.
- "*Determination of the Kinetic Model for Fischer-Tropsch Synthesis on Co-Ru Catalyst in Supercritical Phase*", The 2nd National Congress of Gas Conversions, Iran Petrochemical and Polymer Research Center, May 2007.
- "*Study of Pressure Effects on Fischer-Tropsch Synthesis in supercritical Phase*", The 11th National Congress of Chemical Engineering, Tarbiat Modarres University, Nov 2006.
- "*Fischer-Tropsch Synthesis in supercritical Phase*", The 1st National Congress of Gas conversions, Oct. 2006.
- "*Study of Silicalite (I) Adsorption Properties*", The 8th National Congress of Chemical Engineering, Mashhad, Oct. 2003.
- "*Regeneration of the used Catalysts for Conversion of Isobutane to Isobutene*", The 8th National Congress of Chemical Engineering, Mashhad, Oct. 2003.
- "*Simulation of Catalytic Reactors for Ethylbenzene dehydrogenation to Styrene*", The 7th National Congress of Chemical Engineering, Tehran, Oct 2002.

- A. Irankhah, "*A kinetic model for Fischer–Tropsch synthesis in supercritical phase*", submitted to International Journal of chemical kinetics, 2011.
- M. Rahimi, A. Irankhah, "*A review on small scale plate reactors for methane steam reforming*", submitted to Int. j. of Renewable Energy, 2012.
- A. Alijani, A. Irankhah, "*Catalysts for Medium Temperature Water-Gas Shift Reaction; A Review*", submitted to CET journal, 2012.
- M.Rahimi, A. Irankhah, "Design of a compact plate reformer integrated to natural gas combustion", 4th Fuel & Combustion conference 2012.

Academic Background:

Courses taught:

- Kinetics and Chemical Reactors Design
- Advanced Heat Transfer
- Fuel Cell Systems
- Material & Energy Balance
- Plant Economy and Design
- Refinement Processes
- Process Control I & II
- Transport Phenomena
- Industrial Chemistry I & II
- Applied Mathematics in Chemical Engineering

Academic Courses and Specialties:

- Fuel cell specialized teaching certificate from UNIDO-ICHET International Center.
- Teaching certificate of the Chemical Engineering specialized software ASPEN PLUS
- Proficient in the Chemical Engineering specialized software HYSYS.
- Familiar with the technology management specialized software "Expert Choice"

Affiliations and Memberships:

- Member of Iran Association of Catalyst
- Member of Iran Association of Chemical Engineering
- Member of the referees committee of the "Energy Management" Journal.

- Member of the referees committee of Iran 1st Conference on Hydrogen and Fuel Cell
- Member of the specialized referees committee of PhD and MS scholars' thesis, supported by the fuel cell steering committee – with the priority of hydrogen and fuel cell
- Member of the specialized referees committee of PhD and MS scholars' thesis, supported by Iran Nano Institute
- Member of the editorial committee of “Mohandesi Khodro” Journal
- Member of the referees committee of the 3rd National Congress of Energy.
- Member of the scientific committee and referees committee of the 2nd International Congress of Surfactant
- Member of the executive and scientific committee of Iran 4th Fuel and Combustion conference.
- Member of the “Energy Research Center” in University of Kashan
- Energy auditor in Arak Petrochemical complex
- Instructor of the Hydrogen and Fuel Cell Workshop for Chemistry teachers

Research Background:

- Execution of the national project “Plan of Strategies and Studies for Progress of Fuel Cell in the Country”
- Preparation of “National Strategy Document for Progress of Fuel Cell in the Country” based on the fundamental studies ratified by the Cabinet in Jun 2007
- Operational planning for “National Strategy Document for Progress of Fuel Cell in the Country”
- Experimental study of Fischer-Tropsch synthesis using supercritical fluid for conversion of natural gas to liquid-GTL hydrocarbons – PhD thesis
- Comparison of Fischer-Tropsch synthesis in gas phase and supercritical phase, and investigation of the effect of the major variables on this process
- Determination of Co-Ru/Al₂O₃ kinetic in Fischer-Tropsch synthesis in supercritical phase
- Simulation of Tabriz Petrochemical Styrene Monomer Unit and optimization of the related reactors consisting three series of radial reactors and four distillation towers – MS thesis
- Preparation of simulating visual software of Tabriz Petrochemical Styrene Monomer Unit for use in designing the pilot of the unit
- Synthesizing a Fe-Cu-K catalyst for the Adiabatic Ethyl-Benzene Dehydrogenation Unit of Research Institute of Petroleum Industry (RIPI) in laboratory scale – a catalyst for a subprocess related to Ethyl-Benzene dehydrogenation
- Kinetic study of methane steam reforming in Berty internal recycle reactor at RIPI Catalyst Research Unit

- Kinetic study of Co catalyst in Fischer-Tropsch synthesis in gas phase at RIPI Gas Research Unit
- Investigation of the determinant factors on the deactivation of commercial catalysts and kinetic study of Fe catalyst deactivation in Fischer-Tropsch synthesis in gas phase at RIPI Gas Research Unit
- Study of various crystallizers and theoretical design of a crystallizer for Ferdowsi University of Mashhad Chemical Engineering Unit Operation Laboratory – BS thesis
- Determination of the research priorities in membrane technology for Iran National Company of Gas, Petrochemical, and Oil Industry
- Preparation of the strategies for gas conversion in the country
- Designing a Methanol to Hydrogen Reformer
- Supervisor of the project “Construction of Highly Efficient Photovoltaic Plates”
- Manager of the project “Construction and Evolution of Magnesium Hydride Powders for the Storage of Hydrogen Needed for Fuel Cells”