



Assis. Prof. Mandana Akia

Position

- Assistant Professor of Chemical Engineering, Chemistry&Chemical Engineering Research Center of Iran
- Chief Director of Technology Business Incubator Center
- **Researcher- Nanocatalyst Group- Biofuel Research Team (BRTeam), Karaj, Iran**



Address

Chemistry & Chemical Engineering Research Center of Iran,
Tehran, Iran,
Tel: +98 21 44580720-40 (1198)
Fax: +98 21 44580777
Email: akia@ccerci.ac.ir ,akia.mandana@gmail.com

Academic Career

2011 - Present: Assistant Professor of Chemical Engineering, Chemistry&Chemical Engineering Research Center, Tehran,Iran

2009 – 2011: Assistant Professor of Chemical Engineering, Kermanshah University of Technology,Iran

2008 – 2009: Researcher at the State Key Laboratory for Heavy Oil Processing, Key Laboratory of Catalysis, CNPC, China.

2002 – 2007: Researcher at Bisotoun Petrochemical Company, Kermanshah, Iran.

2003 – 2008: PhD in Chemical Engineering, Iran University of Science & Technology, Tehran, Iran.

2000-2002: Master in Chemical Engineering, with high distinction mark (Top student), Iran University of Science & Technology, Tehran, Iran.

1995-1999: B.S in Petrochemical engineering, Razi University, Kermanshah, Iran.

Research Areas

- Using Titanium Dioxide in photo catalytic reactions and its applications in the treatment of air & water pollutants.
- Thermodynamic modeling of Hydrotrope Solutions
- Preparation methods for nano sized gamma alumina support with high surface area
- Catalytic dehydrogenation of heavy normal paraffins (C₁₀-C₁₄) to linear mono olefins on



promoted platinum- tin catalysts supported on nanocrystalline gamma alumina (PhD Thesis)

- Most promising sources for Biofuel.
- Synthesis of modified nano-TiO₂
- Separations of aromatics compounds from paraffins

Language

Persian, English

Publications

Mandana Akia, S.M. Alavi, "Optimizing the dehydrogenation catalyst of higher normal paraffins to corresponding mono olefins using a synthesized nanocrystalline support" In preparation

Mandana Akia, S.M. Alavi, "Synthesize of two different nanocrystalline gamma alumina support as carriers for dehydrogenation catalyst of higher normal paraffins: the effects of various platinum loading" In preparation

Mandana Akia, S.M. Alavi, "The effects of different successive impregnation methods on promoted platinum catalyst supported on a synthesized nanocrystalline γ -Al₂O₃ in higher normal paraffins dehydrogeneation reaction" Submitted to the Fuel Processing Technology.

Mohammad Mahdi A. Shirazi, Ali Kargari, Meisam Tabatabaei, Boyuk Mostafaeid, Mandana Akia, Mohammad Barkhi, Mohammad Javad A. Shirazi, "Acceleration of biodiesel-glycerol decantation through NaCl-assisted gravitational settling: A strategy to economize biodiesel production", Bioresource Technology 134 (2013) 401-406.

Mandana Akia, S.M. Alavi , Zi-Feng Yan, " Dehydrogenation catalysts of higher normal paraffins on a nanocrystalline γ -Al₂O₃ support: Different impregnation sequences", Journal of Petroleum and Gas Engineering Vol. 2(3), pp. 64-73, March 2011

Mandana Akia, S.M. Alavi, "Promoted platinum dehydrogenation catalyst on a nano-sized gamma alumina support", Petroleum & Coal 52 (4), 2010.

Mandana Akia, S.M. Alavi , Mehran Rezaei, Zi-Feng Yan, "Synthesis of high surface area γ -Al₂O₃ as an efficient catalyst support for dehydrogenation of n-dodecane" , Journal of Porous Materials (2010)17:85-90.

Mandana Akia, S.M. Alavi , Zi-Feng Yan, " Promoted platinum dehydrogenation catalyst on a nano-sized gamma alumina support", Petroleum & Coal 52 (4) 280-289, 2010

Mandana Akia, S.M. Alavi , Mehran Rezaei, Zi-Feng Yan "Optimizing the sol-gel parameters on the synthesis of mesostructure nanocrystalline γ -Al₂O₃" , Microporous and Mesoporous Materials 122



(2009) 72–78.

Mandana Akia, Farzaneh Feyzi, "Thermodynamic modeling of hydrotrope solutions", *AIChE Journal*, January 2006, No.1, Vol. 52.

Conference Proceedings

Mandana Akia, S.M. Alavi, "Pt based dehydrogenation catalysts with different indium loading", The First National Conference of New Technologies in Chemical Engineering, 16, May 2013, Tehran.Iran.

Mandana Akia, S.M. Alavi, "The effect of sol-gel parameters", The First National Conference of New Technologies in Chemical Engineering, 16, May 2013, Tehran, Iran.

Mandana Akia, S.M. Alavi, "Pt- based dehydrogenation catalyst on nano- sized gamma alumina support", has been accepted as oral presentation in the 13th Iranian National Chemical Engineering Congress& 1st international regional Chemical and Petroleum Engineering conference (IChEC-13)-2010.

Mandana Akia, S.M. Alavi, "Different impregnation steps of higher paraffins dehydrogenation catalysts supported on gamma alumina", has been presented in IChEC-13-2010.

P.Valipour, Mandana.Akia, M.Aalvi, S.Rowshanzamir, "The effect of operating conditions variation on the performance of dehydrogenation catalyst", International Catalyst Conference- ICC 2008.

Mandana Akia, S.M. Alavi, "The effect of sol-gel parameters on the synthesis of nanocrystalline-sized γ -Al₂O₃ using cationic surfactants as template", has been accepted as oral presentation at ICCE 2008 "International Conference on Chemical Engineering".

Mandana Akia, S.M. Alavi, M.Rezaei, "Synthesis of nano crystalline sized gamma-alumina with high thermal stability by sol-gel method", Accepted as poster presentation in 2th Conference on Nanostructures, Kish 2008, Iran.

Mandana Akia, S.M. Alavi, M.Rezaei, "Synthesis of mesoporous nanocrystalline gamma-Alumina by sol-gel method with using cationic surfactant", Accepted as poster presentation in 5th International chemical Engineering Conference, Kish 2008, Iran.

Mandana Akia, Farzaneh Feyzi, Oral Presentation in the eight Iranian National Chemical Engineering Conference, Mashhad, 2004, Iran.



Reviewer for Journals

1. International Journal of Hydrogen Energy
2. Catalysis Today
3. Journal of Petroleum Technology and Alternative Fuels
4. Journal of Chemical Engineering and Materials Science (JCEMS)
5. Canadian Journal of Chemical Engineering