CURRICULUM VITAE

Personal information	
Name	Elaheh Esmaeili 
Place and Date of Birth	Birjand, Iran, 1981
Nationality	Iranian
Marital Status	Married
Business Address	Department of Chemical Engineering, Birjand University of Technology, Birjand, Iran.
Phone	+98 56 32391 224
Academic Degree	Ph. D. of Nanotechnology
Academic Position	Assistant Professor
E-mail:	esmaeili@birjandut.ac.ir, e.esmaeily@gmail.com

Academic information	
B.Sc.	Chemical Engineering, University of Tehran, Iran, 1999-2003.
M. Sc.	Chemical Engineering, University of Tehran, Iran, ٢٠٠٤-٢٠٠٧.
Title of M.Sc. thesis Synthesis of MgO nanoparticles and its application in air-depollution.	
Ph.D.	Nanotechnology- Chemical Engineering, University of Tehran, Iran, 2007-2012.
Title of Ph.D. thesis Investigation of role of the support and promoter of Pd catalysts in hydrogenation of acetylene-rich feedstocks to ethylene.	
Research Collaboration Ecole Polythechnique Federal de Lausanne (EPFL), Lausanne, switzerland	

Courses Thought

Mass Transfer, B.Sc.
Fluid Mechanics 1, B. Sc.
Fluid Mechanics 2, B. Sc.
Introduction to Nanotechnology and its Application, B. Sc.
Thermodynamics 1, B. Sc.
Introduction to Chemical Engineering, B. Sc.

Distinctions and Honours

The 1st rank in the national competitions of innovation challenges (held by Iran Nanotechnology Innovation Council), 2018.

Research Interests

Synthesis, characterization and catalytic and non-catalytic applications of nanocatalysts, nanocomposites, nanofluids, nanoadsorbents
The laboratory, pilot and/ or industrial investigations of some applications such as different catalytic reactions, polymer-based applications, heat transfer applications, etc.
Green and eco-friendly synthesis of various nanostructures such as carbon-based nanomaterials (graphene, carbon nanotubes, activated carbon, carbon nanofiber, CNT fiber, etc), orgnoclay, hybride structures, etc.

Skills

- Devices:

  NMR, GC-MS, FTIR, SEM, TEM, EDX, AFM, TGA, BET, XRD, TPR/TPD, etc.

- General and computational softwares:

  Microsoft Office, Hysys, Aspen, Matlab, etc.

Publications (in English)

Elaheh Esmaeili, Seyyed Amin Rounaghi, Wolfgang Gruner, Jurgen Eckert, "The preparation of surfactant-free highly dispersed ethylene glycol-based aluminum nitride-carbon nanofluids for heat transfer application", *Accepted Manuscript, In Press*.

Seyyed Amin Rounaghi, Danny E.P. Vanpoucke, Elaheh Esmaeili, Sergio Scudino, Jürgen Eckert, "Synthesis, characterization and thermodynamic stability of nanostructured ε-iron carbonitride powder prepared by a solid-state mechanochemical route", *Journal of Alloys and Compounds*, 778 (2019) 327-336.

Seyyed Amin Rounaghi, Elaheh Esmaeili, "A comparative study of the synthesis and thermal stability of nanostrucrured Al and Al-Mg powders fabricated by mechanical alloying technique", *Journal of Nanostructues*, 7 (2017) 147-154.

Elaheh Esmaeili, Fatemeh Deymeh, Seyyed Amin Rounaghi, "Synthesis and characterization of the electrospun fibers prepared from waste polymeric materials", *International Journal of Nano Dimentions*, 8 (2017) 171-181.

Kamran Lamei, Hossein Eshghi, Mehdi Bakavoli, Seyyed Amin Rounaghi, Elaheh Esmaeili, "Carbon coated copper nanostructures as a green and ligand free nanocatalyst for Suzuki cross-coupling reaction", *Catalysis Communications*, 92 (2017) 40-45.

Moones Honarmand, Elaheh Esmaeili, "Tris(hydroxymethyl)methane ammonium hydrogensulphate as a nano ionic liquid and its catalytic activity in the synthesis of bis(indolyl)methanes", *Journal of Molecular Liquids*, 225 (2017) 741-749.

Seyyed Amin Rounaghi, Danny E. P. Vanpoucke, Hossein Eshghi, Sergio Scudino, Elaheh Esmaeili, Steffen Oswald, Jürgen Eckert, "A combined experimental and theoretical investigation of the Al-Melamine reactive milling system: A mechanistic study towards AlN-based ceramics", *Journal of Alloys and Compounds*, 729 (2017) 240-248.

Seyyed Amin Rounaghi, Danny E. P. Vanpoucke, Hossein Eshghi, Sergio Scudino, Elaheh Esmaeili, Steffen Oswald, Jürgen Eckert, "Mechanochemical synthesis of nanostructured metal nitrides, carbonitrides and carbon nitride: a combined theoretical and experimental study", *Physical Chemistry Chemical Physics*, 19 (2017) 12414-12424.

Elaheh Esmaeili, Reza Ghazanfar Chaydareh, Seyyed Amin Rounaghi, "The Influence of the Alternating Magnetic Field on the Convective Heat Transfer Properties of Fe3O4-containing Nanofluids through the Neel and Brownian Mechanisms", *Applied Thermal Engineering*, 110 (2017) 1212-1219.

Elaheh Esmaeili, Reza Ghazanfar Chaydareh, Saeed Farsad, Seyyed Amin Rounaghi, Nader Mollayi, “Enhanced heat transfer properties of the magnetite nanofluids due to Neel and Brownian relaxation mechanisms”, *Chemical Engineering Communication*, 203 (2016) 1157-1164.

Neda Mohammadi Meman, Bahman Zarenezhad, Alimorad Rashidi, Zeinab Hajjar, Elaheh Esmaeili, “Application of palladium supported on functionalized MWNTs for oxidative desulfurization of naphtha”, *Journal of Industrial and Engineering Chemistry*, 22 (2015)

179-184.

Elaheh Esmaeili, Reza Ghazanfari, Saeed Farsad, "Convective heat transfer enhancement of the water-based magnetite nanofluids in the presence of a 3-D low-intensity magnetic field", *International Journal of Nano Dimension*, 6 (2015) 141-151.

Elaheh Esmaeili, Alimorad Rashidi, Abasali Khodadadi,Yadollah Mortazavi, Mehdi Rashidzadeh, "An efficient Pd-Sn catalyst supported on MWNTs for hydrogenation of high concentrated acetylene feedstocks: The potential role of carbonaceous species", *Journal of Nanostructures*, 4 (2014) 133-144.

Elaheh Esmaeili, Alimorad Rashidi, Abasali Khodadadi, Yadollah Mortazavi, Mehdi Rashidzadeh, "Palladium–Tin nanocatalysts in high concentration acetylene hydrogenation: A novel deactivation mechanism", *Fuel Processing Technology*, 120 (2014) 113-122.

Elaheh Esmaeili, Ali Morad Rashidi, Kheirollah Jafari-Jozani, "Cerium-promoted PtRu/MWNTs as the anode catalyst for methanol electro-oxidation", *International Journal of Nanoscience and Nanotechnology*, 10 (2014) 67-78.

Elaheh Esmaeili, Alimorad Rashidi, Abasali Khodadadi,Yadollah Mortazavi, Mehdi Rashidzadeh, "SMFs-supported Pd catalysts in selectively acetylene hydrogenation reaction and Pore structure-dependent deactivation", *Journal of Energy Chemistry* 22 (2013) 717-**725.**

Amideddin Nouralishahi, Hassan Pahlavanzadeh, Mohammadmehdi Choolaei, Elaheh Esmaeili, Amir Yadegari, "Optimal oxygen concentration strategy through an isothermal oxidative coupling of methane plug flow reactor to obtain a high yield of C_2 hydrocarbons", *Korean Journal of Chemical Engineering*, 30 (2013) 1213-1221.

Elaheh Esmaeili, Yadollah Mortazavi, Abasali Khodadadi, Alimorad Rashidi, Mehdi Rashidzadeh, "The role of tin-promoted Pd/MWNTs via the management of carbonaceous species in selective hydrogenation of high concentration of acetylene", *Applied Surface Science* 263 (2012) 513-522.

Elaheh Esmaeili, Abasali Khodadadi, Yadollah Mortazavi, "Microwave-induced combustion process variables for MgO nanoparticle synthesis using polyethylene glycol and sorbitol", *Journal of the European Ceramic Society* 29 (2009) 1061-1068.

Publications (in Persian)

Elaheh Esmaeili, Seyyed Amin Rounaghi, "The synthesis and investigation of magnetic behavior of magnetite-carbon nanotubes nanocomposites (Fe_3O_4-CNTs) for water-based convective heat transfer application", Journal of Advanced Materials and Technologies, 4 (1396) 55-62.

Seminars and Conferences (in English)

Elaheh Esmaeili, A. Khodadadi and Y. Mortazavi, "Microwave-induced combustion synthesis of MgO nanoparticles using polyethylene glycol and sorbitol", 1st International Congress on Nanoscience and Nanotechnology, Faculty of Engineering, University of Tehran, 18th to 20th December, 2006 (Oral).

Elaheh Esmaeili, A. Khodadadi and Y. Mortazavi, "Synthesis of MgO Nanoparticles by Using Microwave-Assisted Combustion Method and Determining of its Process During Synthesis", Portugal, 9-11 July, 2007 (Poster).

Elaheh Esmaeili, A. Khodadadi, Y. Mortazavi, A. Rashidi, "Tin-Promoted Pd/MWNTs Catalysts in Acetylene Hydrogenation Reaction", Carbon 2012, Poland, 17-22 June, 2012 (Poster).

Elaheh Esmaeili, Yadollah Mortazavi, Abasali Khodadadi, Alimorad Rashidi, Mehdi Rashidzadeh, "Highly Stabilized Pd/MWNTs Catalysts Promoted by Tin in Deactivation of Acetylene Hydrogenation Reaction", CarboCat 2012, Italy, 28-30 June, 2012 (Oral).

Elaheh Esmaeili, Abasali Khodadadi, Yadollah Mortazavi, Alimorad Rashidi, "The enhanced performance of Pd/MWNTs by remarkedable effect of tin catalysts in Acetylene Hydrogenation Reaction", CarboCat 2012, Italy, 28-30 June, 2012 (Poster).

Amideddin Nouralishahi, Yadollah Mortazavi, Abasali Khodadadi, Alimorad Rashidi, Elaheh Esmaeili, "Pt-CoOx/MWNT as a proper electro-catalyst for anodic reaction of direct methanol fuel cells", CarboCat 2012, Italy, 28-30 June, 2012 (Poster).

Elaheh Esmaeili, Abasali Khodadadi, Yadollah Mortazavi, Alimorad Rashidi, Mehdi Rashidzadeh, "Tin-Assisted Highly Stabilized Pd/MWNTs Catalysts in High Concentration Acetylene Hydrogenation Reaction", ICNN2012, Italy, 28-30 September, 2012 (Oral).

Elaheh Esmaeili, Abas Ali Khodadadi, Yadollah Mortazavi, Ali Morad Rashidi, Mehdi Rashidzadeh, "Sn-developed Pd catalysts supported on MWNTs in selective acetylene hydrogenation reaction", ", ICNN2012, Italy, 28-30 September, 2012 (Poster).

Elaheh Esmaeili, Ali Morad Rashidi, Abbas Ali Khodadadi, Yadollah Mortazavi, Mehdi Rashidzadeh, "The formation of intermetallic-containing Pd2Sn alloy: The creation of the isolated adsorption sites", 5th International Conference on Nanostructures, 6-9 March 2014, Kish, Iran (Poster).

Elaheh Esmaeili, Ali Morad Rashidi, Yadollah Mortazavi, Abbas Ali Khodadadi, Mehdi Rashidzadeh, "The Role of Pore Structure of SMFs-based Pd nanocatalysts in Deactivation behavioral Pattern upon Acetylene Hydrogenation Reaction", 5th International Conference on Nanostructures, 6-9 March 2014, Kish, Iran (Poster).

Elaheh Esmaeili, Ali Morad Rashidi, "The Influence of Ceria-doped PtRu/MWNTs Nanoalloy as Anode Electrocatalyst for DMFCS", The first National Conference on New Technologies in Chemical and Petrochemical (Poster).

Elaheh Esmaeili, Ali Morad Rashidi, “The Comparison of Fuel and Electrolyte Type in Fuel Cell Using PtRuCe/MWNTs”, The first National Conference on New Technologies in Chemical and Petrochemical (Poster).

Elaheh Esmaeili, Ali Morad Rashidi, “Electrochemical Oxidation of Methanol on MWNTs-supported Anode Electrocatalysts”, The first National Conference on New Technologies in Chemical and Petrochemical (Poster).

Elaheh Esmaeili, Reza Ghazanfar Chaydareh, “Neel Relaxation as Responsible Mechanism for the Enhanced Heat Transfer Properties of Magnetite Nanofluids”, ICNN2014, 22-24 October 2014 (Oral).

Elaheh Esmaeili, Reza Ghazanfar Chaydareh, “The Effect of Magnetic Field Amplitude on the Convective Heat Transfer Coefficient of Magnetite Nanoparticles Based on Various Fluids”, ICNN2014, 22-24 October 2014 (Poster).

Elaheh Esmaeili, Reza Ghazanfar Chaydareh, “Hyperthermia-assisted Enhancement of Convective Heat Transfer Characteristics of Magnetite-containing Nanofluids”, ICNN2014, 22-24 October 2014 (Poster).

Seyyed Amin Rounaghi, Elaheh Esmaeili, Majid Aghajani, “Nano-porous Silica Aerogel Prepared by Sol-gel Technique at Ambient Pressure”, ICNN2016, 26-28 October 2016 (Poster).

Fatemeh Deymeh, Elaheh Esmaeili, Seyyed Amin Rounaghi, “The Synthesis of Poly Ethylene Terephthalate Nanofiber Mats by Electrospinning of PET Bottle Wastes”, ICNN2016, 26-28 October 2016 (Poster).

Seyyed Amin Rounaghi, Elaheh Esmaeili, Reza Ghazanfar Chaydareh, Hasan Zargari, “The Investigation of the Copper-based Nanofluids in Heat Transfer Characteristics”, IMAT2016, 8-9 November 2016 (Poster).

Seyyed Amin Rounaghi, Hasan Zargari, Elaheh Esmaeili, “Room-temperature synthesis of nanostructured copper powder through the solid-state reduction of CuO”, 8-9 November 2016 (Poster).

Seyyed Amin Rounaghi, Elaheh Esmaeili, J. Eckert, “Solid-State Fabrication of AlN-MWCNTs Nanocomposite through a Simple Mechano-thermal Approach”, ICNN2018, 26-28 September 2018 (Poster).

Elaheh Esmaeili, Seyyed Amin Rounaghi, “The Preparation of Promoted Pd-based CNFs/SMFs Catalysts and Its Application in Selective Hydrogenation of Acetylene”, ICNN2018, 26-28 September 2018 (Oral).

Seminars and Conferences (in persian)

Seyyed Amin Rounaghi, Elaheh Esmaeili, Azarpeykan Ahmad, “The synthesis and heat transfer properties investigation of graphene-based nanofluids prepared by the reduction mechanochemical

method", IMAT2017, 2017.

Seyyed Amin Rounaghi, Elaheh Esmaeili, Azarpeykan Ahmad, "The production and the use of PtRuCe based on carbon nanotubes in methanol fuel cells", IMAT2017, 2017.

Seyyed Amin Rounaghi, Elaheh Esmaeili, Alireza Hatafi-Nasab, "The green mechanochemical synthesis of copper nanoparticles and their thermal performance in convective heat transfer properties", IMAT2018, 2018.

Elaheh Esmaeili, Seyyed Amin Rounaghi, Alireza Hatafi-Nasab, "The mechanochemical synthesis of cu-graphene nanoparticles and the investigation of thermal properties of the resulted nanofluid", IMAT2018, 2018.

Research projects

The production of carbon nanotube electrodes and their application in ion-exchange fuel cells, Research Institute of Petroleum Industry, 2009.

The investigation of the external magnetic field on the heat transfer properties of the magnetite nanofluids based on hyperthermia principle, Birjand University of Technology, 2013.

The synthesis of metal and CNTs-based metal magnetic nanoparticles for the improvement of heat transfer properties, Iran National Science Foundation (INSF), 2013.

The mechanochemical synthesis of copper oxide nanoparticles and their application as the thermal nanofluid, Birjand University of Technology, 2017.

In-situ synthesis of graphene and graphene-metal nanocomposites by the use of mechanochemical reduction method, 2017.

Books

Iman Mansouri, Elaheh Esmaeili, "Nanotechnology applications in the construction industry" in: "Advanced research on nanotechnology for Civil Engineering Applications", IGI Global Publishing, 2016.

Reviewer in Journals
Chemical Engineering Journal (ISSN: 1385-8947)
Iranian Journal of Chemistry and Chemical Engineering (ISSN: 1021-9986)
Journal of Advanced Materials and Technologies (ISSN: 2008-4269)
International Journal of Nanoscience and Nanotechnology (ISSN: 1735-7004)
Saffron Researches Journal (ISSN: 2383-1316)

Working and Executive Experiences
Vice President for Educational Affairs, Birjand University of Technology, Birjand, Iran. (2014-2017)
Vice President for Research Affairs, Birjand University of Technology, Birjand, Iran. (2014-2017)
Nanotechnology Research Center, Research Institute of Petroleum Industry (RIPI), Tehran, Iran. (2007-2010)
Nanosience and Nanotechnology Research Center (NSTRC), University of Tehran, Iran. (2007-2008)