
OBJECTIVE:

To obtain a full-time position as assistant professor of chemical engineering with emphasis on “*Nanofluidics* and *Natural Gas Processing*”, strong academic background and leadership skills could be utilized.

Education

✚ **Postdoctoral Research Fellow** **2014**
(Middle East Technical University, Ankara, Turkey)
✓ Research title: “*Numerical and experimental investigation on physical properties of carbon nanotube nanofluids*”

✚ **PhD of Chemical Engineering** **2009-2013**
(Advanced Chemical Engineering/Nanofluidics)
✚ Heat transfer enhancement in Radiators by Nanofluids
✚ Carbon Nanotube, Synthesis and Application
✚ Design of Experiment (Statistical Engineering)
✚ Rheometers and Application in Industries
✚ New Methods of Optimization
✚ Droplet impact on heat transfer

Thesis title: “*Experimental and Numerical Investigation on Forced Convective Heat Transfer of Nanofluids through Helical Coiled Tubes*”

✚ Short term (6 months) sabbatical period at **RMIT university/Australia** (Royal Melbourne Institute of Technology) **2013**
✓ Research title: “*Nanofluid Droplet Impact Heat Transfer over Nano-structured Superhydrophobic and Superhydrophilic Surfaces*”

✚ **M. Sc. of Chemical Engineering** **2007-2009**
(Compression, Transmission and Distribution of Natural Gas)
✚ Advanced Gas Processes
✚ Simulation of Dehydration Process with TEG by HYSYS and ASPEN PLUS
✚ Optimization using Neural Network & Genetic Algorithm
✚ HSE Course
(Noori Petrochemical: Asalooyeih-Iran)

Thesis title: “*Experimental Investigation on Thermal Performance of a Two-Phase Closed Thermosyphon Using Nanofluid*”

✚ **B. Sc. of Chemical Engineering** **2002–2006**
(Mineral and Chemical Industries)
✚ Anti-Corrosion Methods in Different Industries
✚ Renewable Energies with Emphasis on “Biomass”
✚ Cost Estimation & Economical Project Design
✚ MTBE Production Unit, Economic and Control Structure Design as a project.

✚ Excellent experiences as a part of training courses in summer (2* 3months):

1. Khorasan Petrochemical - Bojnord-Iran
2. Shargh Cement Factory - Mashhad-Iran

Project title: “Solar Heat Pipe collectors, Design and Construction”

Publications

✚ **Journals**

- ✚ **M. Kahani**, R. G. Jackson, G. Rosengarten, “*Experimental investigation of TiO₂/Water nanofluid droplet impingement on nanostructured Surfaces*”, Industrial and Engineering Chemistry Research, 55 (2016) 2230-2241.
- ✚ Z. Taghizadeh-Tabari, S. Zeinali Heris, M. Moradi, **M. Kahani**, “*The study on application of TiO₂/water nanofluid in plate heat exchanger of milk pasteurization industries*”, Renewable and Sustainable Energy Reviews, 58 (2016) 1318-1326.
- ✚ S. Pourfarhang, S. Zeinali Heris, M. Shokrgozar and **M. Kahani**, “*Pressure drop and thermal performance of CuO/Ethylene Glycol-Water (60/40) nanofluid in car radiator*”, The Korean Journal of Chemical Engineering, 34 (2015) 609-616.
- ✚ **M. Kahani**, S. Zeinali Heris and S.M. Mousavi, “*Experimental investigation of TiO₂/water nanofluid laminar forced convective heat transfer through helical coiled tube*”, Journal of Heat and Mass transfer, 50 (2014) 1563–1573.
- ✚ **M. Kahani**, S. Zeinali Heris and S.M. Mousavi, “*Curvature ratio and pitch spacing effect of helical coiled tube on pressure drop and heat transfer behavior of TiO₂/water nanofluid laminar flow*”, Journal of Applied and Computational Sciences in Mechanics, 25 (2014) 77-94 (Persian).
- ✚ **M. Kahani**, S. Zeinali Heris and S.M. Mousavi, “*Multiwalled carbon nanotube/water nanofluid or helical coiling technique, which of them is more effective?*”, Industrial and Engineering Chemistry Research, 52 (2013) 13183-13191.
- ✚ **M. Kahani**, S. Zeinali Heris and S.M. Mousavi, “*Effects of curvature ratio and coil pitch spacing on heat transfer performance of Al₂O₃/Water nanofluid laminar flow through helical coils*”, Journal of Dispersion Science and Technology, 34 (2013) 1704-1712.
- ✚ H. Chaji, Y. Ajabshirchi, E. Esmaeilzadeh, S. Zeinali Heris, M. Hedayatzadeh and **M. Kahani**, “*Experimental study on thermal efficiency of flat plate solar collector using TiO₂/water nanofluid*”, Modern Applied Science, 7 (2013) 60-69.
- ✚ **M. Kahani**, S. Zeinali Heris and S.M. Mousavi, “*Comparative study between metal oxide nanopowders on thermal characteristics of nanofluid flow through helical coils*”, Powder Technology, 246 (2013) 82-92.
- ✚ **M. Kahani**, S.H. Noie and S. Zeinali Heris, “*The comparison of thermal performance on a two-phase closed thermosyphon using metal oxide nanofluids*”, Journal of Separation and Transport Phenomena, 21 (2011) 43-58 (Persian).
- ✚ **M. Kahani**, S. Zeinali Heris, S.M. Nowee and S.H. Noie, “*Thermal behavior of a two phase closed thermosyphon using CuO/water nanofluid*”, International Journal of Microscale and Nanoscale Thermal and Fluid Transport Phenomena, 1 (2010) 195–210.
- ✚ S.H. Noie, S. Zeinali Heris, **M. Kahani** and S.M. Nowee, “*Heat transfer enhancement using*

Al₂O₃/water nanofluid in a two-phase closed thermosyphon”, International Journal of Heat and Fluid Flow (Sponsored by Elsevier) 30 (2009) 700–705.

✓ Among most cited papers in Heat and Fluid Flow. (#Citation By Google Scholar: 123)

📄 Conferences

✚ M. Farrokhi, **M. Kahani**, S. Zeinali Heris, “Numerical Investigation of Al₂O₃/water Nanofluid Laminar Convective Heat Transfer through a Helical Pipe”, The 9th International Chemical Engineering Congress & Exhibition (IChEC), Shiraz University, December 2015.

✚ **M. Kahani**, M. Farrokhi, “Power Generation from Waste Heat Using the Trilateral Flash Cycle”, The 9th International Chemical Engineering Congress & Exhibition (IChEC), Shiraz University, December 2015.

✚ M. Farrokhi, **M. Kahani**, “Optimization of energy consumption by CHP”, The International Conference of Science, Engineering and Environmental Technologies, University of Tehran, May 2015 (Persian).

✚ R.G. Jackson, **M. Kahani**, N. Karwa, A. Wu, R. Lamb, R. Taylor, G. Rosengarten, “Effect of surface wettability on carbon nanotube water-based nanofluid droplet impingement heat transfer”, Eurotherm Seminar 102: Thermal Management of Electronic Systems (University of Limerick, Ireland). Journal of Physics: Conference Series 525 (2014) 012024.

✓ This article won the best paper award in Eurotherm 102.

Ref. <http://eurothermseminar102.com/registration/>

✚ **M. Kahani**, S. Zeinali Heris and S.M. Mousavi, “Heat transfer enhancement in helical coiled tubes using Al₂O₃/Water Nanofluid”, The 2nd Conference on Emerging Trends in Energy Conservation-ETEC, Tehran University, Iran, March 2013.

✚ **M. Kahani**, S. Zeinali Heris and S.H. Noie, “Experimental investigation of thermal performance on a two-phase closed thermosyphon using CuO/Water nanofluid”, The 13th National Iranian Chemical Engineering Congress & The 1st Regional Oil & Chemical Engineering Congress (IChEC13), Razi University Kermanshah, Iran, October 2010 (Persian).

✚ **M. Kahani**, S.H. Noie and S. Zeinali Heris, “Investigation on thermal performance of a two-phase closed thermosyphon using nanofluid”, The 15th Nanotechnology Students Conference, Tehran Medical Sciences University, Iran, June 2009 (Persian).

✚ **M. Kahani**, S.H. Noie and S. Zeinali Heris, “Effect of Alumina-water nanofluid as working fluid on efficiency improvement of a two-phase closed thermosyphon”, The 12th International Conference of Fluid Dynamics, Babol Noshirvani University of Technology, Iran, May 2010 (Persian).

Honors and Awards

Ref: ✚ Premier selective in 7th Ferdowsi Festival (Scientific & Research) 2009

- Ferdowsi University, Iran, Mashhad,
<http://jashnvareh.um.ac.ir/>

✚ Dominant researcher student in Ferdowsi University of Mashhad, Faculty of Engineering. 2008 & 2013

Part Time Careers:

Planning & Project Control Engineer

Ferdowsi University of Mashhad, - Iran

Because of my interest in Oil & Gas industries decided to change work and continue studying in chemical engineering, therefore started cooperation with research center of energy optimization and minimizing pollution in planning management. During this period (in research center), I gained good experience and improved knowledge in project control and management areas.

Process Engineer in following Project

Ferdowsi University of Mashhad - Iran

This work was Designing and construction of Heat Pipe Heat Exchanger (HPHE) in Ferdowsi University of Mashhad for Power Plant as a research project. In this project, the goal was optimisation of waste heat recovery.

Researcher in following Project

Ferdowsi University of Mashhad, - Iran

In this project, my effort was about “offshore pipeline” And the selection best method for offshore pipelining in Iranian fields at Persian Gulf.

Additional Information

Languages:

- ✚ English (Good in Writing & Reading English, Well in Speaking English)
- ✚ Persian (Native Language)

COMPUTER SKILLS:

A: General Softwares

- ✚ Experience with operating under Windows XP/8.1/LAN Network, Microsoft Office Word/Excel/Access/MS Project /PowerPoint.

B: Technical Softwares

- ✚ Highly familiar in using ASPEN PLUS (S.S & Dynamic Process/Amine Package), PIPESYS, ASPEN Package (S.S & Dynamic), MATLAB and Design Expert.

ABILITIES:

- ✚ Control structure design for complete chemical plants
- ✚ Pipeline Simulation and Design
- ✚ Shell & Tube Heat Exchangers Thermal Design & Optimization
- ✚ General Process Engineering Calculations

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