

## Mahmoud Jourabian

Birth: 24 June 1986/ Arak-Iran  
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### Education:

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- 2004-2008 Bachelor of Science in Manufacturing Engineering, Iran University of Science and Technology-IUST, Arak, Iran, GPA: 15.25 / 20  
Major Project: "Modeling and Finite Element Analysis of trains' shaft under static and dynamic loads"
- 2009-2012 Master of Science in Mechanical Engineering (Energy Conversion), Babol University of Technology, Babol, Iran, GPA: 17.18 / 20  
Major Project: "Effect of Extended Surfaces on Melting Phenomena Using Lattice Boltzmann Method"
- 2014-2017 Doctor of Philosophy (pursuing) in Coastal Engineering, University of Trieste, Trieste, Iran  
Major Project: "Large eddy simulation of sediment transport in estuaries and fluvial areas"

### Research Interests:

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- Phase change materials
- Thermal energy storage (TES) systems
- Lattice Boltzmann methods
- Nanofluids
- Porous media
- Sediment Transport
- Large Eddy Simulation (LES)

### Conference Papers:

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- A.A. Rabienataj Darzi, M. Farhadi, K. Sedighi, H. Hassanzadeh and M. Jourabian. Cooling of hot chip in rectangular channel using phase change materials as a heat sink, *International Conference on Advanced Research and Applications in Mechanical Engineering 2011 (ICARAME' 11)*, Notre Dame university-Louaize, Lebanon, 13 -15 June 2011.
- M. Jourabian, M. Farhadi, K. Sedighi and A.A. Rabienataj Darzi. Lattice Boltzmann simulation of melting process with natural convection in a cavity with fin, *International Meeting on Advances in Thermofluids (4<sup>th</sup> IMAT)*, University Technology Malaysia (UTM), Malaysia, 3-4 October 2011.

### Journal Papers:

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- M. Jourabian, M. Farhadi, K. Sedighi, A.A. Rabienataj Darzi and Y. Vazifeshenas. Simulation of natural convection melting in a cavity with fin using lattice Boltzmann method, *International Journal of Numerical Methods in Fluids*, 70, 3, pp. 313–325, 2012.

- M. Jourabian, M. Farhadi, K. Sedighi, A.A. Rabienataj Darzi and Y. Vazifeshenas. Melting of NEPCM within cylindrical tube: numerical study using lattice Boltzmann method, *Numerical Heat Transfer: Part A*, 61, 12, pp. 929-948, 2012.
- M. Jourabian, A.A. Rabienataj Darzi and M. Farhadi. Lattice Boltzmann investigation for enhancing the thermal conductivity of ice using  $AL_2O_3$  porous matrix, *International Journal of Computational Fluid Dynamics*, 26, 9-10, pp. 451-462, 2012.
- A.A. Rabienataj Darzi, M. Farhadi, M. Jourabian and Y. Vazifeshenas. Natural convection melting of NEPCM in a cavity with an obstacle using lattice Boltzmann method, *International Journal of Numerical Methods for Heat and Fluid Flow*, 24, 1, 2014.
- M. Jourabian, M. Farhadi and A.A. Rabienataj Darzi. Convection-dominated melting of phase change material in partially heated cavity: lattice Boltzmann study, *Heat and Mass Transfer*, 49, 4, pp. 555-565, 2013.
- M. Jourabian, M. Farhadi, A.A. Rabienataj Darzi and A.A. Abouei. Lattice Boltzmann simulation of melting phenomenon with natural convection from an eccentric annulus, *Accepted in Thermal Science*, 2013.
- M. Jourabian, M. Farhadi and A.A. Rabienataj Darzi. Simulation of natural convection melting in an inclined cavity using lattice Boltzmann method, *Scientia Iranica*, 19, 4, pp. 1066-1073, 2012.
- A.A. Rabienataj Darzi, M. Farhadi and M. Jourabian. Lattice Boltzmann simulation of heat transfer enhancement during melting by using nanoparticles, *IJST, Transactions of Mechanical Engineering*, 37, M1, pp. 23-37, 2013.
- M. Jourabian, M. Farhadi and A.A. Rabienataj Darzi. Outward melting of ice enhanced by Cu nanoparticles inside cylindrical horizontal annulus: lattice Boltzmann approach, *applied mathematical modeling*, 37, 20-21, pp. 8813-8825, 2013.
- M. Jourabian, M. Farhadi, K. Sedighi and A.A. Rabienataj Darzi. Expedited melting of phase change material (PCM) through dispersion of nanoparticles in thermal storage unit, *submitted to Computers and Mathematics with Applications*, 2013.

## Computer Skills:

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- Software Packages: FORTRAN, GAMBIT, C++, FLUENT, MATLAB, TECPLOT, Ms Office (Excel, Power Point and etc...), Windows and Linux.

## Working Experiences and Extra-curriculum Activities:

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- Working in Iranian Aluminium Company (IRALCO)-Iran as an internship project, summer 2006.
- Passing a training course on the subject of Introduction to ISO/TS 29001-requirement for product and service supply organization in the fields of petroleum, petrochemical and natural gas industries-TÜV Rheinland, 2007.

- Certificate of technical and vocational skill training on "Grade 2 CNC Milling Operator".
- Worked for one year at the Thermodynamics laboratory-Babol University of Technology-Iran to accomplish my Master of Science project, 2011.
- A tutor of heat treatment and fluid dynamics in two local universities in my home city, 2013

**Foreign Language: [Native Language: Farsi (Persian)]**

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**TOEFL IBT Test Date: September 2013, total score=87**

(Reading=23, Listening=16, Speaking=23, Writing=25)

**GRE GENERAL Test Date: November 2013**

(Verbal Reasoning=147, Quantitative Reasoning=164, Analytical Writing=4.0)