

Alireza Jafarinia

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Education

2018-Present	PhD. in “Mechanical Engineering” at Technical University of Graz, Graz, Austria	Supervisor: Prof. T. Hochrainer
2011-2013	M.Sc. in “Mechanical Engineering–Energy Conversion” at Yazd University, Yazd, Iran	Total GPA: 17.86/20 Supervisor: Dr. A.A. Dehghan
2007-2011	B.Sc. in “Mechanical Engineering–Thermofluids Mechanics” at Persian Gulf University, Bushehr, Iran	Total GPA: 16.47/20 Supervisor: Dr. R. Fatehi

M.Sc. Academic Projects

Thesis	<ul style="list-style-type: none">• Numerical Investigation of Heat and Fluid Flow on Collocated Grids and Comparison with Staggered Grids (Grade:19.25/20).
Computational Fluid Dynamics	<ul style="list-style-type: none">• Generating Fortran code to solve mixed convection in laminar and turbulent flows on collocated and staggered grids
Microfluidics	<ul style="list-style-type: none">• 2D simulation of flow around a circular cylinder using no-slip and partial slip boundary conditions within OpenFOAM and comparing to ANSYS Fluent results
Convective Heat Transfer	<ul style="list-style-type: none">• Solving equation of isothermal cross flow over a tube for different Biot numbers, using MATLAB• Numerical solution of Falkner-scan and energy equation for flow over a wedge, Fortran coding
Advanced Aerodynamics	<ul style="list-style-type: none">• Simulation of viscous flow over an airfoil and investigating stall phenomena, using ANSYS Fluent• Airfoil computations using Panel and boundary layer integral methods, using Fortran

B.Sc. Academic Projects

Graduation Project	<ul style="list-style-type: none">• Numerical Simulation of Combined Convection and Radiative Heat Transfer on an Irregular Surface using OpenFOAM, (Grade:19/20).
Computational Fluid Dynamics	<ul style="list-style-type: none">• Generating structured and unstructured meshes using MATLAB• Simulation of viscous flow in ducts, heat and fluid flow over immersed bodies using ANSYS Fluent
Design of refrigeration & cooling room systems	<ul style="list-style-type: none">• Calculating cooling load, design of refrigeration systems and equipment selection for a typical cold storage room, using Carrier’s Hourly Analysis program and EES software

Publications

Jafarinia A.R., Dehghan A.A., Hadian M.R., "Investigation of Heat and Fluid Flow on Collocated Grid Using Pressure Gradient Interpolation Method and Comparison with Staggered Grid", **Fifteenth Fluid Dynamics Conference**, Hormozgan University, 2013

Jafarinia A.R., Dehghan A.A., Hadian M.R., "Investigation and Comparison of Different Methods for Solving Fluid Flow with Heat Transfer on Collocated and Staggered Grids in Natural Convection Problem", **Journal of Mechanical Engineering**, University of Tabriz, 2015, Volume 45, Issue 3, Pages 27 -38

Amini M., Amini R. **Jafarinia A.R.**, Kashfi M., "Numerical investigation on effects of using segmented and helical tube fins on thermal performance and efficiency of a shell and tube heat exchanger", **Applied Thermal Engineering**, Volume 138, 25 June 2018, Pages 750-760

Education Highlights

- **5th rank**, among the 29 students of **master's** program
- **4th rank**, among the 50 students of **bachelor's** program

Research and working experiences

- 2018-Present** • **University research assistant** at Technical University of Graz
- 2015- 2017** • CFD engineer at "Mr-CFD Company"
- "English and Maths" instructor at "Shiraz Razi Institute",
- 2013-2016** • "Numerical Simulation of Two-phase Flow in Porous Media using OpenFOAM"
- "3D Simulation of an Axial Flow Compressor in Design and Off-design Conditions". ANSYS Fluent is used for simulations.
- 2011** • Three-month internship at **Petrochemical Industries Design and Engineering Company(PIDEC)**
- 2009** • Teaching assistant, **Fluid Mechanics**, at mechanical engineering department, Persian Gulf University

Skills

Languages	<ul style="list-style-type: none">• Farsi• English• German	Native Language Fluent(Verbal&Writing),(IELTSo verall 7) A1
Computer	<ul style="list-style-type: none">• General• Engineering	Linux, LATEX OpenFOAM, ANSYS Fluent, GAMBIT EES, Carrier's Hourly Analysis AutoCAD, CATIA, Tecplot
	<ul style="list-style-type: none">• Programming	Fortran C++ MATLAB

Research Interests

- Computational Fluid Dynamics
- Biomechanics
- Transport phenomena
- Porous media
- Multiphase Flow
- Finite element Analysis