


PERSONAL INFORMATION


Ramin Ranjbarzadeh

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Objective

“I am a Ph.D. graduate in "INGEGNERIA AMBIENTALE E IDRAULICA" from the Sapienza University of Rome, focusing on fluid dynamics. Theoretically, I am familiar with laboratory techniques to measure velocity field in urban canopies. My interdisciplinary approach combines experimental experiences with computational analysis, aligning with the research project’s objectives for your research group. I am eager to contribute my analytical skills and collaborative spirit to advance the understanding of environmental flows within urban landscapes.”

WORK EXPERIENCE

2019– May 2023

Research and study as a Ph.D. student at the Sapienza University of Rome.

2018–2019

Member of Modern Manufacturing Technologies Research Centre, IAUN, Iran.

2016–2019

Lecturer (Part-Time); Department of Mechanical Engineering, IAUN

2015–2019

Researcher as a member of the Young Researchers and Elite Club also work at the advanced nanofluids laboratory (IAUN)

2011–2012

Private tutor in Physics and Mathematics.

EDUCATIONS

Sep 2019– May 2023

Ph.D. Student in INGEGNERIA AMBIENTALE E IDRAULICA
Department of Civil, Constructional and Environmental Engineering,
Sapienza University of Rome, Rome, Italy.

Thesis subject: Lattice Boltzmann modeling Fluid flow and heat transfer through porous media

- A passion for various engineering simulations and a desire to learn fast
- Have a good knowledge of fluid flow and heat transfer in different physics
- Ability to work in group research and as a team leader
- Positive personality and open to communication

Sep 2013–Feb 2016

Master of Mechanical Engineering _ Energy conversion
Department of Mechanical Engineering, Islamic Azad University, Isfahan,
Iran.

Thesis subject: “Experimental and Numerical study on heat transfer of a nanofluid in a tube which using twisted tape inserts under air crossflow at a wind tunnel”.

- Top student award in Department of Mechanical Engineering
- Top Researcher Award in the university

Jan 2008–Jan 2012

Bachelor of Mechanical Engineering

Final Project: A review on the role of renewable energy sources in environmental protection

Department of Mechanical Engineering, IAUKHSH, Isfahan, Iran

RESEARCH PROJECTS

An experimental study on the synthesis and preparation of eco-friendly nanoparticles

2018 - 2019

I carried out this research project as responsible at the Department of Mechanical Engineering, Najafabad Branch. Young researchers and elite club of the university financially supported this research.

Research project number:

Curriculum vitae

Numerical simulation of fluid flow and heat transfer through porous media in a microchannel-

2020 - 2021

Carried out at DICEA as a Progetti per Avvio alla Ricerca.

Protocol number:

Lattice Boltzmann Method for fluid flow and heat transfer through porous media.

2021 - 2022

Carried out at DICEA, as a Progetti per Avvio alla Ricerca .

Protocol number:

Lattice Boltzmann Method for fluid flow through porous media: tortuosity, porosity and pressure drop in Pore-Structure topologies.

2022 - 2023

Carried out at DICEA, as a Progetti per Avvio alla Ricerca.

Protocol number:

PERSONAL SKILLS

Foreign language	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	C1	C1	C1
Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user Common European Framework of Reference for Languages - Self-assessment grid					

Organisational/managerial skills

Handle responsibility

Creative thinking; Reviewing, reporting, and research

Multitasking and Team leadership

Digital skills

Ansys Fluent

COMSOL Multiphysics

Programming; Python, Fortran and MATLAB

Machine learning

Microsoft Office

Sigma Plot and Tecplot

Research interests

- * Laboratory measurement techniques for the acquisition of fluid flow field
 - * Experimental and numerical studies for fluid flow and heat transfer
 - * Urban fluid mechanics
 - * Atmospheric boundary layers
 - * Air pollution challenges
 - * Turbulent flow
 - * Advances in Porous Media
 - * Lattice Boltzmann approach
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HONOURS AND AWARDS

Top student award in M.Sc. Courses, Department of Mechanical Engineering, IAUN, Iran. In 2016

1st place team award, Iran Nanotechnology Initiative Council (INIC), Iran, 2016.

Top Researcher Award, Islamic Azad University-Najafabad, Iran, 2017.

1st place, Young Researchers and Elite Club, Islamic Azad University, Iran, 2018

1st place, The 4th Nanotechnology festival, 2019, Iran

REVIEWER

International Journal of Heat and Mass Transfer, Powder Technology, Journal of Thermal Analysis and Calorimetry, International Journal of Refrigeration, Journal of Molecular Liquids, Journal of Energy Storage, Mathematical Methods in the Applied Sciences, International Journal of Numerical Methods for Heat & Fluid Flow.

Selected publications

Book chapter

Afrand, M., & Ranjbarzadeh, R. (2020). Hybrid nanofluids preparation method. In Hybrid nanofluids for convection heat transfer (pp. 49-99). Academic press.

Journal Publications

Ranjbarzadeh, R., Meghdadi, A. H., & Hojaji, M. (2016). The analysis of experimental process of production, stabilizing and measurement of the thermal conductivity coefficient of water/graphene oxide as a cooling nanofluid in machining. *Journal of Modern Processes in Manufacturing and Production*, 5(2), 43-53.

Ranjbarzadeh, R., Karimipour, A., Afrand, M., Isfahani, A. H. M., & Shirneshan, A. (2017). Empirical analysis of heat transfer and friction factor of water/graphene oxide nanofluid flow in turbulent regime through an isothermal pipe. *Applied Thermal Engineering*, 126, 538-547.

Ranjbarzadeh, R., Isfahani, A. M., Afrand, M., Karimipour, A., & Hojaji, M. (2017). An experimental study on heat transfer and pressure drop of water/graphene oxide nanofluid in a copper tube under air crossflow: applicable as a heat exchanger. *Applied Thermal Engineering*, 125, 69-79.

Ranjbarzadeh, R., Meghdadi Isfahani, A. H., & Hojaji, M. (2018). Experimental investigation of heat transfer and friction coefficient of the water/graphene oxide nanofluid in a pipe containing twisted tape inserts under air crossflow. *Experimental Heat Transfer*, 31(5), 373-390.

Al-Rashed, A. A., Ranjbarzadeh, R., Aghakhani, S., Soltanimehr, M., Afrand, M., & Nguyen, T. K. (2019). Entropy generation of boehmite alumina nanofluid flow through a minichannel heat exchanger considering nanoparticle shape effect. *Physica A: Statistical Mechanics and its Applications*, 521, 724-736.

Ranjbarzadeh, R., Moradikazerouni, A., Bakhtiari, R., Asadi, A., & Afrand, M. (2019). An experimental study on stability and thermal conductivity of water/silica nanofluid: Eco-friendly production of nanoparticles. *Journal of cleaner production*, 206, 1089-1100.

Alsarraf, J., Shahsavari, A., Khaki, M., Ranjbarzadeh, R., Karimipour, A., & Afrand, M. (2020). Numerical investigation on the effect of four constant temperature pipes on natural cooling of electronic heat sink by nanofluids: a multifunctional optimization. *Advanced Powder Technology*, 31(1), 416-432.

Ranjbarzadeh, R., & Chaabane, R. (2021). Experimental study of thermal properties and dynamic viscosity of graphene oxide/oil nano-lubricant. *Energies*, 14(10), 2886.

Chaabane, R., D'Orazio, A., Jemni, A., Karimipour, A., & Ranjbarzadeh, R. (2021). Convection inside nanofluid cavity with mixed partially boundary conditions. *Energies*, 14(20), 6448.

Ranjbarzadeh, R., Akhgar, A., Taherialekouhi, R., D'Orazio, A., Mohammad Sajadi, S., Ghaemi, F., & Baleanu, D. (2022). Improve the heat exchanger efficiency via examine the Graphene Oxide nanoparticles: a comprehensive study of the preparation and stability, predict the thermal conductivity and rheological properties, convection heat transfer and pressure drop. *Journal of Thermal Analysis and Calorimetry*, 147(13), 7509-7521.

D'Orazio, A., Karimipour, A., & Ranjbarzadeh, R. (2023). Lattice Boltzmann modelling of fluid flow through porous media: A comparison between pore-structure and representative elementary volume methods. *Energies*, 16(14), 5354.

Ramin Ranjbarzadeh and Giuseppe Sappa*, Numerical and experimental study of fluid flow and heat transfer in porous media: A review article" Under review.

**International
conference
publications**

R. Ranjbarzadeh and Giuseppe Sappa, " Developing a new form of the Kozeny–Carman equation at pore-scale porous medium ", International Conference Mechanical, Industrial and Production Engineering (ICMIPE-23), 2-3 November 2023, Paris, France.

A. D'Orazio, A. Karimipour, **R. Ranjbarzadeh***, "Lattice Boltzmann Model of fluid flow in porous media: tortuosity and porosity effects", The 18th International Conference for Mesoscopic Methods in Engineering and Science, June 27 - July 1 2022, La Rochelle, France.

R. Ranjbarzadeh, A.h. Meghdadi, M. Nouri, D. Shirazi, " The Experimental Investigation of Effects of Ultrasonic Wave Period and Acidity of Basic Fluid on Stability of Water/Graphene Oxide Nanofluid ", International Conference on research in Science and Engineering, 4 - 7 February 2019, Tehran, Iran.

D. Shirazi, **R. Ranjbarzadeh**, M. Nouri, "An experimental study on viscosity of CuO-ZnO/ engine oil: effects of temperature and nanoparticles concentration ", 25th International Conference on Mechanical Engineering, 2-3 May 2017, Tehran, Iran.

"I hereby give consent for my personal data included in my application to be processed for the purposes of the recruitment process under the European Union's General Data Protection Regulation (GDPR) for the period of one year or until I withdraw my consent."