

ALI KARIMI

PERSONAL INFORMATION

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ali.karimi@unina.it

[LinkedIn Profile](#)

[Google Scholar Profile](#)

Stavanger, Norway

Sex Male | Date of birth 19 Apr 1991 | Nationality Iranian

EDUCATION AND TRAINING

01 Nov 2021– Present

Ph.D. in Industrial Engineering

EQF level 8

University of Naples Federico II

Main Subject: Hybrid Energy Systems, Controlling and Optimization

Tutor: Prof. Alfredo Gimelli

23 Sep 2015–22 Sep 2017

M.Sc. in Mechanical Engineering

EQF level 7

Islamic Azad University of Najafabad, Najafabad

Thesis Title: Numerical simulation of coil heat exchanger containing nanofluid under external flow.

Tutor: Dr. Masoud Afrand

23 Sep 2010–22 Sep 2015

B.Sc. in Mechanical Engineering

EQF level 6

Shahrekord University, Shahrekord

Thesis Title: Designing an HAVC system for a residential building.

Tutor: Dr. Morteza Bayareh

Experience

Sep 2023 – Present

Supply and installation of a desalination plant on the island of Thirasia with Renewable Energy Sources

Jul. 2022 – Aug 2023

SPAHSS-2-HYDROGEN

Smart Power and Heat Storage System to Hydrogen

Nov. 2022 – Present

H.O.P.E Project:

(Hybrid Orc-Photovoltaic system heat Exchanger)

A CFD investigation of an innovative heat exchanger for a cooling system of a concentrated Photovoltaic cell coupling with an Organic Rankine Cycle plant.

Nov. 2021 – Aug. 2022

C.O.M.E.O Project:

(new Coating Model for Energy Optimization)

Energetic and economic optimization of a coating system through the optimal sizing of photovoltaic panels and cogeneration plant.

LIST OF PUBLICATIONS

Journal Article

A. Karimi, M. Afrand. (2018). Numerical study on thermal performance of an air-cooled heat exchanger: effects of hybrid nanofluid, pipe arrangement and cross section. *Energy Conversion and Management*. Vol 164, 615-628.

A. Karimi, A. Al-Rashed, M. Afrand, O. Mahian, S. Wongwises, A. Shahsavari (2019). The effects of tape insert material on the flow and heat transfer in a nanofluid-based double tube heat exchanger: two-phase mixture model. *International Journal of Mechanical Sciences*. Vol 156, 397-409.

H. Wu, A. Al-Rashed, A. A. Brazing, A. Shahsavari, **A. Karimi**, P. Talebizadehsardari (2019). Curve-fitting on experimental thermal conductivity of motor oil under influence of hybrid nano additives containing multi-walled carbon nanotubes and zinc oxide. *Physica A: Statistical Mechanics and its Applications*. Vol 535, 122-128

S. BRACCIO, A. Gimelli, R. Iossa, **A. Karimi**, M. Muccillo, Phan H. T. (2023). Battery-integrated combined cooling, heating, and power plant (CCHP) through NH₃-H₂O absorption system in a hospital facility. Conference paper: ATI-2023

Braccio S., Gimelli A., Iossa R., **Karimi A.**, Muccillo M., Phan H. T. (2023). Efficiency and cost estimation of a flexible Combined Cooling Heating and Power plant including battery energy storage system and combined ammonia-water cooling and electricity absorption cycle. *Applied Energy*. Under review.

A. Karimi, A. Gimelli, R. Iossa, M. Muccillo, (2023). Optimization, efficiency and cost simulation of a modular cogeneration plants integrated by battery energy storage system and ORC cycle. *Energy Conversion and Management*. Paper submitted.

Certifications

Machine Learning with Python

- Authorized by **IBM**,
- 12 hours (approximately)
- Grade Achieved: 95.26%
- October 3, 2022
- Issued by: Coursera, [Link to Certificate](#)

Introduction to Deep Learning & Neural Networks with Keras

- Authorized by **IBM**,
- 8 hours (approximately)
- Grade Achieved: 96%
- October 15, 2022
- Issued by: Coursera, [Link to Certificate](#)

Introduction to Computer Vision and Image Processing

- Authorized by **IBM**,
- 21 hours (approximately)
- Grade Achieved: 94%
- December 21, 2022
- Issued by: Coursera, [Link to Certificate](#)

CFD Simulation Through a Centrifugal Pump

- Authorized by Coursera Project Network
- Grade Achieved: 80%
- July 3, 2022
- Issued by: Coursera, [Link to Certificate](#)

Deep Neural Networks with PyTorch

- Authorized by **IBM**
- 32 hours (approximately)
- Grade Achieved: 84%
- July 21, 2023
- Issued by: Coursera, [Link to Certificate](#)

Solar Energy System Design

- Authorized by The State University of New York
- 16 hours (approximately)
- Grade Achieved: 94%
- November 21, 2023
- Issued by: Coursera, [Link to Certificate](#)

ADDITIONAL INFORMATION

Teaching experiences

- **Power and propulsion systems for UV** as teaching assistance 2021/2022 at University of Naples Federico II
- **Co-Supervisor** of master student (Francesco La Montagna)
- **Nanotechnology** as teaching assistance (2017) at Islamic Azad University of Najafabad
- **CFD** as teaching assistance (2017) at Islamic Azad University of Najafabad
- **Fluid Dynamics** as teaching assistance (2017) at Islamic Azad University of Najafabad

Computer and hardware skills

- Excellent knowledge of CFD modelling software (Ansys fluent, Ansys CFX, COMSOL Multiphysics)
- Excellent knowledge of design and 3D modelling software (Solidworks, Catia, Spaceclaim)
- Machine Learning skills: Deep Learning, Keras, Scipy and Scikit-Learn, Regression, Classification, Hierarchical Clustering, Image Processing
- Excellent knowledge of meshing software (Ansys meshing, ICEM, Gridpro)
- Good knowledge of programming (Fortran, Python)
- Excellent knowledge in Tecplot and Microsoft Office (Word, Excel, Power point)

PERSONAL SKILLS

Mother tongue(s) Persian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	C1	C1	B2

Replace with name of language certificate. Enter level if known.

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
Italian	A1	A1	A1	A1	A1

Replace with name of language certificate. Enter level if known.

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

REFERENCES

- Alfredo Gimelli, Professor of Mechanic Fluids, Faculty of Mechanical Engineering, Department of Industrial engineering, University of Naples Federico II, Naples, Italy
Phone: +39 081 768 3271
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- Mohsen Assadi, Professor in Gas Technology, Faculty of Science and Technology, Department of Energy and Petroleum Engineering, University of Stavanger, Norway
Phone: +4745224698
Email: mohsen.assadi@uis.no
- Giuseppe Langella, Professor of Energy and Environment Systems, Faculty of Mechanical Engineering, Department of Industrial engineering, University of Naples Federico II, Naples, Italy
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