University Academic Curriculum Vitae

Personal information Name: **Mohsen Fatehi**

Education since leaving school

- 2008, Mechanical Engineering, Heat and Fluids, Bsc; (Islamic Azad University of Tabriz)
- 2012 Mechanical Engineering, Energy Conversion, Msc; (Isfahan University of Technology)
- 2022-Now, Sustainable Energy and Technology, Phd; (Free University of Bolzano)

Present appointment

- Research Assistant
- February 1st 2025
- Level of appointment (in national / international context)-Research Assistant
- Free University of Bolzano/Bozen
- Provide support within the research project in relation to the combustion phenomena of alternative fuels with the aim: 1- develop a burner to identify the optimal operating parameters. 2- Carry out experimental investigations on the characterization of premixed flames. 3- Carry out numerical simulations of flame development and characterization in the tested configurations

Professional experience

Chronological list of all previous employments (each with job title, starting and finishing dates, level, employer, responsibilities)

From / to	Job title	Name of academic Institution	Academic level	responsibilities
2012-2014	Energy Expert	SAMAN ENERGY Co.	--	Energy Auditing & Study
2014-2022	Mechanical Expert-Rotary Equipment	MAPNA Group	--	Gas Turbine Design and Optimization

In the case of practice-related projects carried out in co-operation with studios, agencies or other people, please specify your own contribution to and role in the project.)

Participation in exhibitions (where applicable)

Where applicable: Design competitions and awards received
(Only list competitions that were won or those with a relevant placement and/or award, with name and date of competition)

List of major exhibitions, Title, date, location.
Turbo Expo 2024, June 2024, London, United Kingdom

Experience in academic teaching

- Teacher Assistant in Advanced Methods for Fluid Machine Design lectured by Dr. Caligiuri Carlo, Free University of Bolzano. (2024)
- Teacher Assistant in Advanced Methods for Fluid Machine Design lectured by Dr. Alberizzi Jacopo Carlo, Free University of Bolzano. (2025)
- Second Supervisor in master thesis “Modelling and design adaptation of a micro-gas turbine combustor for ammonia combustion”, Free University of Bolzano, 2024
- Second Supervisor in bachelor thesis “CFD simulation of syngas combustion and flame”, Free University of Bolzano, 2024

Other academic responsibilities

- Research Assistant in Optimization of Fuel Consumption in Combustion Chamber of Turbo-compressors, Isfahan University of Technology (IUT), 2012
- Research Assistant in Numerical simulation of compressor and turbine blades of MGT-40 gas turbine, Isfahan University of Technology (IUT), 2013

Memberships

Membership of academic or professional bodies (including membership of Editorial Boards of scientific publications; membership of scientific committees for international conferences)

Research and scholarships

- Summary of current research and scholarship
- Summary of research and scholarship during the previous five years
- Summary of significant achievements in research and scholarship
- Research grants and contracts

Date granted	Award Holder(s)	Funding Body	Title	Amount received

Publications

- Fatehi, M, Campaldini, G, & Renzi, M. "Micro Gas Turbine Fed With Ammonia As Fuel: Performance Analysis and NOx Emissions Reduction." *Proceedings of the ASME Turbo Expo 2024: Turbomachinery Technical Conference and Exposition*. *Volume 3A: Combustion, Fuels, and Emissions*. London, United Kingdom. June 24–28, 2024. V03AT04A002. ASME. https://doi.org/10.1115/GT2024-121302

- Fatehi, M., Campaldini, G., Renzi, M. (2024). Performance Analysis of a Micro Gas Turbine Fed by Ammonia as Fuel with Steam Injection. In: Latest Advancements in Mechanical Engineering. ISIEA 2024. Lecture Notes in Networks and Systems, vol 1124. Springer, Cham. https://doi.org/10.1007/978-3-031-70462-8_24

- Mohsen Fatehi, Massimiliano Renzi, Modelling and development of ammonia-air non-premixed low NOX combustor in a micro gas turbine: A CFD analysis, International Journal of Hydrogen Energy, Volume 88, 2024, Pages 1-10, ISSN 0360-3199, https://doi.org/10.1016/j.ijhydene.2024.09.071.

- Mohsen Fatehi, Graziano Campaldini, Massimiliano Renzi, Micro gas turbine fed by ammonia with steam injection: Performance and combustion analysis, Applied Thermal Engineering, Volume 264, 2025, Pages 125428, https://doi.org/10.1016/j.applthermaleng.2025.125428.

- Mohsen Fatehi, A Blended Model Based on Fuzzy Logic for the Calculation of Reynolds Stresses in Turbulent Flows, Fuzzy Optimization and Modeling Journal , 6 (1), https://doi.org/10.57647/j.fomj.2025.8667.

Publications <u>about</u> the applicant

- Fatehi, Mohsen / Norouzi, Kianoush, **Failure Analysis of the Blades of a GE-F6 Gas Turbine,** 2022, *Advanced Structural Mechanics* , Vol. 1, No. 1 Shahrekord University p. 56-70 https://doi.org/10.22034/asm.2022.13834.1003.

Articles published by others in magazines, etc. about the applicant or his/her projects

Further data

Presentations at scientific conferences over past 3 years (invited or selected, keynote, nature and status of conference)

Entrepreneurship

Spin-offs, patents and entrepreneurship

Statement of interest

- o Numerical Modelling of 2D and 3D Turbulent Flows
- o Combustion
- o Hydrogen based and alternative fuel combustion.
- o Mixing and reaction in turbulent flows
- o Gas Turbine
- o Turbo Compressor

Language competence

- IELTS Academic 7.0/9.0 (Listening: 7.5/9, Reading: 6.5/9, Writing: 6.5/9, Speaking: 6.5/9)

Date

Signature