Paolo Iora - Curriculum vitae

Personal data:

- Date of birth: August 30<sup>th</sup> 1975
- Place of birth: Orzinuovi (BS) Italy

Role:

- Full professor of Energy Systems at Department of Mechanical and Industrial Engineering at University of Brescia
- Research collaborator in "Gruppo di Conversione dell'Energia" (Gecos) at Politecnico di Milano

Education:

- Degree in Mechanical Engineering at University of Brescia obtained in 2000, defending the thesis on a theoretical analysis of the integration between Molten Carbonate Fuel Cells and Organic Rankine Cycles
- PhD degree obtained in 2005 at the Politecnico di Milano discussing the thesis "Numerical modelling of various geometries of high temperature fuel cells applied to hybrid, gas turbine-based systems"

Personal skills and main research interests:

- Energy decarbonization
- Renewable energies
- Sustainable mobility

Main steps in academic career and work experiences:

- Awarded in 2000 with 12 months fellowship granted by the Italian Government for research activity about large ingot solidification at Department of Mechanical and Industrial Engineering, at University of Brescia.
- Postgraduate Student at Department of Chemical Engineering and Chemical Technology of Imperial College of London (2004), working on the development of numerical models for the simulation of intermediate-temperature solid oxide fuel cells (IT-SOFCs)
- From January 2005, Assistant professor of "Energy Systems" at University of Brescia
- Visiting professor at The Field and Space Robotics Laboratory of Massachusetts Institute of Technology (MIT), Boston from January 30th to April 20th 2010
- From December 2010, Associate professor of "Energy Systems" at University of Brescia
- Visiting professor at Mechanical Engineering Department del Massachusetts Institute of Technology (MIT), Boston 02-22 Semptember 2012
- From June 2018, Full professor of "Energy Systems" at University of Brescia

Scientific production indicators (source: SCOPUS, accessed on October 2024):

- number of publications: 85
- citations: 2425
- H-index: 25

Research projects:

- COFFEE (Characterization of fluids for energy transition) funded by the Italian Government (PNRR), Budget for Unibs: €220000, Role: Participant, Period: 2023-2025.
- TESLA (Transformation of plastic waste in Electrocatalysts, Supported by exhausted gases recovery Layout) funded by Fondazione Cariplo, Budget for Unibs: €45000, Ruolo: Participant, Period: 2023-2025.

- Progetto PRIN 2022 "HICLPOS High-medium temperature closed power cycles for waste heat recovery and renewable sources", funded by the Italian Government, Budget for Unibs: 127258, Role: Responsible for UNIBS, Period: 2023-2025.
- DESOLINATION (Demonstration of concentrated Solar power coupled with advanced desalination system in the gulf region) funded by European Union, Budget for Unibs: €376000, Role: Responsible for UNIBS, Period: 2021-2025.
- MACBETH (Membranes And Catalysts Beyond Economic and Technological Hurdles), funded by European Union, Budget for Unibs: €128000, Role: Participant, Period: 2019-2024.
- SCARABEUS (Supercritical carbon dioxide/alternative fluids blends for efficiency upgrade of solar power plants) funded by European Union, Budget for Unibs: €480000, Role: Participant, Period: 2019-2023.
- BIOMASS HUB (Biometano per una Società Sostenibile: sviluppo di un Laboratorio Italiano di Circular Economy dal biometano" funded by Regione Lombardia, Budget for Unibs: €446585, Role: Participant, Period: 2019-2022.
- "Tesla Expander Chiller" funded by DIMI, University of Brescia, Budget: €16000, Role: Partner, 2016-2018.
- "Health & Wealth project Brescia 20-20-20" funded by University of Brescia, Budget: €81750, Role: Coordinator and Responsible of Working Package, 2016-2018.
- Convezione Operativa con la Regione Lombardia, Politecnico di Milano e Università di Brescia:
  "Optimization of ORC engines for low and medium heat source temperatures", Budget: €13000, Role:
  Partner, Grant EN14, 2010-2012.
- Progetto PRIN 2005 "Detailed numerical simulation of various SOFC and MCFC geometries and analysis of hybrid plant with fuel cell integrated with coal and biomass gasification systems", in collaboration with Politecnico di Milano e Università di Genova, Budget: 156450, Role: Partner 2006-2008.

Current teaching assignments:

- "Turbomachinery and Energy systems" Corso di Laurea Magistrale in Materials and product innovation engineering, University of Brescia
- "Technologies for sustainable mobility" Corso di Laurea Magistrale in Mechanical Engineering, Università di Brescia
- "Innovative technologies for energy decarbonization" Corso di Laurea Magistrale in Mechanical Engineering, Università di Brescia

## Awards:

- "Carmelo Caputo" award for the best paper presented at 2008 ATI (Italian Thermotechnical Association) congress in the "Energy systems and machines" sector.
- "Harold Disney Prize 2008" for the best paper on power industries mechanical engineering subject published by the Institution of Mechanical Engineers

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## Patents:

- "Componente di turbomacchine per cicli di potenza a CO2 drogati con SO2 Turbomachinery component for CO2 power cycles doped with SO2", filed on 19-04-2024.
- "Impianto per un ciclo termodinamico Rankine –Plant for a Rankine thermodynamic cycle", filed on 18-09-2023.

"Pila di celle ed apparato per generare ossigeno ad elevata purezza – Cell stack and apparatus for generating high-purity oxygen" (P02989 IT), filed on 08-05-2008.

## **Responsibilities:**

- UNIBS representative for LE2C-Lombardy Energy Cleantech Cluster since March 2024.
- UNIBS representative for AIRU-Italian District Heating Association since March 2024
- Reviewer of technical projects for Cyprus Research Promotion Foundation (RPF) RESTART 2016-2020 Programmes for Research Technological Development and Innovation.
- Reviewer of technical papers for the following scientific reviews: Journal of Power Sources, Energy, Journal of Fuel Cell Science and Technology, International Journal of Hydrogen Energy, Journal of Engineering for Gas Turbines and Power.
- From 2012: Member of "Commissione Ambiente ed Energia (Environment and Energy Commission)" – IGQ Istituto Italiano di Garanzia della Qualità
- From 2014: Member of Doctoral Research Commission at Department of Mechanical and Industrial Engineering, University of Brescia.
- 2016-2018: Lecturer in Doctoral Program in Energy and nuclear science and technology, Department of Energy, Politecnico di Milano.