



Stefano Bergero

Researcher

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Education and training

1996

Degree in Mechanical Engineering

Analysis of heat transfer in ceramic heat exchangers for high-temperature applications - 106/110

University of Genoa - Genoa - IT

2000

PhD in Applied Physics

Study of radiative heat transfer in participating gases

University of Genoa - Genoa - IT

1996

Licence to practise the profession of Engineer

University of Genoa - Genoa - IT

2017

Licence to practise the profession of Competent Technician in Environmental Acoustics

Academic experience

2000 - ONGOING

University Researcher in Environmental Applied Physics

University of Genoa - Genoa - IT

Responsible for the course of Applied Physics (Degree Course in Architecture)

Work experience

1996 - 1997

Head of production team

BITRON S.P.A. - Savona - IT

Head of production team

Language skills

Research interests

Research activity has mainly involved the following sectors:

- Computational thermo-fluid dynamics, with particular reference to the analysis of radiative heat transfer in the presence of participating gases by means of the numerical Finite Volume Method (FVM), [1, 2, 4, 7, 8, 9].
- Analysis of radiative heat transfer in non-grey gases through the use of band models (EWB) and grey gas models (WSGG, SGG), [6, 8].
- Passive hygrometric control of museum display cabinets through the use of hygroscopic materials [3, 5, 15].
- Theoretical and experimental analysis of the performances of heat exchangers utilising hydrophobic membranes and a hygroscopic aqueous solution for air dehumidification/humidification [10, 11].
- Application of heat exchangers utilising hydrophobic membranes and a hygroscopic aqueous solution to achieve enthalpy recovery between the exhaust air and the renewal air in air-conditioning systems [12, 13, 17].
- Application of heat exchangers utilising hydrophobic membranes and a hygroscopic aqueous solution as passive hygrometric stabilisers inside closed environments;
- Application of heat exchangers utilising hydrophobic membranes and a hygroscopic aqueous solution in hybrid air-conditioning systems;
- Application of heat exchangers utilising hydrophobic membranes and a hygroscopic aqueous solution in refrigerated means of transport in order to limit and, if possible, eliminate the formation of ice on the evaporator of the refrigeration device;
- Energy audit of buildings and economic analysis of energy efficiency improvements;
- Energy performances of buildings: critical analysis on the application of the DM 26/06/2015 in the first and second level important refurbishing and in simple energy improvement actions;
- Thermoregulation and heat accounting: critical analysis of the D.Lgs. 102-2014 and subsequent modifications and integrations and of the standard UNI 10200:2015;
- Thermal bridges in buildings: comparison between numerical and abacus calculation methods.