



Stefano Lazzari

Associate professor

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Education and training

2000

Ph.D. in Technical Physics

Numerical and experimental analysis of innovative heat exchangers
University of Bologna - Bologna - IT

1996

Qualification to act as an engineer in all the professional sectors

Order of the Engineers of Bologna - Bologna - IT

1996

Master Degree in Electrical Engineering

Calcolo dei disturbi indotti su linee multiconduttore in presenza di suolo di conducibilità finita messa a punto del modello nel dominio del tempo ed implementazione su calcolatore - 100/100 e lode
University of Bologna - Bologna - IT

1994

Scholarship 'prof. E. Foà' for the best student in Technical Physics of the year

University of Bologna - Bologna - IT

1990

High School Diploma in Science

60/60

Public High School E. Fermi - Bologna - IT

Academic experience

2017 - ONGOING

Associate Professor of Environmental Technical Physics

Department of Architecture and Design (DAD) University of Genoa - Genova - IT

He teaches Technical Physics (Bachelor Degree in Product and Nautical Design) and Technical Plants (Master Degree in Architecture). His current studies refer to economic analysis of the Ligurian building heritage analysis of energy needs and energy retrofitting of buildings design and renovation of heating systems. He is scientific head of research unit referent for the

University of Genoa and deputy-coordinator of the H2020 project XERIC. He is member of the Commission for 'POLO Energy and Environment for POR-FESR funding' member of the Research Commission of the DAD.

2014 - 2017

Researcher of Environmental Technical Physics

Department of Architecture and Design (DAD) University of Genoa - Genova - IT

1999 - 2014

Researcher of Industrial Technical Physics

DIENCA University of Bologna - Bologna - IT

He taught Fluid Dynamics (Bachelor Degree in Biomedical Physics) Technical Physics (Bachelor Degrees in Biomedical Physics and in Electrical Engineering) Computational Heat and Mass Transfer (Master Degree in Energy Engineering)

1996 - 1999

Ph.D. in Technical Physics

University of Bologna - Bologna - IT

Numerical and experimental analysis of innovative heat exchangers

Language skills

English

Proficient

Teaching activity

At the University of Genoa: Technical Physics (Bachelor Degree in Product and Nautical Design) since 2013; Technical Plants for Architecture (Master Degree in Architecture) since 2014.

Tutor in the first University Master 'Building Designer - Expert in Energy Efficiency and Sustainability for Building' (2014/2015), held in Savona.

Previously, at the University of Bologna: 20 classes (related to Fluid Dynamics, Technical Physics and Computational Thermofluidynamics), in 3 different Degrees (often with a high number of students), always getting excellent evaluations of the quality of teaching.

Lecturer in the PhD School in Energy Engineering, Nuclear Engineering and Environmental Control.

Supervisor of over 30 thesis, also within the ERASMUS program, related to topics of civil engineering systems, energy in buildings, renewable energy sources, heat transfer, industrial applications.

Postgraduate research and teaching activity

Supervision of PhD students, residents and post-doctoral

fellows

Supervisor of post-graduate research fellowships

Research interests

Energy analysis of the Ligurian building heritage;
structuring of the Liguria regional database of energy performance certificates;
definition of the procedure and criteria for verification of Ligurian energy performance certificates;
analysis of energy needs and energy retrofitting of existing buildings;
design and optimization of innovative membrane heat exchangers for air-conditioning systems, in particular in the electric car sector;
analysis of the reduction of air pollution by urban green;
optimization of the energy performance of geothermal probe fields;
almost zero energy buildings (NZEB);
air conditioning systems based on the use of heat pumps exploiting renewable energy sources;
study of complex heat transmission phenomena.

Grants

2015 - 2018

XERIC - Innovative Climate-Control System to Extend Range of Electric Vehicles and Improve Comfort

European Commission

H2020 - Principal investigator

Aim of the RDA project is the design and construction of an innovative air conditioning system for electric cars, with high energy efficiency.

Editorial activity

Author of 2 educational texts and numerous handnotes (technical physics, technical plants, principles of electrotechnics, electrical plants).

Other professional activities

Co-inventor in three patents: one related to an innovative method of air treatment (filed with Italian patent application No. RM2014A000105 on 06/03/2014, and extended to EU with No. WO 2015/132809 on 09.11.2015); a second relative to an improved three-fluids combined membrane contactor (filed with Italian patent application No. 102017000018072 on 17/2/2017); a third relating to an integrated highly-efficient air-conditioning system (filed with Italian patent application No. 102017000015758 on 14/2/2017).

Scientific responsible for the Department DAD of a two-year framework convention (2014-2016) with A.R.T.E. Genoa (Regional Territorial Construction Company, Genoa) for research on the energy analysis of buildings and the study of innovative systems with low environmental impact for winter and summer air conditioning, with reference to the former

Provincial Psychiatric Hospital complex set in Genoa Quarto.

Scientific responsible for the Department DAD of an agreement with IRE S.p.A. (Infrastructures, Retrofitting, Energy, Ligurian Regional Agency) (2016) for a research concerning the typological and performance characterization of the Ligurian building heritage, starting from the information associated with the Energy Performance Certificates contained in the Regional Data Base.

Scientific responsible for the Department DAD of an agreement with IRE S.p.A. (2017) aimed at carrying out the following activities: defining new indices and indicators for the overall performance assessment and the various components of the air conditioning plant; designing the structure of the APE Regional Data Base; defining the procedure and the evaluation criteria for the obligatory annual verification of some of the APES transmitted to the Liguria Region; analyze the main technical problems related to the use of the new Celeste 3.0 software for the regional energy certification.

Scientific responsible for the Department DAD of an agreement with IRE S.p.A. (2018) aimed at carrying out the following activities: integration of the assessments already carried out (2016) with the analysis of data transmitted to the Liguria Region and not yet examined, related to the APES transmitted to SIAPEL in the 2015-2016 reference period.