Conf. Dr.-Ing. Florin BĂLTĂREȚU
Technical University of Civil Engineering Bucharest (UTCB), Romania
Department of Thermal Sciences and Engineering



Curriculum Vitae

Family Name	BĂLTĂREȚU
First Name	Florin
Birth date	[redacted], Bucharest
Civil Status	[redacted]
Nationality	Romanian

University
1988-1993
- Engineering degree (master level) (with an average of 9.67 from maximum 10)
  Building Services Faculty, Civil Engineering Institute Bucharest (now UTCB)

Ph. D.
2001
- Ph.D. in Mechanical Engineering, Thermal Sciences (*cum laudae*) :
  "Mathematical and numerical modelling of transfer processes in turbulent buoyant jets" (with a personal C.F.D. code, developed in Fortran)
  Technical University of Civil Engineering Bucharest (UTCB)

Teaching activity (University)

1993-1997 / 2000	Junior assistant / Assistant
2000-2004	Lecturer
2004-present	Associated Professor (Conferențiar) *Technical University of Civil Engineering Bucharest (UTCB)*

Teaching - University courses (Licence/Undergraduate level)

1993-present	• Engineering Thermodynamics (in Romanian and in French) • Heat Transfer (in Romanian and in French) *Building Services Engineering Faculty (UTCB)*
1997-1998	• Fisica tecnica (in Italian) *IUAV (Istituto Universitario di Architettura di Venezia), Venice, Italy*
1998-2023	• Physics of Atmospheric Pollution (in Romanian) *Building Services Engineering Faculty (UTCB)*
2003-2008	• Procèdes thermiques – module de cours (in French) *Institut National Polytechnique de Grenoble (INPG),* *Ecole Nationale Supérieure d'Hydraulique et de Mécanique (ENSHMG)*
2021-present	• Energy from Renewable Resources 2 (in English); Pollution-depollution (in English) *European University EU-CONEXUS*

Teaching - University courses (Master level)

2008-2011	• Energétique urbaine et sources renouvelables d'énergie (in French)
2012-2020	• Energy Management and Efficiency for Buildings (Urban Energetics) (in English) *Ecole Nationale Supérieure de l'Energie, l'Eau et l'Environnement (Grenoble-INP)*
2009	• Complements of Heat and Mass Transfer (in Romanian)
2009-present	• Advanced Engineering Thermodynamics (in Romanian)
2016-present	• Thermodynamique technique avancée (in French) • Modélisation et simulation de transfert de chaleur et de masse dans le bâtiment (in French) • Modélisation et simulation des équipements techniques (in French)
2019-present	• Modelling and simulation of fire dynamics in buildings (in Romanian)
2022-present	• Performant systems for cogeneration (in Romanian)
2025	• Energy from renewable resources (in Romanian) *Building Services Engineering Faculty (UTCB)*

Research stages

1994 (3 months)	Numerical modelling in heat transfer and fluid flow *Istituto Universitario di Architettura di Venezia, Italy*
1997 (4 months)	Numerical modelling of air diffusion *Istituto Universitario di Architettura di Venezia, Italy*
2004 (3 months) 2007 (6 months) 2010-2019 (2 months each year)	Numerical modelling in metal alloy solidification under electromagnetic field and related problems – ESA-MICAST II (2004, Rhône-Alpes scholarship) IMPRESS et ESA-MICAST III (2007), ANR-SMACS (2010), ESA-MICAST IV (2011), ESA-MICAST IV et ESA-CETSOL 4 (2012), ESA-MICAST IV (2013) programmes [ESA = *European Space Agency*, MICAST = *Microstructure Formation in Castings of Technical Alloys under Diffusive and Magnetically Controlled Convective Conditions*, IMPRESS = *Intermetallic Materials Processing in Relation to Earth and Space Solidification*, CETSOL = *Columnar-to-Equiaxed-Transition in Solidification Processing*, SMACS = *Etude de la formation des microstructures et des macroségrégations en solidification d'alliages*] Scientific Researcher CNRS / INPG, *Laboratoire SIMAP-EPM* *Institut Polytechnique de Grenoble (Grenoble-INP)*

Other important research contracts

2024-2026	PilotInnCities (Interreg Danube) – UTCB Leader
2021-2024	EU-Conexus Research for Society (Horizon Europe) – UTCB Leader
2005-2006	Thermodynamic analysis of cryogenic cycles for helium liquefaction
2006-2008	Modelling of the dynamic energy loads for buildings and their thermal energy supply systems
2006-2008	Evaluation of the operating state of the thermal energy systems in buildings
2013	Analysis of heating systems for anaerobic digestion systems – UTCB Leader

Main research directions

- Numerical modelling in heat transfer and fluid flow
- Numerical modelling in MHD & metal alloy solidification under electromagnetic field
- Mathematical modelling of turbulence and transition
- Modelling of refrigeration and HVAC systems
- Renewable energy sources and cogeneration systems
- Optimisation of thermal energy systems

Publications

- 8 books and university handbooks
- more than 50 articles in peer-review journals and in proceedings
- more than 30 research contracts
- reviewer *Energy & Buildings*, *Applied Thermal Engineering, Energy, MMTB*

Languages

- Romanian - native
- English, French, Italian - reading, writing, conversation

Particular computer skills

- Programming (*C/C++, Fortran, Pascal, Python*)
- Scientific software (*Mathematica, Matlab, Scilab/Xcos, Mathcad*)
- Graphics, CAD (*CorelDraw, Tecplot, AutoCAD*)
- Specialized software (*ANSYS Fluent + UDF, COMSOL Multiphysics, FDS, TRNSYS, EES*)

Management and leadership

- Vice-Dean of the Building Services Engineering Faculty, 2011-2016
- Vice-President of the Romanian Society of Thermal Engineering, 2015-2019
- Head of Department of Thermal Sciences and Engineering - UTCB, 2016-2019
- Vice-Rector of UTCB (scientific research and international relations), 2020-2024

Awards

- *Best Teacher in Faculty*, UTCB, 2016

Professional address

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