PERSONAL INFORMATION

Bode Florin Ioan

Cluj-Napoca, Romania
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Gender Male | Date of birth 16/11/1979 | Nationality Romanian

WORK EXPERIENCE

February 2025 - Today	Full Professor - Technical University of Cluj-Napoca, Romania Teaching and research activities / Business or sector Education / Research
October 2004 – February 2025	Associate Professor - Technical University of Cluj-Napoca, Romania Teaching and research activities / Business or sector Education / Research
October 2011 - today	Scientific Researcher - Technical University of Civil Engineering Bucharest Research activities / Business or sector Education / Research
January 2004 - October 2004	Refrigeration / HVAC engineer - SC Rosoos SRL, Cluj-Napoca, Romania. Dimensioning, design, sales, as well as maintenance and installation of refrigeration equipment.

EDUCATION AND TRAINING

2024	Habilitation in the field of Mechanical Engineering: Numerical simulation of flow phenomena, mass and heat transfer, with applicability in the efficiency improvement of thermoelectric systems, Technical University of Cluj-Napoca, Romania.
2023	Graduation from the postgraduate training and professional development program: Instructional Designer (COR: 235904), Technical University of Civil Engineering of Bucharest, Romania
April 2013 – June 2013	Course: Thermal energy balances (Thermal energy auditor), Polytechnic University of Timisoara, Romania
Oct 2011 - Oct 2013	Postdoctoral studies - Technical University of Civil Engineering Bucharest, Romania, Fluid dynamics analysis for innovative personalized ventilation diffusers for automotive and building applications
October 2004 - June 2010	PhD studies - Technical University of Cluj-Napoca, Romania, Research regarding thermo-fluid-dynamic processes in burners and furnaces in swirling combustion
October 2004 - July 2005	Postgraduate (Master) studies - Technical University of Cluj-Napoca - Specialization: Assisted design of thermal machines with low pollution
October 1999 - July 2004	University (license) studies - Technical University of Cluj-Napoca, Specialization: Thermal machines and equipment. Diploma Project: Air conditioning system design for a complex of offices

PERSONAL SKILLS

Mother tongue(s)	Romanian				
Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B1	B1	B2	B1	B1

Courses Fluid Mechanics II (year 3), Modelling of thermo-energetic processes (year 4), Numerical methods of analysis of flow and thermal fields (Master year 2), Combustion (year 3), Gas dynamics (year 3), Modelling and simulation of fires in constructions (Master year 1), Thermodynamics (year 2)

Computer skills Good knowledge of CFD software: Ansys Fluent, Design Modeler, Ansys Meshing, Pyrosim, Fire Dynamics Simulator.

Other

- Reviewer for more than 20 scientific journals, including: Building and Environment, Building Simulation, Energy and Buildings, International Journal of Heat and Mass Transfer, International Journal of Thermal Sciences, Journal of Building Engineering, Applied Sciences, Building Simulation, Civil engineering journal, Energies, Energy and built environment, Entropy, Journal of cleaner production, Energy reports.
- Topical Advisory Panel Member - Applied Sciences Journal (2022-2024)
- Special Issue Guest Editor: Applied Sciences – MDPI (IF2023: 2.5 – Q1) Recent Advances and Emerging Trends in Computational Fluid Dynamics (11.2024-04.2025)
- Special Issue Guest Editor: Applied Sciences – MDPI (IF2021: 2.838) 10.02.2021 – 30.11.2022 - Urban Sustainability and Resilience of the Built Environments

Interests Thermal engineering; Fluid Dynamics; Energy Efficiency; CFD Numerical simulation; Ventilation and Personalized ventilation; Thermal comfort; Fire and smoke modelling and numerical simulation in the field of fire protection engineering

ADDITIONAL INFORMATION

Publications More than **160** scientific articles of which: **43** are indexed by Web of Science having an impact factor (of which 28 as the principal author).
Of the total scientific publications, more than **120** are indexed by SCOPUS Database.

Books

3 books as first author, Co-author: 4 books and 1 book chapter

1. **Florin BODE**, Ilinca NĂSTASE, Răzvan CALOTĂ, Mihnea SANDU, Ion ANGHEL, **Modelarea și simularea incendiilor în construcții (Building fire modeling and simulation)**, ISBN 978-606-25-0766-4, 267pag, https://www.matrixrom.ro/produs/modelarea-si-simularea-incendiilor-in-constructii/, Editura MatrixRom, 2022
2. Cristiana CROITORU, Ilinca NASTASE, **Florin BODE**, **Calitatea ambientală în mediul interior construit - Confort, metode de evaluare, principii de distribuţie a aerului (Ambient quality in the built indoor environment - Comfort, evaluation methods, principles of air distribution)**, Conspres, 2021, ISBN: 978-973-100-522-5, 500pag, monografie, 2021
3. Catalin TEODOSIU, Vlad IORDACHE, Mihnea SANDU, Cristiana CROITORU, **Florin BODE**, Ilinca NASTASE, **Metodologia cercetarii stiintifice pentru doctorat (Scientific research methodology for doctoral studies),** Conspress 2021, ISBN: 978-973-100-521-8, 163pag, 2021
4. **Florin BODE**, Paula UNGURESAN, **Combustie si Instalatii de Ardere (Combustion and furnaces)**, Editura U.T.Press 2014, ISBN 978-973-662-998-3, 446 pag., (Curs / Monografie) 2014
5. Paula UNGURESAN, **Florin BODE**, **Termodinamica Aplicata (Applied Thermodynamics)**, UTPress, ISBN 978-606-737-248-9, in format electronic, pe CD, 180 pag., (Curs) 2017
6. Romeo Susan-Resiga, sa, **Vortex Dominated Flows** - Monografie, Eurostampa Publishing House, 2008 ISBN 978-973-687-659-2, 492pag, Biblioteca Nationala Romana 532.527, IV 78273 – Capitol 8, Vortex Flows in Fluid Equipments, pag 387-427 (41 pag.), Authors: Victor Hodor, **Florin Bode**, Liviu Ioan Vaida, Calin Vaida, Dan Opruta, Gheorghe Baran, Florentina Bunea, Gabriela Oprina, 2008.
7. **Florin BODE**, **Simularea numerica a proceselor de transfer termic – Aplicatii (Numerical simulation of heat transfer processes – Applications)**, UTPress, Cluj-Napoca, ISBN 978-606-737-505-3, online, adresa https://biblioteca.utcluj.ro/files/carti-online-cu-coperta/505-3.pdf, (5 module / aplicatii de lucrari de laborator), 205pag (A4), 2021
8. Teodor MADARASAN, Beniamin APAHIDEAN, Ioan GHIRAN, Ioan TEBEREAN, Mugur BALAN, Paula UNGURESAN, Bodan DUMA, **Florin BODE**, Indrumator pentru **Lucrari de Termotehnica si Masini Termice**, Editura Todesco, publicata pe CD, ISBN 973-7695-17-8, 2006

Research Impact

Hirsch Index Web of Science: 11;
Hirsch index SCOPUS: 14;
Hirsch index Google Scholar: 19.

Research projects

A. Principal investigator in 3 national research grants (2007-2008, 2011-2013, 2022-2024);
   1. Research on geometry optimization of swirl burners for gaseous fuels through numerical simulation, Grant CNCSIS TD 522, value 45.000 RON, 2007-2008, director
   2. PN-II-RU-PD-2011-3-0099 – Fluid dynamics analysis for innovative personalized ventilation diffusers for automotive and building applications - Grant PD, CNCS – UEFISCDI, 300.000 RON
   3. INNOVENT - Innovative high induction air diffusers for improved indoor environmental quality in vehicles Proiect tip PED 2022-2024, Partner: UTCB - Renault Technologie Roumanie SRL - RTR, PN-III-P2-2.1-PED-2021-0559, UEFISCDI, Value: 598.795RON
B. Project manager in 3 national research grants ((2014-2017, 2020-2022, 2022-2024);
   1. PN-II-PT-PCCA-2013-4-0569 – INSIDE: Innovative strategies of HVAC systems for high indoor environmental quality in vehicles: July 2014 - June 2017, value 1.250.000RON, and UTCN: 125.000RON
   2. PN-III-P2-2.1-PED-2019-4249 – XTREME: Innovative system to extend the range of electric vehicles at improved thermal comfort; UEFISCDI, 2020-2022, Value: 600.000RON (UTCN: 150.780RON)
   3. PN-III-P2-2.1-PED-2021-2265, SAFE - Innovative seating system to reduce SARS-CoV-2 transmission on board of commercial aircrafts, UEFISCDI, 2022-2024, Value: 598.795RON (UTCN: 150.000RON)
C. Research and development project director with third parties for 1 project (2021);
   Principal Investigator, "Analysis and optimization of air circulation in large spaces through numerical modeling and simulation of CFD type", Therme Group RHTG AG, Austria, 2021-2022
D. Member in 2 Europene Horizon research projects H2020, 1 project European Life
E. Member in more than 20 de natioanal research grants şi 5 research grants with third parties (2004-2022).

The total amount of grants managed as project director or partner coordinator up to the year 2024: ~330.000EUR

Other Collaboration projects with Industry

1. Principal Investigator, Activities of testing and technical analysis of different ventilation / air conditioning scenarios by using numerical methods of type CFD (Computational Fluid Dynamics), for various commercial and industrial spaces to improve the thermal comfort of occupants, S.C. CLIMAROL PREST S.R.L, 2023
2. Principal Investigator, “Testing activities and technical analysis of jet fan positioning and extraction of smoke and hot gases from underground parking lots by performing CFD (Computational Fluid Dynamics) numerical simulations for small, medium and large underground parking lots"), S.C. RUCK VENTILATOARE S.R.L, 2022-2023

3. Principal Investigator, The impact of negative temperatures of natural gas transmitted through buried pipelines on environmental factors, for subcontracting for (National Company for Transport Natural Gas TRANSGAZ SA Romania, in the context of the construction of the natural gas pipeline from the Black Sea gas natural reserves (Neptune Deep project), 2018

Consultant with industry

1. S.C. RUCK Ventilatoare S.R.L – (2022-present)
2. S.C. TBE Technologie S.R.L. – (2023 – present)
3. S.C. CLIMAROL PREST S.R.L

Invited lectures / Courses

KeyNote Speaker:

- PEPM Conference 2022, Bulgaria
- InnoEE Conference 2024, Bulgaria

Invited lectures:

- **Tianjin University, Tianjin, China**, 1-5 November 2019. *Ventilation strategies for improving air distribution in confined spaces.*
- **Dalian University of Technology, Dalian, China**, 6-10 November 2019. *Ventilation strategies for improving air distribution in special applications.*

Invited lectures/courses other universities:

Technical University of Civil Engineering Bucharest (2017-2024):

- Management of scientific research projects;
- Modeling of heat and mass transfer in installations and buildings.
- Finite volume-based models;
- Modeling of heat and mass transfer phenomena using the finite element method: possibilities offered by the ANSYS package;
- Modeling and simulation of fires in constructions.

Certifications

- National body of experts from the National Register of Experts for the certification of the research-development activity. The field of intelligent specialization at the national level: 3. Energy and mobility
- Member - Register of Experts, National Council for the Attestation of Titles, Diplomas, and University Certificates (CNATDCU) (2024-2028) - Commission for Mechanical Engineering, Mechatronics and Robotics, and Armament and Military Engineering
- Class 1 Energy Auditor, Thermal Energy Type - Authorization issued by the National Energy Regulatory Authority, Department of Energy Efficiency no. 442, issued on 28 Feb 2014, and prolonged by the same authority by decision no.251/DEE/26.02.2017

Specialization and qualification

1. 20.05.2015-07.06.2015: Specialization on “Structured mesh generation for Computational Fluid Dynamics method on complex geometries”. Lund University, Lund, Sweden, dr. Robert Szasz;

2. 20.11.2013-22.11.2013: Specialization on CFD Ansys 14.5 software at Politehnica University of Bucharest, REOROM Research Center, certificate: 01923/ November 2013;
3. 27.08.2013-15.09.2013: Specialization on "Experimental investigations by optical methods for determining the air flow through perforated panels used in ventilation of operating rooms", University of La Rochelle, France, PhD Eng. Amina Meslem;
4. 10.05.2013-20.05.2013: Specialization on “Experimental investigation on impinging and free jets by means of use of optical diagnostics such as Tomographic PIV and electrodiffusion method", University of La Rochelle, France, PhD Eng. Amina Meslem;
5. 12.12.2012-20.12.2012: Specialization on "CFD prediction of airflow in buildings and mesh generation over complex geometries” at Royal Military Academy in Brussels, Department of Mechanics, Brussels, Belgium, Prof. Dr. Ir. Walter Bosschaerts;
6. 13.08.2010-27.08.2010: Specialization on „Numerical simulation of noise in turbulent unpremixed combustion in burners”, Lund University, Sweden, dr. Robert Szasz;
7. 13.06.2009-04.07-2009: Specialization on „Installing and utilization of optical diagnostics techniques in the field of turbulent combustion, using new experimental studies based on the use of optical diagnostics such as PIV, PLIF (Planar Laser Induced Fluorescence) and Rayleigh scattering”, INSA, CORIA, Rouen, France, prof. Bruno Renou;
8. 16.04.2009-25.04.2009: Specialization on „Swirl burner geometry optimization for numerical simulation of gaseous fuels”, Lund University, Lund, Sweden, dr. Robert Szasz;
9. 25.08.2008-10.09.2008: Specialization on „Numerical methods and applications in transient reactive flow in 3D using LES”, Lund University, Sweden, dr. Robert Szasz;
10. 18.09.2006-23.09.2006: Specialization on CFD „Numerical Methods in Fluid Dynamics and Applications in FLUENT”, National Centre for Complex Fluids Engineering, “Politehnica” University, Timisoara, Romania;
11. 10.2006- 09.2007, Pedagogical formation certificate, Technical University of Cluj-Napoca, Romania.

Key qualifications

More than 20 years of experience in CFD numerical simulations of fluid flow, heat and mass transfer and fires. Energy efficiency consultant, with more than 10 years in scientific research in energy efficiency. The scientific research is focused as well on the energy efficiency of buildings, using numerical methods.

Membership of professional bodies

- Member in IAQVEC Association, Indoor Air Quality, Ventilation and Energy Conservation in Buildings Association
- Member in The American Society of Heating, Refrigerating, and Air-Conditioning Engineers - ASHRAE
- Member in The International Society of Indoor Air Quality and Climate - ISIAQ
- Member of Association of Building Services Engineers in Romania
- Member of Association of Refrigeration and Cryogenists of Romania
- Member of Romanian Society of Thermotechnicians
- Member of the Romanian Association of Security Technics

Researcher accounts

ORCID: 0000-0003-1694-8288,
Brainmap: U-1700-031P-0794,
Web of Science: C-3372-2011,
SCOPUS ID: 35188701300,
Sciprofiles ID: 902469

Honors and awards

- **Best Paper Award for 2022 in Energies Journal** for the scientific paper "Battery-Supercapacitor Energy Storage Systems for Electrical Vehicles: A Review" (https://www.mdpi.com/1996-1073/15/15/5683)
- **Diploma of Excellence and Gold Medal** for the team consisting of Ilinca NASTASE, Paul DANCA, **Florin BODE**, Cristiana CROITORU, Mihnea SANDU, for the Adjustable Diffuser with Enhanced Induction through Passive Flow Control, designed for use in vehicle ventilation (lobe-shaped air distributor) at the 21st Edition of the International Exhibition of Scientific Research, Innovation, and Inventions held on October 25-27, 2023, in Cluj-Napoca, Romania.
- **Diploma of Excellence and Pro Invent Medal** for the team comprising Mihnea SANDU, Paul DANCA, **Florin BODE**, Cristiana CROITORU, Ilinca NASTASE for the Device for Heat Recovery from Wastewater with applications in domestic sewage systems, presented at the 21st Edition of the International Exhibition of Scientific Research, Innovation, and Inventions on October 25-27, 2023, in Cluj-Napoca, Romania.
- **Excellence research diploma** from the Faculty of Automotive, Mechatronics and Mechanical Engineering in 2018, 2020, 2022
- **Research awards** from the UEFISCDI government organization in 2014, 2015, 2019, 2021, 2023.

Other relevant information

- Director: Research Centre for Complex Flows and Heat Transfer – AtFlow -UTCN.
- 1 scientific article located in the area of "Highly cited paper" of the first 1% most cited scientific articles indexed Web of Science in the category "Engineering".

- Organisational skills- organizing Committee of EENVIRO International Conference 2013-2022, www.eenviro.ro,
- President of the “The 8th Conference of the Sustainable Solutions for Energy and Environment, EENVIRO 2022 Bucharest, 16-20 October 2022”
- President of the EU-CONEXUS EENVIRO Research Conference - Bucharest, 28 October - 01 November 2024
- Guest Editor for the following events: EENVIRO Conferences, INNOEE Conference 2024.
- Member of Scientific Committee of EENVIRO 2016-2022 International Conference (RO), CIEM 2017 (RO), DSC-UTCB 2020 (RO), PEPM 2020, 2021, 2022 (BG), COBEE 2022 (CN), 2025 (NL), INNOEE 2024 (VT).
- Good communication skills
- Ability to work within international project teams.

07.30.2025 Prof. PhD. Habil. Eng. Florin BODE