


PERSONAL INFORMATION


Ilinca NASTASE



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Sex Female | Date of birth 22/08/1979 | Nationality Romanian

WORK EXPERIENCE

Associate Professor, Building Services Engineering Faculty, Technical University of Civil Engineering of Bucharest

Director of the Doctoral School of the Technical University of Civil Engineering of Bucharest

Head of Advanced Research Center for Building Physics and Ambient Quality - CAMBI

September 2012–Present

Associate Professor

Technical University of Civil Engineering, Faculty of Building Services

- Researcher and teaching duties: thermodynamics, elementary fluid mechanics (course and laboratory), fluid mechanics (course and laboratory), thermal fluids laboratory, air conditioning, industrial ventilation, advanced measurement techniques for fundamental fluid mechanics, measurement techniques for fluid mechanics applied to buildings, jet flow theory

Business or sector Education

May 2008–Present

Researcher

Technical University of Civil Engineering Bucharest

Coordinator of the Advanced Research Center for Ambient Quality and Building Physics (CAMBI)

Business or sector Research

Oct 2008–Sep 2012

Lecturer

Technical University of Civil Engineering Bucharest

Hydraulic, thermal and environmental building services from the Building Services Faculty

Business or sector Education

Oct 2007–May 2008

Research Engineer

LEPTIAB Laboratory of Study of Transfer Phenomena Applied to Buildings, University of La Rochelle, France

Business or sector Research

2003–2007

Assistant Lecturer and Researcher

Mechanical and Civil Engineering Department, University of La Rochelle, France

Business or sector Research and Education

EDUCATION AND TRAINING

2014 **Habilitation Thesis in Civil Engineering**

Technical University of Civil Engineering of Bucharest, Romania

- Thesis title: *Intelligent air diffusion for healthy environments advanced flow control and evaluation methods*

2007 **Post Doctoral dissertation**

University of La Rochelle, France

- Mechanical and Civil Engineering Department, specialty: Experimental Fluid Mechanics

2003–2007 **PhD**

Technical University of Civil Engineering Bucharest, Romania and University of La Rochelle, France

- Thesis title: *Analyse des jets lobés en vue de leur intégration dans les Unités Terminales de Diffusion d'air*

2007 **Training and specialization**

The University of Bordeaux 1, France

- Laser Security training organized by Technological Centre Alphanov Bordeaux 1 University

Sep 2003 **Training and specialization**

French Association of Laser Velocimetry (AFVL)

- Autumn School 2003 of Velocity metrology and Laser Granulometry in Fluid Mechanics.

2002–2003 **Master**

University of La Rochelle, France

- Civil and Mechanical Engineering Departement, Energetic of built environment

1997–2002 **License**

Technical University of Civil Engineering Bucharest, Romania

- French department of civil engineering; Building services engineering

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
French	C2	C2	C2	C2	C2
DALF C2					

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

Communication skills Good communication skills gained through my experience as lecturer, associate professor and conference speaker

Organisational / managerial skills Good experience in project and team management gained through the fulfillment of a large number of competitively won grants and contracts in National Competitions

Job-related skills

Expert in PIV, LDV, CTA, IR techniques, Technical advice as an expert in metrology.
Advanced thermal comfort assessment, Innovative air diffusers conception.

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Digital competences - Self-assessment grid

Proper handling of: Ansys Fluent, Gambit, Ansys CFX, FEHT, SolidWorks, Inventor, AutoCAD, MathCAD, MATLAB, CoolPack, Engineering Equation Solver(EES)

ADDITIONAL INFORMATION

Publications and other indices:

- Over 50 Journal Papers (24 ISI Journal Papers), Over 60 Conference Papers 14 ISI (Conference Proceedings), 1 ISI Patent
- Hirsch Index - Web of Science: 10, Scopus 10, Google Scholar: 15
- researcherid.com profile: C-3377-2011

Association affiliation:

- American Society of heating, cold and Air Conditioning (ASHRAE)
- Francophone Association of Laser Velocimetry (AFVL)
- French Society of Thermal Sciences (SFT)
- American Association of Physics (APS)

Research contracts

1. QUEST - Advanced air diffusion system of the crew quarters for the ISS and deep space habitation systems, STAR-CDI-C3-2016-577, **Principal Investigator**, 2017-2019, (450 kEuro)
2. SMARTSENSE - Real time SMART application for urban air quality management respecting the SENSitive categories of population, PN-III-P2-2.1-PED-2016-1285 (150 kEuro), **Principal Investigator**, 2017-2018 (150 kEuro)
3. AFDPA - Antiflutter Demonstrator with Piezoelectric Actuation, **Responsible of the Partner team**, PN-II-PT-PCCA-2013-4 (350 kEuro)
4. EQUATOR: Advanced strategies for high performance indoor Environmental QUALiTy in Operating Rooms- PN-II-PT-PCCA-2011-3.2-0512, 2012-2016, **Principal Investigator** (750 kEuro)
5. INADEVA: INtelligent Air Diffusion for healthy environments: advanced strategies and EVALuation methods - research project PN-II-ID-2011-3-0835, 2011-2016, **Principal Investigator** (350 kEuro)
6. Terminal inovative devices for HVAC air diffusion– research project PNII RP cod CNCSIS 6, 2008-2010, **Principal Investigator** (150 kEuro)

7. FLUBAT: Suivi et compréhension expérimental des FLUX d'air dans les BATiments – national French research project (1500 kEuro)
8. Optimization of Indoor Environmental Quality & Energy Efficiency in educational facilities using a multi-criteria decision approach PN-II-RU-TE-2012-3-0108, 2013-2015, (200 kEuro)
9. IEQ: Atmospheric pollutants transfer indoors. Tools for indoor pollution level prediction and occupants - PN-II-RU-TE-2011-3-209, 2011-2013, (200 kEuro)
10. MAACH : Advanced methods of analysis and control for hemodynamics with application in peripheral vascular surgery, 2008 –2011, CNMP research (750 kEuro)
11. ECOLOC: Environmental management in urban residential areas in the context of climate change, 2008 –2011, CNMP research grant, (750 kEuro)
12. INDUC : Climatisation à haute induction pour les voitures ferroviaires, 2006- 2008, with Alstom Transport, funded by FEDER, French Government, Poitou Charentes Region, (150 kEuro)
13. INDUBAT: Climatisation à haute induction pour le bâtiment, 2005-2009, with CIAT, funded by ANR and ADEME. (75kEuro)
14. VAICTEUR AIR²: Pour un air sain confortable et économe dans le bâtiment, 2008-2013, funded by OSEO, Project leader: CIAT
15. HAM: Integrated HEAT-AIRFLOW-MOISTURE modeling within enclosures - experimental validation, PN-II-ID-JRP-RO-FR-2012-0071, 2013-2015, (350 kEuro)
16. INSIDE - Innovative strategies of HVAC systems for high indoor environmental quality in vehicles PN-
17. SOLECT - Environment improvement of Sludge dewatering from the wastewater treatment system of SEAU Glina by Optimizing the Local Effluent Capture and Treatment, PN-III-P2-2.1-BG-2016-0158 (100 kEuro)
18. SCOPE-intelligent Solar COLlector with Phase change materials intEgration– PN-III-P2-2.1-PED-2016-1154 (100 kEuro)

International participations and awards

Invited lectures :

- *Experimental techniques in ventilation applications - A state of the art of modern investigation methods applied to flows in buildings*, a key note lecture at GRASMECH' 2009, 26-27 November 2009 in Brussels at Royal Military Academy;
- *An overview of Micro Particle Image Velocimetry and applications*, a key note lecture at the first International Summer School of Rheology organized by the Romanian Society of Rheology, august 2010, Cluj-Napoca.
- *Measuring techniques of velocity distributions in liquids*, a key note lecture at the third International Summer School of Rheology organized by the Romanian Society of Rheology, august 2017, Gura Humorului.

Awards:

- *Award for the best research action in France in 2008 for the INDUBAT research project*
- *2011 Best Paper Award" from Building and Environment for the article „, Lobed grilles for high mixing ventilation–An experimental analysis in a full scale model room*, Building and Environment 46 (3), 547-555,22, 2011
- Best researcher of 2016 from the Technical University of Civil engineering Award, Best researcher of 2016 of the Building Service Faculty Award

Selected publications

1. **Nastase**, A. Meslem, P. Gervais, *Primary and secondary vortical structures contribution in the entrainment of low Reynolds number jet flow*, Experiments in Fluids, 44, (2008)
2. A. Meslem, **I.Nastase**, F. Allard, *Passive mixing control for innovative air diffusion terminal devices for buildings*, Building and Environment 45 (12), 2679-2688, 29, 2010
3. **I. Nastase**, A. Meslem, M. El Hassan, *Image processing analysis of vortex dynamics of lobed jets from three dimensional diffusers*, Fluid Dynamics Research, Vol. 43 (6), 2011
4. **I. Nastase**, A. Meslem, V. Iordache, I. Colda, *Lobed grilles for high mixing ventilation–An experimental analysis in a full scale model room*, Building and Environment 46 (3), 547-555,22, 2011

5. V. Iordache, **I. Nastase**, A. Damian, I. Colda, *Average permeability measurements for an individual dwelling in Romania*, *Building and environment* 46 (5), 1115-1124, 2011
6. Z. Bolashikov, A. Melikov, M. Spilak, **I. Nastase**, A. Meslem, *Improved inhaled air quality at reduced ventilation rate by control of airflow interaction at the breathing zone with lobed jets*, *HVAC&R Research* 20 (2), 238-250, 2, 2014
7. C. Croitoru, **I. Nastase**, F. Bode, A. Meslem, A. Dogeanu, *Thermal comfort models for indoor spaces and vehicles—Current capabilities and future perspectives*, *Renewable and Sustainable Energy Reviews* 44, 304-318, 2015

Selected conference proceedings

1. Meslem, M Kristiawan, **I. Nastase**, V Sobolik, Wall shear rates and stagnation mass transfer on a plate in axisymmetric and cross impinging jets, Eurotherm 2012, September 04-07, Poitiers – Futuroscope France.
2. R. Crutescu, I. Udrea, **I. Nastase**, C. Croitoru, V. Badescu, Preliminary Results Concerning the Thermal Comfort in a Romanian Passive House, *Renewable Energy in the Service of Mankind Vol I*, 779-790, 2015
3. C. Croitoru, **I. Nastase**, M. Sandu, C. Lungu, Multi-criteria Design and Impact on Energy Consumption of a Residential House—A Parametric Study, *Energy Procedia* 85, 141-148, 2016
4. C. Croitoru, **I. Nastase**, I. Voicu, A. Meslem, M. Sandu, Thermal Evaluation of an Innovative Type of Unglazed Solar Collector for Air Preheating, *Energy Procedia* 85, 149-155, 2016
5. E. Iatan, M. Iliescu, F. Bode, **I. Nastase**, R. M. Damian, M. Sandu, Numerical Study for Open-channel Flow over Rows of Hemispheres, *Energy Procedia* 85, 260-265, 2016
6. **I. Nastase**, C. Croitoru, C. Lungu, A Questioning of the Thermal Sensation Vote Index Based on Questionnaire Survey for Real Working Environments, *Energy Procedia* 85, 366-374, 2016
7. **I. Nastase**, C. Croitoru, A. Vartires, L. Tataranu, Indoor Environmental Quality in Operating Rooms: An European Standards Review with Regard to Romanian Guidelines, *Energy Procedia* 85, 375-382, 2016
L. Tacutu, **I. Nastase**, T. Catalina, A Critical Regard on Romanian Regulations Related to Indoor Environment Quality in Operating Rooms and a Technical Case Study, *Energy Procedia* 85, 511-520, 2016
8. C. Croitoru, **I. Nastase**, R. Crutescu, V. Badescu, Thermal Comfort in a Romanian Passive House. Preliminary Results, *Energy Procedia* 85, 575-583, 2016

Patents

RO130182-A2, Orientable diffuser with enhanced induction achieved by passive flow control for customized ventilation, Assignee: UNIV BUCURESTI TEHNICA CONSTR, Inventor(s): BODE F, **NASTASE I**, Derwent Primary Accession Number: 2015-317506

Books

1. Vartires, **I. Nastase**, *Instalații de ventilare și climatizare – Lucrări practice*, Editura Conspress 2010
2. **I. Nastase**, C. Croitoru, *Equipements et systèmes de ventilation et climatisation – travaux pratiques*, Editura Universitară 2011
3. **I. Nastase**, C. Croitoru, *Echipamente și sisteme pentru ventilarea și climatizarea clădirilor -Note de curs*, Editura Universitară 2012