

CURRICULUM VITAE

PhD. Eng. Ilinca NASTASE

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

1. DATE AND PLACE OF BIRTH: 22th August 1979, Bucharest, Romania

2. STUDIES AND DIPLOMAS:

Engineer Diploma (Bachelor of Science): 2002, (examination mark: 10/10), Technical University of Construction Bucharest, Department of Civil Engineering in Foreign Languages: French; General average mark on study years: 9.21/10.

Master of Science diploma: 2003, University of La Rochelle, France, Mechanics and Civil Engineering, Energetic of built environment

PhD Diploma: thesis title « Analyse des jets lobés en vue de leur intégration dans les unités terminales de diffusion d'air », 2007, thesis accomplished by collaboration of Technical University of Construction Bucharest and University of La Rochelle, domain : Civil engineering, specialisation : Fluid Mechanics, 2006.

Post Doctoral dissertation: 2008, University of La Rochelle, France, Mechanical and Civil Engineering Department, specialty: Experimental Fluid Mechanics

Habilitation Thesis: 2014, Technical University of Civil Engineering of Bucharest

Foreing languages : **French:** speak - excellent; write - excellent (DALF - Diplôme Approfondi de la Langue Française)

English : speak - excellent; write - excellent.

OTHER SPECIALISATIONS:

- September 2003 – Autumn School 2003 of Velocity metrology and Laser Granulometry in Fluid Mechanics, 15 - 19 September at CAES of CNRS, organized by French Association of Laser Velocimetry
- November 2007: Laser Security training organized by Technological Centre Alphanov Bordeaux 1 University.

3. PROFESSIONAL EXPERIENCE, FORMER EMPLOYERS:

Assistant Lecturer and Researcher (ATER – Attaché temporaire à l'Enseignement et à la Recherche) : during the academic years 2003-2007 and 2007/ spring of 2008 at the Mechanical and Civil Engineering Department, University of La Rochelle, France

Research Engineer: October 2007- May 2008 at LEPTIAB (Laboratory of Study of Transfer Phenomena Applied to Buildings), University of La Rochelle, France

Researcher: since May 2008 – Advanced Research Center for Ambiental Quality and Building Physics Building Services Department from the Technical University of Civil Engineering in Bucharest

Lecturer: during October 2008 - September 2012 in the chair of Hydraulic, thermal and environmental building services from the Building Services Faculty of the Technical University of civil Engineering

Associate Professor: since September 2012

Teaching (undergraduate): 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.

Research contracts:

1. World Bank Energy and Extractives Global Practice ECA region Project - Energy Efficiency Improvement through Renovation of Buildings, Romania's buildings stock data collection and verification 2019 (10keuro)
2. CIA-CLIM, Intelligent buildings adaptable to the effects of climate change PN-III-P1-1.2-PCCDI-2017-0391, 2018-2021, (1000 kEuro)
3. CONTUR, Emerging technologies for counteracting effects induced by turbulent flows of fluid media PN-III-P1-1.2-PCCDI-2017-0868, Responsable de l'équipe partenaire (jusqu'à 1.03.2019), 2018-2021, (1000 kEuro)
4. PHANTOM - Passive flow control for heat and mass transfer enhancement of impinging jets PN-III-P4-ID-PCE-2016-0758, Coordinatrice du projet, 2017-2019, (200 kEuro)
5. QUEST - Advanced air diffusion system of the crew quarters for the ISS and deep space habitation systems, STAR-CDI-C3-2016-577, Coordinatrice du projet, 2017-2019, (450 kEuro)
6. 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), Coordinatrice du projet, 2017-2018 (150 kEuro)
7. AFDPA - Antiflutter Demonstrator with Piezoelectric Actuation, Responsable de l'équipe partenaire, PN-II-PT-PCCA-2013-4 (350 kEuro)
8. EQUATOR: Advanced strategies for high performance indoor Environmental QUALiTy in Operating Rooms- PN-II-PT-PCCA-2011-3.2-0512, 2012-2016, Coordinatrice du projet (750 kEuro)
9. INADEVA: INtelligent Air Diffusion for healthy environments: advanced strategies and EVALuation methods - PN-II-ID-2011-3-0835, 2011-2016, Coordinatrice du projet (350 kEuro)
10. Terminal inovative devices for HVAC air diffusion – PNII RP CNCISIS 6, 2008- 2010, Coordinatrice du projet (150 kEuro)
11. 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)
12. IEQ: Atmospheric pollutants transfer indoors. Tools for indoor pollution level prediction and occupants - PN-II-RU-TE-2011-3-209, 2011-2013, (200 kEuro)
13. MAACH : Advanced methods of analysis and control for hemodynamics with application in peripheral vascular surgery, 2008 –2011, CNMP grant (750 kEuro)
14. ECOLOC: Environmental management in urban residential areas in the context of climate change, 2008 –2011, CNMP r grant, (750 kEuro)
15. FLUBAT: Suivi et compréhension expérimental des FLUX d'air dans les BATiments – projet ANR (1500 kEuro) coordinatrice du projet: Dr. Amina Meslem, Université de La Rochelle
16. INDUC : Climatisation à haute induction pour les voitures ferroviaires, 2006- 2008, en coopération avec Alstom Transport, financé par le FEDER, le gouvernement français et la Region Poitou Charentes, coordinatrice du projet: Dr. Amina Meslem, Université de La Rochelle
17. INDUBAT : Climatisation à haute induction pour le bâtiment, 2005-2009, en coopération avec CIAT, financé par ANR et ADEME, coordinatrice du projet: Dr. Amina Meslem, Université de La Rochelle
18. VAICTEUR AIR² - Pour un air sain confortable et économe dans le bâtiment, 2008-2013, financé par OSEO, coordinateur du projet: CIAT
19. HAM: Integrated HEAT-AIRFLOW-MOISTURE modeling within enclosures - experimental validation, PN-II-ID-JRP-RO-FR-2012-0071, 2013-2015, (350 kEuro)
20. INSIDE - Innovative strategies of HVAC systems for high indoor environmental quality in vehicles PN-II-PT-PCCA-2013-6 (350 kEuro)
21. 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)
22. SCOPE-intelligent Solar Collector with Phase change materials intEgration– PN-III-P2-2.1-PED-2016-1154 (100 kEuro)
23. SWAN34 Small Ducted Wind Turbine Equipped with Passive Flow Control Devices - PN-III-P2-2.1-PED-2016-0631 (100 kEuro)

3.3 Scientific activity

The visibility of the scientific contributions.

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.
- *Ventilation strategies for improving air distribution in vehicles and other confined spaces*, invited lecture at Aalto University, December 2018

Awards :

- *Best researcher of 2016, 2017, 2018, 2019 from the Technical University of Civil Engineering of Bucharest Award, Best researcher of 2016, 2017, 2018, 2019 of the Building Service Faculty Award*
- *2011 Best Paper Award” from Building and Environment for the article [13]*
- *Award for the best research action in France in 2008* accorded by the French Ministry of Research and Education for the INDUBAT research project.

29 WOS Journal Papers, 30 WOS Conference Proceedings

Hirsch Index – Web of Science: 12, Scopus: 13, Google Scholar: 17

Member of the Editorial Board of International Journal of Ventilation, INCAS Bulletin, Mathematical Modelling in Civil Engineering

Reviewer for Renewable Energy Reviews, Energy, Applied Thermal Engineering, Building and Environment

Member of the Scientific Council of the National Institute of Aerospace Research , Elie Carafoli – INCAS

Member of the Civil Engineering Commission of the National Council for University Degrees, Diplomas and Certificates (CNATDCU)

Member of the Council of the Doctoral School of TUCEB

4. LIST OF PUBLICATIONS

PhD thesis: Nastase, I., **Analyse des jets lobés en vue de leur intégration dans les Unités Terminales de Diffusion d'air**, Thèse, Génie civil. 2007, Université de La Rochelle.

Habilitation thesis:

Nastase, I., **Intelligent air diffusion for healthy environments advanced flow control and evaluation methods**, Habilitation thesis, Civil and building systems engineering 2014, Technical University of Civil Engineering of Bucharest

Dissertation de DEA - Nastase, I., *Analyse d'un jet lobé par anémométrie Laser Doppler*, DEA, Génie civil et mécanique. 2003, Université de La Rochelle.

Research Articles:

[RS 1] I. Nastase, A. Meslem, Experimental investigation on the near and far field behaviour of an isothermal lobed jet, WSEAS Transactions on Fluid Dynamics, (1) 5 : 414-422, 2006

[RS 2] I. Nastase, A. Meslem, K. Abed-Meraim, An experimental investigation on the asymmetric evolution of a lobed jet flow, International Journal of Dynamics of Fluids, Vol.2, No.1, 2006

[RS 3] I. Nastase, A. Meslem, Passive control of jet flows using lobed nozzle geometries, Mécanique & Industries, 8, 101-109, 2007

[RS 4] A. Meslem, I. Nastase, K. Abed-Meraim, Experimental investigation of a lobed jet flow mixing performance, Journal of Engineering Physics and Thermophysics , 81 (1) 2008 - ISSN : 1062-0125, et



Inzehenerno-Fizicheschii Zhunal 80 (6), 2007

[RS 5] I. Nastase, A. Meslem, Vortex dynamics and entrainment mechanisms in low Reynolds orifice jets, Journal of Visualization, 11 (4), 2008

[RS 6] I. Nastase, A. Meslem, T. Bowmans, Vortical structures analysis in jet flows using a classical 2D-PIV system and time resolved visualization image processing, Journal of Flow Visualization and Image Processing, 15 (9), (2008)

[RS 7] I. Nastase, A. Meslem, and P.Gervais, Primary and secondary vortical structures contribution in the entrainment of low Reynolds number jet flow, Experiments in Fluids, 44, (2008)

[RS 8] I. Nastase, An experimental study of flows from innovative air diffusion grilles, Acta Technica Napocensis, Series: Applied Mathematics and Mechanics, 52(4), (2009)

[RS 9] I. Nastase, A. Meslem, Vortex Dynamics and mass entrainment in turbulent lobed jets with and without lobe deflection angles, Experiments in Fluids, (2010),48 (4)

[RS 10] A. Meslem, I. Nastase, F. Allard, Passive mixing control for innovative air diffusion terminal devices for buildings, Building and Environment, Volume 45, Issue 12, December 2010

[RS 11] A. Meslem, M. El Hassan, I. Nastase, Analysis of jet entrainment mechanism in the transitional regime by time-resolved PIV, Journal of Visualization, 2010

[RS 12] I. Nastase, Experimental investigation of thermal comfort with innovative grilles in a real scale room, Scientific Journal of Technical University of Civil Engineering in Bucharest - Series: Mathematical Modelling in Civil Engineering, Vol.3-4, March, 2011

[RS 13] 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, Volume 46, Issue 3, March 2011

[RS 14] V. Iordache, I. Nastase, A. Damian, I. Colda, Average permeability measurements for an individual dwelling in Romania, Building and Environment, Volume 46, Issue 5, May 2011, Pages 1115-1124

[RS 15] M. Boulenouar, A. Meslem, B. Imine, I. Nastase, Numerical study of a turbulent jet flow issued from lobed diffuser, Mechanika, Volume 17, Issue 2, 2011

[RS 16] A. Meslem, A. Dia, C. Beghein, M. El Hassan, I. Nastase, P. Vialle, Three turbulence models comparison in the prediction of parallel lobed jets for perforated panel optimization, Building and Environment, Volume: 46 Issue: 11 Pages: 2203-2219 DOI: 10.1016/j.buildenv.2011.04.037

[RS 17] I. Nastase, A. Meslem, M. El Hassan, Image processing analysis of vortex dynamics of lobed jets from three dimensional diffusers, Fluid Dynamics Research, 43 (6), 2011

[RS 18] M. Kristiawan, A. Meslem, I. Nastase, V. Sobolik, Wall shear rates and mass transfer in impinging jets. Comparison of circular convergent and cross-shaped orifice nozzles, International Journal of Heat and Mass Transfer, 55 (1-3), pp. 282-293, 2012

[RS 19] F. Bode, I. Nastase, C. Croitoru, Mesh Dependence Study Using Large Eddy Simulation of a Very Low Reynolds Cross-Shaped Jet, Mathematical Modelling in Civil Engineering – Scientific Journal, ISSN 2066-6926, ON-LINE ISSN:2066-6934, Vol.7, No.4, December, 2011, p.16-22

[RS 20] C. Croitoru, I. Nastase, F. Bode, The Influence of the Geometric Form of the Virtual Thermal Manikin on Convective Flow, Mathematical Modelling in Civil Engineering – Scientific Journal, ISSN 2066-6926, ON-LINE ISSN:2066-6934, Vol.7, No.4, December, 2011, p.55-64

[RS 21] A. Meslem, I. Nastase, F. Bode, C. Beghein, Optimization of a Lobed Perforated Panel Diffuser - A Numerical Study of Orifice Arrangement, International Journal of Ventilation, Vol. 11 (3) 2012

[RS 22] F. Bode, I. Nastase, C. Croitoru, RANS models comparison for a cross-shaped jet flow with straight lobes, Mathematical Modelling in Civil Engineering – Scientific Journal, ISSN 2066-6926, ON-LINE ISSN:2066-6934, Vol.8, No.4, December, 2012, p.14-20(6p)

[RS 23] A. Meslem, A. Dia, C. Beghein, A. Ammar, I. Nastase, M. El Hassan, Numerical simulation of free cross-shaped jet, Mechanika, Vol.4, 2012

[RS 24] C. Croitoru, I. Nastase, F. Bode, Thermal comfort assesemnt for different ventilation strategies using a CFD approach, Mathematical Modelling in Civil Engineering – Scientific Journal, ISSN 2066-6926, ON-LINE ISSN:2066-6934, Vol.8, No.4, December, 2012, p.36-45(10p)

[RS 25] Meslem, A., Bode, F., Nastase, I., Martin, O., Optimization of lobed perforated panel diffuser: Numerical study of orifice geometry,(2012) Modern Applied Science, 6 (12), pp. 59-73. Cited 2 times

[RS 26] A. Meslem, F. Bode, C. Croitoru, I. Nastase, Comparison of turbulence models in simulating jet flow from a cross-shaped orifice, European Journal of Mechanics-B/Fluids 44, 100-120, 2013

[RS 27] A. Meslem, V. Sobolik, F. Bode, K. Sodjavi, Y. Zaouali, I. Nastase, C. Croitoru, Flow dynamics and mass transfer in impinging circular jet at low Reynolds number. Comparison of convergent and orifice nozzles, International Journal of Heat and Mass Transfer 67, 25-45, 2013

[RS 28] I. Nastase, R. Dolinski, F. Bode, A. Meslem, C. Croitoru, Influence of the choice of the inlet turbulence intensity on the performance of numerically simulated low Reynolds jet flows, INCAS Buletin, 5(4), 2013

[RS 29] A. Dogeanu, A. Iatan, F. Bode, C. Croitoru, I. Nastase, Conception of a simplified seated thermal



manikin for CFD validation purposes, Revista Romana de Inginerie Civila - Romanian Journal of Civil Engineering, 4(4), 2013

[RS 30] I. Ursu, I. Nastase Ilinca, S. Caluianu Sorin, A. Iftene, A. Toader, Intelligent control of HVAC systems, Part I: Modeling and synthesis, INCAS Bulletin, vol 5(1), 2013

[RS 31] I. Ursu, I. Nastase Ilinca, S. Caluianu Sorin, A. Iftene, G. Tecuceanu, A. Toader, Intelligent control of HVAC systems. Part II: perceptron performance analysis, INCAS Bulletin, vol 5(4), 2013

[RS 32] C. Croitoru, A. Vartires, F. Bode, A. Dogeanu, Nastase Ilinca, Survey Evaluation of the Indoor Environment Quality in a Large Romanian Hospital, INCAS Bulletin, vol 5(3), 2013

[RS 33] A. Meslem, I. Nastase, Cross and Clover shaped orifice jets analysis at low Reynolds number, Thermal Sciences, 166-116, 2013

[RS 34] R. Dolinski, F. Bode, I. Nastase, A. Meslem, C. Croitoru, Influence of the choice of the inlet turbulence intensity on the performance of numerically simulated moderate Reynolds jet flows-Part 1-the near exit region of the jet, INCAS Bulletin 5 (4), 25, 2014

[RS 35] Z. Bolashikov, A. Melikov, S. Michal, 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, Volume 20, Issue 2, 2014

[RS 36] A. Meslem, R. Greffet, I. Nastase, A. Ammar, Experimental investigation of jets from rectangular six-lobed and round orifices at very low Reynolds number (2014) Meccanica, 49 (10), pp. 2419-2437.

[RS 37] T.A. Salaoru, M. Andrei, I. Nastase, Optimization study of using PTC for human body heating dissipation, INCAS Bulletin 6 (2), 85, 2014

[RS 38] A. Dogeanu, B. Florin, A. Iatan, C. Croitoru, I. Nastase, Conception of a simplified seated thermal manikin for CFD validation purposes, Revista Romana de Inginerie Civila 5 (1), 27, 2014

[RS 39] F. Bode, K. Sodjavi, A. Meslem, I. Nastase, Numerical prediction of wall shear rate in impinging cross-shaped jet at moderate Reynolds number, (2014) UPB Scientific Bulletin, Series D: Mechanical Engineering, 76 (2), pp. 251-258.

[RS 40] C. Croitoru, I. Nastase, A. Dogeanu, F. Bode, A. Meslem, Thermal comfort models for indoor spaces and vehicles - current capabilities and future perspectives, Renewable and Sustainable Energy Reviews, 44, pp. 304-318, 2015

[RS 41] I. Udrea, C. Croitoru, I. Nastase, R. Crutescu, V. Badescu, Experimental and theoretical thermal comfort analyses in higher education buildings in Bucharest, (2015) UPB Scientific Bulletin, Series D: Mechanical Engineering, 77 (2), pp. 145-156.

[RS 42] C. Croitoru, I. Nastase, F. Bode, A. Meslem, Thermodynamic investigation on an innovative unglazed transpired solar collector, Solar Energy, 131, pp. 21-29, 2016

[RS 43] P Bragança, K Sodjavi, A Meslem, I Nastase, Passive control strategy for mixing ventilation in heating mode using lobed inserts, Energy and Buildings 133, 512-528, 2017

[RS 44] M Mira, CV Croitoru, I Nastase, Thermal evaluation of a perforated panel for solar collector model for air pre-heating, Revista Romana de Inginerie Civila 8 (4), 2017

[RS 45] M Dan, P Danca, I Ursu, I Nastase, Advanced thermal manikin with neuro-fuzzy control, Revista Romana de Inginerie Civila 8 (4)

[RS 46] Abdelouhab Labihi, Faiçal Aitlahbib, Hassan Chehouani, Brahim Benhamou, Mohammed Ouikhalfan, Cristiana Croitoru, Ilinca Nastase, Effect of phase change material wall on natural convection heat transfer inside an air filled enclosure, Applied Thermal Engineering, 126, 2017

[RS 47] I Udrea, C Croitoru, I Nastase, R Crutescu, V Badescu, First adaptive thermal comfort equation for naturally ventilated buildings in Bucharest, Romania, International Journal of Ventilation 17(3), 149-165, 2018

[RS 48] F Bode, I Nastase, C Croitoru, M Sandu, A Dogeanu, I Ursu, Preliminary Numerical Studies for the Improvement of the Ventilation System of the Crew Quarters on Board of the International Space Station, INCAS Bulletin 10 (2), 137-143

Technical articles

[RT 1] A. Meslem, I. Nastase, Conception innovante des unités terminales de diffusion de l'air, Salles Propres, No. 87 octobre 2013

[RT 2] Cristiana Croitoru, Elena Rastei, Ilinca Nastase, Scheme de evaluare pentru cladiri existente - Studiu de caz (Schémas d'évaluation des bâtiments existants - Étude de cas), Romanian Journal of Building Services, Vol.1 (1), 2015

Editor of conference volumes :

[EA 1] Anton Anton, Corneliu Balan, Mugur Ciprian Balan, Florin Bode, Walter Bosschaerts, Cristiana Croitoru, Christian Inard, Amina Meslem, Ilinca Nastase, Mihnea Sandu (Editors), Proceedings of Sustainable



Solutions for Energy and Environment, EENVIRO 2016, 26-28 October 2016, Bucharest, Romania, Volume 112, Pages 1-690 (March 2017)

[EA 2] M.C. Balan, F. Bode, C. Croitoru, A. Dogeanu, A. Georgescu, C. Georgescu, I. Nastase and M. Sandu (Editors) E3S Web of Conferences, Volume 85 (2019), Proceedings of EENVIRO 2018 – Sustainable Solutions for Energy and Environment, Cluj Napoca, Romania, October 9-13, 2018

[EA3] Prof. Shin-ichi Tanabe, Prof. Hui Zhang, Prof. Jarek Kurnitski, Prof. Manuel Carlos Gameiro da Silva, Associate Prof. Ilinca Nastase, Associate Prof. Pawel Wargocki, Prof. Guangyu Cao, Prof. Livio Mazzarela, Prof. Christian Inard (Editors), Accepted for publication in E3S Web of Conferences, Proceedings of Clima 2019 World Congress, Bucharest, 26-29 May 2019

National conference proceedings

[CN 1] A. Chicinas, C. Ghiaus, A. Domsa, I. Nastase, O metoda simpla de detectare a defectelor intr-o centrala de climatizare a aerului cu flux simplu, A XXXIX Conferinta Nationala de Instalatii : Instalatii pentru Mileniul 3, 20-22 octombrie 2004, Sinaia, Roumanie.

[CN 2] I. Nastase, A. Meslem, Performance de mélange d'un jet lobé et identification des vortex associés, Journées Activités Universitaires de Mécanique, 31 août et 1 septembre 2006, La Rochelle, France.

[CN 3] I. Nastase, A. Meslem, Structure tourbillonnaire des jets lobés et pouvoir de mélange, Congrès Français de Mécanique, août 2007, Grenoble, France.

[CN 4] A. Meslem, M. El Hassan, I. Nastase, Dynamique tourbillonnaire et entrainement dans la région initiale d'un jet rond et d'un jet marguerite à bas nombre de Reynolds , 19e congrès Français de Mécanique, 24-28 august, Marseille, France.

[CN 5] A. Meslem, I. Nastase, O. Martin, Sur la validation expérimentale des modèles de turbulence. Application à un jet d'air lobé, Journées AUGC/IBPSA, Chambéry, 6-8 juin 2012

[CN 6] C. Croitoru, I. Nastase, Alegerea modelului de turbulența pentru un caz de convecție naturală a unui corp uman situat într-o încăpere ventilată, "Instalații pentru construcții și economia de energie" iulie 2012

[CN 7] I. Nastase, Experimental investigation of thermal comfort with innovative grilles in a real scale room, 1st Young Research Conference of TUCEB, 18-19 noiembrie 2010, Bucuresti

[CN 8] A. Meslem, I. Nastase, C. Beghein, Optimization of Lobed perforation panel diffuser – Numerical study of orifices arrangement, Ventilation 2012, The 10th International Conference on Industrial Ventilation, September 17-19, Paris, France

[CN 9] A. Dogeanu, C. Croitoru, I. Nastase, A review on the main thermal comfort models for indoor spaces and their capabilities, YRC Conference of TUCEB, November 2012

[CN 10] I. Ursu, I. Nastase, S. Caluianu, A. Iftene, A. Toader, Intelligent control synthesis of HVAC systems, RCEPB 2013, The 5th Romanian Conference on Energy Performance of Buildings (RCEPB-V), 29-30th of May, 2013, Bucharest, Romania

[CN 11] C. Croitoru, I. Nastase, A. Vartires, A. Dogeanu, Monitorizarea calitatii mediului interior intr-un centru clinic universitar din Bucuresti , Conferinta Instalatii pentru constructii si economia de energie, Iasi, iulie 2013

[CN 12] A. Iftene, S. Caluianu, I. Nastase, I. Ursu, G. Tecuceanu, A. Toader, Synthesis and simulation of neuro-fuzzy HVAC systems, A 35-a Conferinta Caius Iacob de Mecanica Fluidelor si Aplicatiile ei Tehnice, noiembrie 2013.

[CN 13] I. Nastase, C. Croitoru, A. Dogeanu, V. Iordache, F. Bode, M. Sandu, Laboratory testing of innovative perforated panel for mixing ventilation, RCEPB 2016

[CN 14] I. Nastase, Thermal comfort – changing the paradigm for energy efficiency, RCEPB 2018

International conference proceedings

[CI 1] A. Meslem, I. Nastase, M. Burlot, Analyse expérimentale de la structure d'un jet lobé turbulent, 7ème Congrès de Mécanique, 19-22 Avril 2005, Casablanca, Maroc

[CI 2] A. Meslem, I. Nastase, O. Martin, Instabilités primaires et secondaires d'un jet d'air turbulent asymétrique et pouvoir de mélange, 8ème Séminaire International sur la Physique Energétique, 11-12 novembre 2006, Béchar, Algérie.

[CI 3] I. Nastase, A. Meslem, Influence des l'inclinaison des lobes sur la performance de mélange d'un jet lobé, 8ème Congrès de Mécanique, février 2007, El-Jadida, Maroc.

[CI 4] I. Nastase, A. Meslem, Analyse du mécanisme de détachement tourbillonnaire et quantification de la performance de mélange d'un jet lobé, VIIIème Colloque Interuniversitaire Franco-Québécois, mai 2007, Montréal, Québec.

[CI 5] I. Nastase, A. Meslem, T. Bowmans, Vortex dynamics analysis in jet flows using 2D-Planar PIV and high-speed Laser Tomography image processing, 13th International Symposium on Flow Visualization and the 12th French Congress FLUVISU, 1-4 juillet 2008, Nice, France.



- [CI 6] I. Nastase, A. Meslem, Analyse de jets libres ou en interaction pour une conception optimisée des grilles de diffusion d'air, IBPSA France 6-7 novembre 2008, Lyon.
- [CI 7] I. Nastase, A. Meslem, Lobed jets for improving air diffusion performance in buildings, The 29th AIVC Conference, 14-16 octobre 2008, Kyoto, Japon.
- [CI 8] I. Nastase, A. Meslem, M. El Hassan, Analyse du phénomène d'induction dans la couche de cisaillement d'un jet circulaire, 9ème Congrès de Mécanique, 21 - 24 avril 2009, Marakech
- [CI 9] I. Nastase, A. Meslem, I. Colda, A new conception of diffusion grilles for improved mixing of air in buildings, 11th International conference on air distribution in rooms, Roomvent 2009, 24-27 mai 2009, Busan, Korea
- [CI 10] A. Meslem, I. Nastase, Analysis of free or twin-jets for innovative air diffusion terminal units, 11th International conference on air distribution in rooms, Roomvent 2009, 24-27 mai 2009, Busan, Korea
- [CI 11] I. Nastase, A. Meslem, I. Colda, An experimental study of flows from lobed grilles in a full scale model room, 10th REHVA world congress, 9-12 mai 2010, Antalya, Turkey
- [CI 12] A. Meslem, I. Nastase, F. Allard, High induction air conditioning for buildings, 10th REHVA world congress, 9-12 mai 2010, Antalya, Turkey
- [CI 13] A. Meslem, E. Nithiyanthan., M. El Hassan, R. Candane, I. Nastase, Numerical simulation of a turbulent jet flow issued from a daisy-shaped orifice, 7th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics (HEFAT), 19-20 July 2010, Antalya, Turkey
- [CI 14] C. Croitoru, I. Nastase, A. Meslem, A. Iatan, I. Colda, Numerical and experimental modeling of airflow and heat transfer of a human body. Roomvent 2011. Trondheim, Norway.
- [CI 15] A. Meslem, A. Dia, C. Beghein, M. El Hassan, I. Nastase, P. J. Vialle, Twin cross-shaped jets analysis for innovative air diffuser optimisation, RoomVent 2011 - 12th International conference on air distribution in rooms, Trondheim, Norway, June 19-22, 2011
- [CI 16] I. Nastase, A. Meslem, M. El Hassan., Melikov A., Hemisphere lobed nozzle jet analysis for mixing and personalized ventilation, RoomVent 2011 - 12th International conference on air distribution in rooms, Trondheim, Norway, June 19-22, 2011
- [CI 17] A. 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.
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Evaluation of the thermal comfort for it's occupants inside a vehicle during summer - XXIIInd National Conference on Thermodynamics, with International Participation NACOT 2019

Oral presentation in international conferences

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[CIS 2] I. Nastase, A. Meslem, I .Colda, Innovative air diffusion grilles for improved mixing of air in buildings, 30th AIVC conference "Trends in High Performance Buildings and the role of Ventilation", 1–2 October 2009, Berlin, Germany

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Key Note lectures

[KN 1] 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

[KN 2] 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.

[KN 3] 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

[KN 4] Ventilation strategies for improving air distribution in vehicles and other confined spaces, invited lecture at Aalto University, December 2018

Patents

[B 1] 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

[B 2] A 2018 00463 Solar façade (Ventilated opaque façade element for passive solar energy absorption with integrated phase change materials), Assignee: UNIV BUCURESTI TEHNICA CONSTR, Inventor(s): Cristiana Croitoru, Florin Bode, Ilinca Nastase, Mihnea Sandu, Angel Dogeanu, Andrei Bejan

Scientific and technical reports

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[RR 3] I. Nastase, Terminal inovative devices for HVAC air diffusion – PNII RP CNCSIS 6, 2008- 2010, Rapport final – decembre 2010

[RR 4] I. Nastase, INADEVA: INtelligent Air Diffusion for healthy environments: advanced strategies and EVALuation methods - PN-II-ID-2011-3-0835, 2011-2016, Rapport 1ere étape – decembre 2011

[RR 5] I. Nastase, INADEVA: INtelligent Air Diffusion for healthy environments: advanced strategies and EVALuation methods - PN-II-ID-2011-3-0835, 2011-2016, Rapport 2e étape – decembre 2012

[RR 6] I. Nastase, INADEVA: INtelligent Air Diffusion for healthy environments: advanced strategies and EVALuation methods - PN-II-ID-2011-3-0835, 2011-2016, Rapport 3e étape – decembre 2013

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[RR 10] I. Nastase, EQUATOR: Advanced strategies for high performance indoor Environmental QUALiTy in Operating Rooms- PN-II-PT-PCCA-2011-3.2-0512, 2012-2016, Rapport 1ere étape – decembre 2012

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- [RR 15] I. Nastase, SMARTSENSE - Real time SMART application for urban air quality management respecting the SENSitivE categories of population, PN-III-P2-2.1-PED-2016-1285 2017-2018 Rapport 1^{ère} étape – décembre 2017
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- [RR 17] I. Nastase, QUEST - Advanced air diffusion system of the crew quarters for the ISS and deep space habitation systems, STAR-CDI-C3-2016-577, 2017-2019, Contrat avec l'Agence Spatiale Roumaine, Rapport 1^{ère} étape – décembre 2017
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- [RR 20] PHANTOM - Passive flow control for heat and mass transfer enhancement of impinging jets PN-III-P4-ID-PCE-2016-0758, Coordinatrice du projet, 2017-2019, (200 kEuro), Rapport 1^{ère} étape – décembre 2017
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- [RR 22] C. Croitoru, M.Sandu, F. Bode, I. Nastase, M.Gustiuc, World Bank Energy and Extractives Global Practice ECA region Project - Energy Efficiency Improvement through Renovation of Buildings, Romania's buildings stock data collection and verification – Rapport final juillet 2019

Learning ressources (Courses, MOOCs,..)

- [L1] A. Vartires, I. Nastase, Instalații de ventilare și climatizare – Lucrări practice, Editura Conspress 2010 (Equipements et systèmes de ventilation et climatisation – travaux pratiques pour les ingénieurs niveau L4 – en Roumain)
- [L2] I. Nastase, C. Croitoru, Equipements et systèmes de ventilation et climatisation – travaux pratiques, Editura Universitară 2011
- [L3] I. Nastase, C. Croitoru, Echipamente și sisteme pentru ventilarea și climatizarea clădirilor - Note de curs, Editura Universitară 2012 (Equipements et systèmes de ventilation et climatisation pour le bâtiment – cours pour les ingénieurs niveau L4 – en Roumain)
- [L4] I. Nastase, C. Croitoru, Installations de ventilation et climatisation - première partie et deuxième, Support de cours électronique
- [L5] I. Nastase, C. Croitoru, Installations de ventilation industrielle - première partie et deuxième, Support de cours électronique

Media articles

- [V1] Ilinca Nastase and Ioan Ursu, Developing an application for International Space Station, Insider Magazine of the National Institute of Aerospace Research INCAS

5. OTHER SKILLS:

Technical skills and competences

Expert in PIV, LDV, CTA, IR techniques, Technical advice as an expert in metrology.

Computer skills and competences

Fluent, Gambit, Ansys CFX, StarCD, SolidWorks, Inventor, AutoCAD, MathCAD, MATLAB, CoolPack, Engineering Equation Solver (EES)



Additional information

Member of professional associations:

Romanian Association of Building Services Engineers (AIIR)

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)

Date: 5.04.2020

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