

Personal information

Family name: Ghiaus
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Nationalities: Romanian and French



Position: Professor
Institution: [INSA Lyon](#)
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Education and degrees

2006 **Habilitation to direct PhD research (HDR)**, [Univerisité de La Rochelle](#), France
Thesis: Adaptive buildings – control of mass and heat transfer

1991-1996 **PhD**, [Technical University of Civil Engineering \(UTCB\)](#), Bucharest, Romania
Thesis: Numerical and expert control of energy in building

1988 **Control Systems Analyst**, [National Institute for R&D in Information Technology \(ICI\)](#), Bucharest, Romania

1979-1984 **Engineer**, [Technical University of Civil Engineering \(UTCB\)](#), Bucharest

Fellowships and research grants

1998-2000 **Post Doctoral Fellowship**, at [University of La Rochelle](#), France

1997-1998 **Fulbright Senior Research Award**, [Kansas State University](#), United States

1994-1995 **Doctoral Research Grant** [NUFFIC](#) (Netherlands organisation for international cooperation in higher education), [Technische Universiteit Delft](#), The Netherlands

Professional experience

since 2007 **Full Professor**, **Center for energy and thermal sciences (CETHIL) and Civil Engineering Department (CGU)**, **National Institute of Applied Sciences (INSA) Lyon**, France
Teaching: Mass and heat transfer, Air conditioning, Energy and buildings
Research: Low energy buildings design and performance evaluation, Inverse problems (parameters optimisation and control)
Coordinator of the scientific field Energy and buildings (3 Professors, 1 Emeritus Professor, 5 Associated Professors, about 20 PhD students)

International projects
International Energy Agency (IEA)
2004-2009 Annex 53: Total Energy Use in Buildings-Analysis and evaluation methods
2011-2015 Annex 58: Reliable Building Energy Performance Characterisation Based on Full Scale Dynamic Measurements
2012-2017 Annex 60: New generation computational tools for building and community energy systems based on the Modelica and Functional Mockup Interface standards
2016-2021 Annex 71: Building Energy Performance Assessment Based on In-situ Measurements

National projects

2007-2010 MIGRER Intelligent buildings and rational management of renewables
2008-2011 ABCLIMSOL Performance evaluation and optimisation of solar absorption air conditioners
2009-2011 4C Cooling without air conditioning
2010-2013 AIDE-3D Fault Detection and Diagnosis of Building Energy Systems
2012-2015 POUDEV Energy use policies in urban environment
2013-2015 IDEFFE Estimation of use and data aggregation of energy in buildings
2014-2018 COMETE Cloud for intelligent buildings and energy efficiency

R&D projects

2016-2017 Precision analysis of QUB method
2017-2020 Estimation of a-posteriori error of QUB method
2018-2021 Identification of electrical consumers by data disaggregation

1998-2007 Senior researcher, University of La Rochelle, France
Laboratory of Transport Phenomena in Buildings (LEPTAB)

Research

International projects

European Commission

- 2004-2006 *European Low Energy Buildings*, project SAVE EIE/04/172/S07.38667, 1'562'112€
- 2003-2005 *Smart Accelerate- Acceleration of Smart Buildings Technologies and Market Penetration*, project SAVE 4.1031/Z/02-094, €610'167
- 2001-2003 *URBVENT Natural ventilation in urban areas*, project NNE5-2000-00238 €1'003'429, project coordinator
- 1999-2002 *SOLVENT Strategies for the efficient use of solar and passive ventilation in urban buildings*, project ALTENER XVII/4.1030/Z/99-225

International Energy Agency (IEA)

- 2004-2009 Annex 44: *Integrating Environmentally Responsive Elements in Buildings*
- 1997-1999 Annex 34: *Computer-Aided Evaluation of HVAC System Performance: The Practical Application of Fault Detection and Diagnosis Techniques in Real Buildings*

National projects

- 2000-2003 *Influence of atmospheric pollution on the global exposure of schoolchildren -- Research of prediction and means for protection*
- 1999-2000 *Ozone picks prediction by using neuro-fuzzy*

Teaching

Graduate School: Master of Science in Building Services Engineering and Built Environment

- 2001 *Participation in the foundation of two Master Programmes:*
 - *Building Management Systems*
 - *Renewables in Built Environment*
- 2001-2007 *Master Programme Building Management Systems: Energy Efficiency through Control*
- 2001-2007 *Master Programme Renewables in Built Environment Aero-thermal modelling*

1997-1998 Fulbright Senior Research Fellow, Kansas State University, United States
Department of Mechanical and Nuclear Engineering, Institute for Environmental Research
Post-doctoral research Intelligent buildings: fault detection and diagnosis of energy systems

1994-1995 Researcher, Technische Universiteit Delft, The Netherlands
Mechanical Engineering Faculty, Indoor Climate Control Laboratory
Doctoral research Intelligent control of indoor climate

1989-1997 Technical University of Civil Engineering, Bucharest, Romania
Building Services Faculty
Since 1996 **Associated Professor**
1993-1996 **Lecturer**
1989-1993 **Assistant Professor**
Teaching and research in *Building Services Engineering*
Director of the 1st Romanian *CAD Training Centre*

Chief of the *Building Energy Management Systems Laboratory*

- 1987-1989** **Research Institute for light industry, Bucharest, Romania**
Department of Automatic Control
Design Engineer Engineered building automation projects in Romania, Germany, China, and Zimbabwe.
- 1984-1986** **Frigotehnica (Refrigerating Engineering company), Bucharest, Romania**
Engineer Supervised on-site installing of refrigerating systems.

PhD direction and scientific responsibilities

since 2008 **Coordinator of the scientific research group: theory of thermal systems**

PhD Director at INSA Lyon, France

- 2007-2011** **N. Jabbour**, *Optimisation of solar absorption air-conditioners*
2008-2011 **I. Hazyuk**, *Dynamical optimisation of renewable energy flux in buildings*
2009-2013 **R. Ghazal**, *Models with identifiable parameters for desiccant cooling systems*
2012-2016 **I. Naveros**, *Modeling heat transfer for energy efficiency assessment of buildings*
2014-2017 **L. Raillon**, *Experimental identification of physical thermal models for demand response and performance evaluation*
2014-2020 L. Negrea, *Contributions to the reduction of energy consumption in buildings by using artificial intelligence*
2017-2020 N. Ahmad, *Measurement of energy performance: analysis of QUB method*

Cotutoring of PhD thesis, University of La Rochelle, France

- 2001-2003** **V. Iordache**. *Impact of the air pollution on pupils: prediction and protection*
2003-2006 **A. Chicinas**. *Modelling, identification and control: application to air handling units*
2003-2007 **A. Sempey**. *Account for the thermo-convective field for thermal control of indoor environment*
2005-2008 **I. Jaffal**. *Towards a rational design of low energy buildings: methodology for evaluation of thermal performance*

Elected representative

- since 2009 **Member of the Council** of Civil Engineering Department of INSA Lyon
since 2008 **Member of the Council** of the Centre for Thermal Sciences of Lyon
2006-2007 **Member of the scientific council** of the University of La Rochelle
2004-2007 **Member of the Council** of the [Laboratory of Transport Phenomena in Buildings](#), University of La Rochelle, France
1992-1998 **Scientific Secretary** of the Romania Society of Electrical and Control Engineers ([SIEAR](#))
1991-1996 **Member of the Council of the Electrical Engineering Lab**, [UTCB](#), Romania
1981-1984 **Vice-president with professional affairs of the student union**, [UTCB](#), Romania

Member of scientific societies

- since 2004 **Member of the International Solar Energy Society (ISES)**
since 2010 **Member of American Society of Heating, Ventilation and Air-conditioning Engineers (ASHRAE)**

Administrative responsibilities

- since 2010 **Coordinator of the Master on Energy Efficient Buildings**, INSA Lyon
2006-2007 **Coordinator of the Master on Energy Efficient Buildings (I3ER)**, Université La Rochelle
1991-1997 **Chief of the Automatic Control Laboratory**, [UTCB](#), Romania
1990-1996 **Director of the Computer Aided Design Centre**, [UTCB](#), Romania
1984-1986 **Construction site coordination**, [Figotehnica](#), Romania

Member of editorial board

since 2005 **Energy and Buildings**, Elsevier
since 2010 **Central European Journal of Engineering**, Versita
2011-2019 **Sustainable Cities and Society**, Elsevier
2012-2020 **Building Performance Simulation**, Francis and Taylor
since 2018 **Energies**, MDPI

National and International Expert

since 2007 French National Agency for Research (ANR)
since 2011 Romanian National Authority for Scientific Research (ANCS)
since 2012 Italian National agency for the Evaluation of Universities and Research (ANVUR-MIUR),

Publications (see [Publons](#), [Scopus](#), [ORCID](#))

Author h-index: 16 [ISI-Web of Science](#), 18 [SCOPUS](#)

45 ISI indexed papers in international journals (Energy and Buildings, Buildings and Environment, Solar Energy, Energy, Energies, Applied Energy, Applied Thermal Engineering, Atmospheric Environment, Journal of Ventilation, Control Engineering Practice)

11 chapters in edited books

47 papers published in the proceedings of international conferences