CURRICULUM VITAE

First Name	Gabriela
Second Name	HUMINIC
Date of Birth	August 25, 1974
Place of Birth	ROMANIA
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Higher education

- 2005 PhD degree in *Mechanical Engineering*, Transilvania University of Brasov.
- 2001 MSc in *Energy and Environment Protection*, Transilvania University of Brasov, Faculty of Mechanical Engineering, Thermodynamics and Fluid Mechanics Department.
- 2000 BSc in *Aircraft Design*, Transilvania University of Brasov, Faculty of Manufacturing Engineering (5 years).

Professional courses

- 2008 *Modelling and Testing of Cellular Materials, <u>Ironix Global Events Consulting</u> professional course, instructor Prof. Dr.-Ing. <i>Andreas Öchsner,* University of Technology Malaysia.
- 2006 Post-graduation qualification in *Energy Audit of the Buildings and Installations*, Technical University of Civil Engineering Bucharest, Faculty of Building Service.

Professional experience

- 2013- till now, Associate Professor, Mechanical Engineering Department, Faculty of Mechanical Engineering, Transilvania University of Brasov.
- 2006 2013, Lecturer, Thermodynamics and Fluid Mechanics Department, Faculty of Mechanical Engineering, Transilvania University of Brasov.

- 2003 2006, Assistant Professor, Thermodynamics and Fluid Mechanics Department, Faculty of Mechanical Engineering, Transilvania University of Brasov.
- 2001-2003, Teaching assistant, Thermodynamics and Fluid Mechanics Department, Faculty of Mechanical Engineering, Transilvania University of Brasov.

Fields of specialisation

- Aircraft & Rotorcraft's structures design;
- Thermodynamics;
- Heat and mass transfer, charged with the Applied Thermodynamics Laboratory of Transilvania University of Brasov, since from 2009, in which I have developed various facilities for experiments.

Areas of research

- Thermodynamics of the phase changes;
- Heat Transfer using CFD and experimental techniques;
- Heat pipes
- Heat exchangers
- Fluid dynamics
- Nanofluids

Computing skills

- <u>CAD Programmes:</u>
 - Good: AutoCAD, Pro-Engineer
- <u>CAE Programmes, CFD (heat transfer):</u>
 - Excellent: ANSYS CFX, ANSYS-FLUENT
 - Good :Grid generation in ANSYS Workbench
 - Experience with parallel computer systems of distributed memory.

Other professional activities:

- Scientific secretary of the Thermodynamics and Fluid Mechanics Department (2008-2011)
- Membership in editorial board of the journals: <u>Fundamental Research and Development</u> <u>International: Fundamental Journal of Thermal Science and Engineering</u> and <u>American</u> <u>Journal of Heat and Mass Transfer</u>.
- Reviewer for 32 journals: International Journal Heat and Mass Transfer, Experimental Thermal and Fluid Science, Experimental Heat Transfer, International Journal of Thermal Sciences, Chemical Engineering Communications, Chemical Engineering Science, Industrial

& Engineering Chemical Research, International Journal Physical Sciences, Heat Transfer Engineering, Heat Transfer – Asian Research, Materials Science and Engineering B, Energy Conversion and Management, American Journal of Heat and Mass Transfer, Case Studies in Thermal Engineering, European Journal of Mechanics - B/Fluids, Energy Technology, Fuel, International Journal of Multiphase Flow, Journal of Heat Transfer, Renewable & Sustainable Energy Reviews, Thermal Science, Applied Thermal Engineering, Chemical Engineering Research and Design, Engineering Applications of Computational Fluid Mechanics, Indian Journal of Pure & Applied Physics, Journal of Nanofluids, International Journal of Exergy, Advances in Mechanical Engineering, Entropy, Computer Methods in Applied Mechanics and Engineering, Journal of Nanomaterials & Molecular Nanotechnology, Journal of Process Mechanical Engineering.

- Expert Evaluator for the Romanian research projects supported by CNCSIS / ANCS / UEFISCD.
- Invited Professor Hochschule Konstanz Technic, Wirtschaft und Gestaltung, Germany, 2007.
- Invited Professor Oficina de Cooperation Universitaria, Madrid, Spain, 2001 within TEMPUS project, no project IB_JEP 14397-1999.
- Membership in editorial board of the *Colloque Francophone Sur L'énergie Environnement* _ Économie & Thermodynamique, Bucharest. Cofret 2016, (http://www.mecanica.pub.ro/images/documente/COFRET16/Anon2 cofret16 Fr f 23 0 <u>3.pdf</u>), the XX-th National Conference on Thermodynamics, Iasi, 2015, the XVII-th National Conference on Thermodynamics, Brasov, 2009, (http://mecanica.unitbv.ro/rom/termo/indexTMF en.htm), the XXI-th Conference Caius Iacob of Fluid **Mechanics** and Applied Mathematics, Brasov, 2006, (http://mecanica.unitbv.ro/rom/termo/indexTMF en.htm).
- Organizer of the international workshop *Efficient solutions of measure and control*, in colaboration with KIMO and ARC Brasov S.R.L companys, 2008.
 (http://mecanica.unitbv.ro/rom/termo/staff pages/HuminicGabriela.htlm)

Member within professional / scientific associations:

- Romanian Society of the Thermodynamiciens Romania
- American Nano Society USA.

Awards:

- Certificate of Excellence for Outstanding Results in Scientific Research, December 2013.

- *Certificate of Outstanding Contribution in Reviewing*, awarded by the editors of "Energy Conversion and Management Journal", November 2014

Hirsch index: 6 ISI Journals: 12 papers Books: 5 Patent: 1 Number Citations: > 200

PUBLICATIONS

ISI Journals:

- HUMINIC G., HUMINIC A., "Heat transfer and flow characteristics of conventional fluids and nanofluids in curved tubes: A review", Renewable and Sustainable Energy Reviews 58 (2016) 1327–1347.
- HUMINIC G., HUMINIC A., "Heat transfer and entropy generation analyses of nanofluids in helically coiled tube-in-tube heat exchangers", Int. Comm. Heat Mass Transfer 71 (2016) 118–125.
- HUMINIC A., HUMINIC G*., FLEACA C., DUMITRACHE F., MORJAN I., "Thermal conductivity, viscosity and surface tension of nanofluids based on FeC nanoparticles", Powder Technology 284 (2015) 78–84.

Articles included in **Top 25 Hottest Articles**, Science Direct, Chemical Engineering, Powder Technology, July to September 2015 and October to December 2015

- 4. DUMITRACHE F., MORJAN I., FLEACA C., BADOI A., MANDA G., POP S., MARTA D.S., HUMINIC G., HUMINIC A., VEKAS L., DAIA C., MARINICA O., LUCULESCU C., NICULESCU A.M., "Highly magnetic Fe2O3 nanoparticles synthesized by laser pyrolysisused for biological and heat transfer applications", Applied Surface Science 336 (2015) 297–303
- HUMINIC G., HUMINIC A., "Numerical Study on Heat Transfer Characteristics of Thermosyphon Heat Pipes Using Nanofluids", Energy Conversion and Management 76 (2013) 393-399.

6. **HUMINIC G.,** HUMINIC A., "*Numerical Analysis of Laminar Flow Heat Transfer of Nanofluids in a Flattened Tube*", Int. Comm. Heat Mass Transfer 44 (2013) 52-57.

Article in SciVerse ScienceDirect **Top 25 Hottest Articles**, Engineering International Communications in Heat and Mass Transfer, April to June 2013

- 7. **HUMINIC G.,** HUMINIC A., *"Application of nanofluids in heat exchangers: A Review",* Renewable and Sustainable Energy Reviews 16 (8) (2012) 5625–5638.
- 8. HUMINIC A., **HUMINIC G.**, *"Study of aerodynamics for a simplified car model with the underbody shaped as a Venturi nozzle"*, Int. J. of Vehicle Design, 58 (1) (2012) 15 32.
- 9. **HUMINIC G.,** HUMINIC A., "Heat transfer characteristics in double tube helical heat exchangers using nanofluids", Int. J. Heat and Mass Transfer 54 (2011) 4280–4287

Article in SciVerse ScienceDirect **Top 25 Hottest Articles**, Engineering-Energy, Int. J. Heat and Mass Transfer, July to September 2011.

10. **HUMINIC G.,** HUMINIC A., MORJAN I., DUMITRACHE F., "*Experimental study of the thermal performance of thermosyphon heat pipe using iron oxide nanoparticles*", Int. J. Heat and Mass Transfer 54 (2011) 656–661.

Article in SciVerse ScienceDirect **Top 25 Hottest Articles**, Engineering-Energy, Int. J. Heat and Mass Transfer, Octomber to December 2010.

- 11. **HUMINIC G.,** HUMINIC A., *"Heat transfer characteristics of a two-phase closed thermosyphons using nanofluids"*, Experimental Thermal and Fluid Science 35 (2011) 550–557.
 - Article in SciVerse ScienceDirect **Top 25 Hottest Articles**, Engineering-Energy, Exp. Therm. Fluid Science, January to March 2011.
- 12. **HUMINIC G.,** HUMINIC A, "Entropy Analysis of Isobar Isothermal Processes", Chemical Journal 60 (5) (2009) 518 523.

Patent

HUMINIC G., HUMINIC A., *Working fluid for a heat pipe,* Universitatea Transilvania din Brasov, R0126060/30.09.14

National projects awarded by competition

- Application of nanofluids to heat pipes for high performances in cooling systems, PNII -IDEAS_2011-2016, contract no. 122/5.10.2011, project manager. (http://mecanica.unitbv.ro/rom/termo/staff pages/HuminicGabriela/IDEI2007/INDE X_IDEI.htm);
- 2. Heat transfer optimization by devices based on phase change of the magnetic liquids, PNII – IDEAS 2007-2010, contract no. 216/1.10.2007, 2007-2010, project manager. (http://mecanica.unitbv.ro/rom/termo/staff pages/HuminicGabriela/IDEI2007/INDE X IDEI.htm)
- 3. *Synergetic analysis of the vaporisation processes*, contract no. 33369/29.06.2004, TD grant, project manager. (http://www.cncsis.ro/index afisare 1.php?id=634#)
- Aerodynamic optimization of the automotive spoilers and wings, PNII IDEAS, no. 758/2008 – CNCSIS - Transilvania University of Brasov, 2008-2011 – member.
- 5. *Study of the Aerodynamic Interaction between Cars and Road*, contract CEEX ET 5885/18.09.2006, CNCSIS Transilvania University of Brasov, 2006-2008 member.
- 6. CFD Analysis of Ground Effect Influence on Aerodynamic Characteristics of a Land Vehicle

 Stage II: Experimental Study Contract no. 33.253/25.06.2003 CNCSIS At Universitatea Transilvania Brasov, CNCSIS code 151, 2003 member.
- 7. CFD Analysis of Ground Effect Influence on Aerodynamic Characteristics of a Land Vehicle

 Stage I: Study in virtual Environment Contract no. 33.45917.07/2002 CNCSIS At Transilvania University of Brasov, CNCSIS code 306, 2002 member.

Research contract with national industrial companies

- 1. *Increasing the wetting power of a thermal fluid* contract no. 14533/05.11.2015 Insitut fur Solartechnik SPF, Elvetia Transilvania University of Brasov member
- Experimental determination of the functional characteristics of wind turbines 1 and Windy 2, contract no. 7862/15.06.2010, COTA PFA - Transilvania University of Brasov – member.
- Realisation of the experimental installation for determination the working parameters of the prototype of a reduction gear - pressure regulator for nitrogen, contract no. 18/31.07.2008, S.C. Cambric Consulting SRL Brasov - Transilvania University of Brasov - member.
- 4. Experimental determination of the working parameters of the prototype of a reduction gear pressure regulator for nitrogen, contract no. 19/31.07.2008, S.C. Cambric

Consulting SRL Brasov - Transilvania University of Brasov - member.

- Establishing of the working parameters of the Smoky wind turbine, contract no. 1/09.02.2004 SC Smoky SRL Harman, Brasov - Transilvania University of Brasov – member.
- Study of heat balance for boilers CAF 100 Gcal/h and CR 16/1 Contract no. 06/09/2002, SC ROMAN - ENERGETIC SA and Transilvania University of Brasov – scientific manager.
- Study of heat balance for steam boilers of SC Rulmentul SA Brasov- Contract no. 07/09/2002, SC RULMENTUL SA and Transilvania University of Brasov - scientific manager.
- 8. *Study of heat balance for high-power boiler* Contract no. 08/09/2002, SC METROM SA Brasov and Transilvania University of Brasov scientific manager.

April, 2016

Gabriela HUMINIC, PhD