

PERSONAL INFORMATION


Gabriela HUMINIC

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Profile: <https://www.scopus.com/authid/detail.uri?authorId=24491895600>

PhD coordinator in the doctoral studies domain: Mechanical Engineering
Since: Year / date – 2015/October

**POSITION
PhD COORDINATOR
IOSUD UTBV**

Expertise fields and research interest topics within the coordinated PhD domain

- Heat Transfer using CFD and experimental techniques
- Applied Thermodynamics
- Heat exchangers
- Heat pipes
- Nanofluids for heat transfer applications

Nationality Romanian

WORK EXPERIENCE

Sept. 2001 – Present

Professor, Associate Professor, Lecturer, Assistant Professor, Teaching assistant

Transilvania University of Brasov, Faculty of Mechanical Engineering

▪ Teaching (courses, tutorials, laboratories), research

Education and research

2016-2020

Member CNATDCU (Mechanical Engineering Section), Romania

2008-2011

Scientific secretary of the Thermodynamics and Fluid Mechanics Department Transilvania University of Brasov,, Faculty of Mechanical Engineering

EDUCATION AND TRAINING

September 2015

Habitation thesis in *Mechanical Engineering*

Transilvania University of Brasov

March. 2006 – June 2006

Post-graduation qualification in *Energy Audit of the Buildings and Installations*

Technical University of Civil Engineering Bucharest, Faculty of Building Service

Sept. 2001 – March 2005

PhD degree in *Mechanical Engineering*

Transilvania University of Brasov

Oct. 2000 – July 2001

MSc in *Energy and Environment Protection*

Transilvania University of Brasov, Faculty of Mechanical Engineering

Oct 1995 – July 2000

BSc in *Aircraft Design*

Transilvania University of Brasov, Faculty of Manufacturing Engineering

PERSONAL SKILLS

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	B2	B2	C1
French	B2	B2	A2	A2	A2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

Communication skills Good communication skills gained through my experience as teacher

Computing skills CAD Programmes –AutoCAD, Pro-Engineer
 CAE Programmes, CFD (heat transfer) - ANSYS CFX, ANSYS-FLUENT; Grid generation in ANSYS Workbench; Experience with parallel computer systems of distributed memory

Mother tongue(s) ROMANIAN

ADDITIONAL INFORMATION

Publications Articles published in ISI journals: 50
 Invited chapter of books: 4 (Elsevier, CRC Press)

Projects National projects: 16(4 as project manager, 12 as member in team)

Conferences Articles published in international conferences: 19
 Articles published in national conferences: 30

Patent Number of patent: 1

Honours and 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
 Certificate of Outstanding Contribution in Reviewing, awarded by the Editors of "International Journal of Thermal Sciences", April 2016
 Certificate of Outstanding Contribution in Reviewing, awarded by the Editors of "European Journal of Mechanics - B/Fluids", October 2016
 Certificate of Outstanding Contribution in Reviewing, awarded by the Editors of "Renewable and Sustainable Review", July 2017.
 Certificate of Outstanding Contribution in Reviewing, awarded by the Editors of "Experimental Thermal and Fluid Science", September 2018.
 Certificate of Outstanding Contribution in Reviewing, awarded by the Editors of "Applied Energy", June 2018.
 Certificate of Outstanding Contribution in Reviewing, awarded by the Editors of "Journal of Molecular Liquids", May, 2018.

Awarding the results of the research 2009-2023, UEFISCDI, Romania

Memberships	Vice-president of Romanian Thermal Engineering Society; American Nano Society – USA.
Reviewer	Reviewer at over 50 ISI 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, Materials Science and Engineering B, Energy Conversion and Management, 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 International Journal of Exergy, Cryogenics, Applied Energy, Int J Refrigeration, International Journal of Refrigeration, The Canadian Journal of Chemical Engineering, Journal of Molecular Liquids, Industrial and Engineering Chemistry, Energy, Chemical Engineering & Processing: Process Intensification, Current Nanoscience, Nanomaterials, Heat Transfer Research, Powder Technology, International Journal of Thermophysics
Member	“Mechanical Engineering, Mechatronic and Robotic” Section – Transilvania University of Brasov Member of the selection committee - Serra Húnter Programme, 2021- Spain
Expert – Evaluator	Romanian research projects supported by CNCIS / ANCS / UEFISCDI -2008-2024 BIENVENÜE programme 2021 – France HORIZON-EIC-2023-PATHFINDERCHALLENGES-01-2023 Minister of Energy 2024-2025
Member in Editorial Board	Fundamental Journal of Thermal Science and Engineering http://www.frdint.com/fundamental_journal_thermal_science_engineering_edit.html International Journal of Thermofluid Science and Technology (SCOPUS). http://ajhmt.uscip.us/EditorialBoard.aspx Energies (ISI), https://www.mdpi.com/journal/energies/sectioneditors/thermal_management
Associate Editor	Frontiers in Mechanical Engineering (https://bopfrontiersin.org/people/2006652/overview) Frontiers in Thermal Engineering (https://bopfrontiersin.org/people/2006652/overview)
Citations	> 3150(SCOPUS) >2650 (Web of Science) > 4000(Google Scholar)
H-index	25 (Scopus) 25 (Web of Science) 28(Google Scholar)

ANNEXES

List of relevant research articles

1. Huminic, G., Vărdaru, A., Huminic, A., Dumitrache, F., Fleacă C., *A comprehensive analysis of the thermo-physical behavior of a novel hybrid nanofluid for energy applications*, Journal of Molecular Liquids (2025)
2. Huminic, G., Huminic, A., Fleacă, C., Dumitrache, F., *Hybrid Nanofluids-Based Direct Absorption Solar Collector: An Experimental Approach*, International Journal of Thermophysics (2025) 46:32
3. Huminic, G., Vărdaru, A., Huminic, A., Fleacă C., Dumitrache, F., *Broad-band absorption and photo-thermal conversion characteristics of rGO-Ag hybrid nanofluids*, Journal of Molecular Liquids 408 (2024) 125347
4. Huminic, G., Huminic, A., Vărdaru, A., Dumitrache, F., Fleacă C., *Experimental investigation on Ag NPs-rGO-water/ethyleneglycol hybrid nanofluids used in solar applications*, Diamond & Related Materials 143 (2024) 110851
5. Huminic, G., Huminic, A., *Capabilities of advanced heat transfer fluids on the performance of flat plate solar collector*, Energy Reports 11 (2024) 1945–1958.
6. Yaçın, G., Huminic, G., Huminic, A., Panchal, H., Dalkılıç, A.S., *Investigation on effect of surfactants on the viscosity of graphite water based nanofluids*, Journal of Molecular Liquids 398 (2024) 124197
7. Huminic, G., Huminic, A., Vărdaru, A., Fleacă C., Dumitrache, F., Morjan, I., *Surface tension of Ag NPs-rGO based hybrid nanofluids*, Journal of Molecular Liquids 390 (2023) 123002.
8. Vărdaru, A., Huminic, G., Huminic, A., Fleacă C., Dumitrache, F., Morjan, I., *Aqueous hybrid nanofluids containing silver-reduced graphene oxide for improving thermo-physical properties*, Diamond and Related Materials 132 (2023) 109688.
9. Huminic, G., Huminic, A., *Heat and mass transfer characteristics of the NH₃/IL + GNPs solution*, Journal of Molecular Liquids 348 (2022) 118073.
10. Huminic, G., Vărdaru, A., Huminic, A., Fleacă C., Dumitrache, F., Morjan, I., *Water-Based Graphene Oxide–Silicon Hybrid Nanofluids—Experimental and Theoretical Approach*, International Journal of Molecular Sciences, 23 (2022) 3056.
11. Vărdaru, A., Huminic, G., Huminic, A., Fleacă C., Dumitrache, F., Morjan, I., *Synthesis, characterization and thermal conductivity of water based graphene oxide-silicon hybrid nanofluids: An experimental approach*, Alexandria Engineering Journal, 61(2022) 12111-12122.
12. Chereches, M., Vărdaru, A., Huminic, G., Chereches, E.I., Minea, A.A., Huminic, A., *Thermal conductivity of stabilized PEG 400 based nanofluids: An experimental approach*, International Communications of Heat and Mass Transfer 130 (2022) 105798.
13. Huminic, A., Huminic, G., Fleacă C., Dumitrache, F., Morjan, I., *Influence of solid surface, temperature and concentration on contact angle of water-FeC nanofluid*, International Communications of Heat and Mass Transfer 128 (2021) 105650.
14. Huminic, G., Huminic, A., Dumitrache, F., Fleacă C., Morjan, I., *Experimental study on contact angle of water based Si-C nanofluid*, Journal of Molecular Liquids 332 (2021) 115833.
15. Huminic, G., Huminic, A., Fleacă C., Dumitrache, F., Morjan, I., *“Experimental study on viscosity of water based Fe-Si hybrid nanofluids”*, Journal of Molecular Liquids 321 (2021) 114938.
16. Huminic, G., Huminic, A., *Thermophysical properties of NH₃/IL+ carbon nanomaterial solutions*, Nanomaterials, 11 (2021) 2612.
17. Huminic, G., Huminic, A., Dumitrache, F., Fleacă C., Morjan, I., *“Study of the thermal conductivity of hybrid nanofluids: recent research and experimental study”*, Powder Technology 367 (2020) 347–357.
18. Huminic, G., Huminic, A., *“Entropy generation of nanofluid and hybrid nanofluid flow in thermal systems: A review”*, Journal of Molecular Liquids 302(2020), Article number 112533.

Article is classified as Hot Paper and Highly Cited Paper by Essential Science Indicators

19. Huminic, A., Huminic, G., *“Aerodynamics of curved underbody diffusers using CFD”*, Journal of Wind Engineering and Industrial Aerodynamics 205 (2020) 104300.
20. Minea, A.A., Buonomo, B., Burggraf, J., Ercole, D., Karpaiya, K.R., Di Pasqua, A., Sekrani, G., Steffens, J., Tibaut, J., Wichmann, N., Farber, P., Huminic, A., Huminic, G., Mahu, R., Manca, O., Oprea, C., Poncet, S., Ravnik, J., *“NanoRound: A benchmark study on the numerical approach in nanofluids’ simulation”* 108(2019) 104292.

21. Huminic A., Huminic G., Fleaca C., Dumitrache F., Morjan I., "Thermo-physical properties of water based lanthanum oxide nanofluid. An experimental study", Journal of Molecular Liquids 287 (2019) 111013.
22. Hernaiz, M., Abnso, V., Estellé, P., Wu, Z., Sundén, B., Doretti, L., Mancin, S., Çobanoğlu, N., Karadeniz, Z.H., Garmendia, N., Lasheras-Zubieta, M., Hernández López, L., Mondragón, R., Martínez-Cuenca, R., Barison, S., Kujawska, A., Turgut, A., Amigo, A., Huminic, G., Huminic, A., Kalus, M.-R., Schroth, K.-G., Buschmann, M.H., "The contact angle of nanofluids as thermophysical property", Journal of Colloid and Interface Science 547 (2019) 393-406.
23. Huminic G., Huminic A., "The influence of hybrid nanofluids on the performances of elliptical tube: Recent research and numerical study", International Journal of Heat and Mass Transfer 129 (2019) 132-143.
24. Huminic G., Huminic A., "Heat transfer capability of the hybrid nanofluids for heat transfer applications", Journal of Molecular Liquids 272 (2018) 857-870.
25. Mokbveanu G. M., Huminic, G., Minea, A. A., Huminic, A., "Experimental study on thermal conductivity of stabilized Al_2O_3 and SiO_2 nanofluids and their hybrid", International Journal of Heat and Mass Transfer 127 (2018) 450-457.
26. Huminic, G., Huminic, A., "The heat transfer performances and entropy generation analysis of hybrid nanofluids in a flattened tube", International Journal of Heat and Mass Transfer 119 (2018) 813-827.
27. Huminic, G., Huminic, A., "Hybrid nanofluids for heat transfer applications – A state-of-the-art review", International Journal of Heat and Mass Transfer 125 (2018) 82-103.

Article is classified as Hot Paper and Highly Cited Paper by Essential Science Indicators

28. Sova D., Porojan M., Bedeleian B., Huminic G., "Effective thermal conductivity models applied to wood briquettes", International Journal of Thermal Sciences 124(2018) 1-12.
29. Huminic G., Huminic A., Fleaca C., Dumitrache F., Morjan I., "Thermo-physical properties of water based SiC nanofluids for heat transfer applications", International Communications in Heat and Mass Transfer 84(2017) 94-101, ISSN: 0735-1933, doi: 10.1016/j.icheatmasstransfer.2017.04.006
30. 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, ISSN: 1364-0321, doi: 10.1016/j.rser.2015.12.230

Article is classified as a Highly Cited Paper by Essential Science Indicators

31. Huminic G., Huminic A., "Heat transfer and entropy generation analyses of nanofluids in helically coiled tube-in-tube heat exchangers", International Communications in Heat Mass Transfer 71 (2016) 118-125, ISSN: 0735-1933, doi: 10.1016/j.icheatmasstransfer.2015.12.031
32. 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, ISSN: 0032-5910, doi: 10.1016/j.powtec.2015.06.040

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

33. 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 Fe_2O_3 nanoparticles synthesized by laser pyrolysis used for biological and heat transfer applications", Applied Surface Science 336 (2015) 297-303, ISSN: 0169-4332, doi: 10.1016/j.apsusc.2014.12.098
34. Huminic G., Huminic A., "Numerical study on heat transfer characteristics of thermosyphon heat pipes using nanofluids", Energy Conversion and Management 76 (2013) 393-399, ISSN: 0196-8904, doi: 10.1016/j.enconman.2013.07.026
35. Huminic G., Huminic A., "Numerical analysis of laminar flow heat transfer of nanofluids in a flattened tube", International Communications in Heat and Mass Transfer, 44 (2013) 52-57, ISSN: 0735-1933, doi: 10.1016/j.icheatmasstransfer.2013.03.003

Article included in Top 25 Hottest Articles, Science Direct, Engineering, International Communications in Heat and Mass Transfer, January to March 2013

36. Huminic G., Huminic A., "Application of nanofluids in heat exchangers: A review", Renewable and Sustainable Energy Reviews, 16 (8) (2012) 5625-5638, ISSN: 1364-0321, doi: 10.1016/j.rser.2012.05.023

Article is classified as a Highly Cited Paper by Essential Science Indicators

37. Huminic G., Huminic A., "Heat transfer characteristics in double tube helical heat exchangers using nanofluids", International Journal of Heat and Mass Transfer 54 (19-20) (2011) 4280-4287, ISSN: 0017-9310, doi: 10.1016/j.jheatmasstransfer.2011.05.017

Articol included in Top 25 Hottest Articles, Science Direct, Engineering-Energy, International Journal of Heat and Mass Transfer July to September 2011.

38. Huminic G, Huminic A, "Heat transfer characteristics of a two-phase closed thermosyphons using nanofluids", Experimental Thermal and Fluid Science 35 (3) (2011) 550–557, doi: 10.1016/j.expthermflusci.2010.12.009

Articol included in Top 25 Hottest Articles, Science Direct, Engineering-Energy, Experimental Thermal and Fluid Science, January to March 2011 și în „Most Cited Experimental Thermal and Fluid Science Articles” Published Since 2010.

39. Huminic G, Huminic A, I. Morjan I, F Dumitrache F, "Experimental study of the thermal performance of thermosyphon heat pipe using iron oxide nanoparticles", International Journal of Heat and Mass Transfer, 54 (1-3) (2011) 656–661, ISSN: 0017-9310, doi: 10.1016/j.ijheatmasstransfer.2010.09.005

Articol included in Top 25 Hottest Articles, Science Direct, Engineering-Energy, International Journal of Heat and Mass Transfer, October to December 2010.

Invited chapter

1. Huminic G, Huminic A, Minea AA, "Heat and mass transfer characteristics of magnetic nanofluids", chapter in the book "Nanofluids and Mass Transfer", edited by Mohammad Reza Rahimpour et. al. pp. 133-184, 2022, Elsevier, ISBN: 978-0-12-823996-4.
2. Minea AA, Huminic A, Huminic G, "Conjugate heat and mass transfer in nanofluids", chapter in the book "Nanofluids and Mass Transfer", edited by Mohammad Reza Rahimpour et. al. pp. 189-209, 2022, Elsevier, ISBN: 978-0-12-823996-4.
3. Huminic G, Huminic A, "Entropy Generation Analysis of Hybrid Nanofluids Flow in Ducts with Various Shapes", chapter in the book "Nanofluids and their engineering applications" edited by K.R.V. Subramanian, Tubati Nageswara Rao and Avinash Balakrishnan, pp. 77-104, 2019, CRC Press Taylor & Francis, doi.org/10.1201/9780429468223
4. Huminic G, Huminic A, Dumitrache F, Fleaca C, "Carbon-Based Nanofluids Characteristics - Basics and Applications on Heat Pipes", chapter in the book „Advances in New Heat Transfer Fluids", pp. 75-112, 2017, CRC Press Taylor & Francis, doi: 10.1201/9781315368184-3

Research projects, as project manager:

1. "New advanced fluids for high photothermal conversion efficiency in direct absorption solar collectors", PN-III-P4-ID-PCE-2020-0353, no 241 / 2021, Transilvania University of Braşov, 2021- 2024.
2. „Application of nanofluids to heat pipes for high performances in cooling systems", PNII-IDEAS 2011-2016, no. 122/5.10.2011, Transilvania University of Braşov, 2011- 2016.
3. "Heat transfer optimization by devices based on phase change of the magnetic liquids", PNII-IDEAS 2007-2010, no. 216/1.10.2007, Transilvania University of Braşov, 2007-2010.
4. "Synergetic analysis of the vaporisation processes", CNCISITD, no. 33369/29.06.2004, Transilvania University of Braşov, 2004.

Research projects, as partner team leader:

5. "Aerodynamic optimization of the automotive spoilers and wings", PNII – IDEAS, no. 758/2008, Transilvania University of Braşov, 2008-2010.
6. "Study of the Aerodynamic Interaction between Cars and Road", CEEX-ET CNCISIS, no. 5885/18.09.2006, Transilvania University of Braşov, 2006-2008.
7. "CFD Analysis of Ground Effect Influence on Aerodynamic Characteristics of a Land Vehicle – Stage II: Experimental Study" - Contract no 33.253/25.06.2003 CNCISIS At - Universitatea Transilvania Brasov, CNCISIS code 151, 2003.
8. "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 CNCISIS At - Transilvania University of Brasov, CNCISIS code 306, 2002.
9. „Increasing the wetting power of a thermal fluid" contract no. 14533/05.11.2015 - Institut für Solartechnik SPF, Elvetia - Transilvania University of Brasov, 2015.
10. „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, 2010.

11. „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, 2008.
12. „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, 2008.
13. “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, 2004.
14. „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, 2002.
15. „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, 2002.
16. “Study of heat balance for high-power boiler” - Contract no. 08/09/2002, SC METROM SA Brasov and Transilvania University of Brasov, 2002.

International projects:

17. COST-Horizon 2020, “Overcoming Barriers to Nanofluids Market Uptake (NANO-UPTAKE)” – substitute member in Management Committee, 2016-2020
18. SOCRATES – Invited Professor at HOCHSCHULE KONSTANZ Technik, Wirtschaft und Gestaltung Germany, 2007.
19. TEMPUS, Nr. IB_JEP 14397-1999, *Retraining the Administrators from Education Field*, coordinator „Dunărea de Jos” University, Galați - Invited Professor at Oficina de Cooperation Universitaria, Madrid, Spain.

Granted national patents:

20. Huminic G, Huminic A., *Working fluid for a heat pipe*, Transilvania University of Brasov, RO126060/30.09.14

April, 2025