

INFORMAȚII PERSONALE



Gabriela HUMINIC

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LOCUL DE MUNCA

Universitatea Transilvania din Brașov
Conducător de doctorat – Domeniul: Inginerie Mecanică

DOMENII DE COMPETENȚĂ PROFESIONALĂ / ARII DE INTERES ÎN CERCETARE

h-index

Termodinamică
Transfer de căldură și masă
Nanofluide
25 (Scopus), 25 (Web of Science), 28(Google Scholar)

EXPERIENȚA PROFESIONALĂ

2000-prezent

Profesor, conferențiar, șef de lucrări, asistent, preparator , cadru didactic asociat
Universitatea Transilvania din Brașov, Facultatea de Inginerie Mecanica, unitbv.ro
Activități didactice și de cercetare

2016-2020

Membru CNATDCU, comisia de Inginerie Mecanică, mecatronică și robotică

2008-2011

Secretar științific, catedra de Termotehnică și Mecanica Fluidelor, Facultatea de Inginerie Mecanică

EDUCAȚIE ȘI FORMARE

2015

Doctor habilitat
Universitatea Transilvania din Brasov

2006

Diploma cursuri postuniversitare
Auditul energetic al cladirilor si instalatiilor aferente
Universitatea Tehnică de Construcții București, Facultatea de Instalatii

2001- 2005

Diploma doctor
Domeniul: Inginerie Mecanică
Universitatea Transilvania din Brașov

2000- 2001

Diploma studii aprofundate
Specializarea: Energia si protectia mediului
Universitatea Transilvania din Brașov, Facultatea de Mecanică

1995-2000

Diploma de licență – inginer
Specializarea: Construcții aerospațiale
Universitatea Transilvania din Brasov, Facultatea de Inginerie Tehnologică

COMPETENTE PERSONALE

Alte limbi străine cunoscute

INTELEGERE

VORBIRE

SCRIERE

Ascultare

Citire

Participare la
conversație

Discurs oral

Engleză
Franceză

C1
B2

C1
B2

B2
A2

B2
A2

C1
A2

Competențe manageriale / organizaționale

Coordonare echipe de cercetare în cadrul proiectelor obținute prin competiție, ca director de proiect.
Coordonator laboratorului de Termodinamică Aplicată, facultatea de Inginerie Mecanică
Secretar științific al catedrei de Termotehnică și Mecanica Fluidelor
Membru în comitetele de organizare a conferințelor

Expert evaluator

Programe naționale:

CNCSIS/ ANCSI/UEFISCDI 2008-2024

Ministerul Energiei 2024-2025

Programe internaționale:

BIENVENUE, Franța, 2021

Serra Hunter, Spain, 2021

HORIZON-EIC-2023-PATHFINDERCHALLENGES-01-2023

HORIZON-EIC-2025-PATHFINDER OPEN-01-2025

Proiecte de cercetare câștigate prin competiție în calitate de director:

"Noi fluide de lucru pentru creșterea eficienței colectoarelor solare cu absorbție directă", PN-III-P4-ID-PCE-2020-0353, contract nr. 241/2021, 2021-2024

„Aplicarea nanofluidelor la tuburile termice în vederea îmbunătățirii performanțelor sistemelor de răcire”, PN-II-ID-PCE-2011-3-0275, nr. 122/05.10.2011, 2011-2016

"Optimizarea transferului de căldură prin dispozitive bazate pe schimbarea de fază a lichidelor magnetice", PN II-IDEI, ID-141, contract nr. 216/1.10.2007, 2007-2010

"Analiza sinergetică a proceselor de vaporizare", CNCSIS TD, contract nr.. 33369/29.06.2004, 2004.

Brevete

Fluid de lucru pentru un tub termic, Universitatea Transilvania din Brașov, RO126060/30.09.14

Participări în programe/contracte internaționale

COST Action, Nanouptake – Overcoming Barriers to Nanofluids Market Uptake, CA-15119 (membru suplimentar al Management Committee), 2016-2020

Istitut fur Solartechnik SPF, Elveția, Îmbunătățirea capacității de încălzire a unui fluid termic, contract de cercetare nr. 14533/05.11.2015, Universitatea Transilvania Brașov, 2015

ERASMUS, program de mobilități academice, Fh. Konstanz, Germania, 2007

TEMPUS, Retraining the Administrators from Education Field, proiect nr. IB_JEP 14397-1999, 2001-2000

Premii/ recunoașterea contribuțiilor științifice

Diplomă de excelență pentru rezultate deosebite în activitatea de cercetare științifică, acordată de către Consiliul Județean Brașov, 2013

Premierea rezultatelor cercetării, 2009-2021, UEFISCDI, Romania

"Certificate of Outstanding Contribution in Reviewing", acordat de editorii revistelor:

"Energy Conversion and Management Journal", Noiembrie 2014

"International Journal of Thermal Sciences", Aprilie 2016

"European Journal of Mechanics - B/Fluids", Octombrie 2016

"Renewable and Sustainable Review", Iulie 2017.

"Experimental Thermal and Fluid Science", Septembrie 2018.

"Applied Energy", Iunie 2018.

"Journal of Molecular Liquids", Mai, 2018.

Membru in colectivul editorial al jurnalelor internaționale:

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

Editor Asociat

Frontiers in Mechanical Engineering

(<https://bop.frontiersin.org/people/2006652/overview>)

Frontiers in Thermal Engineering

(<https://bop.frontiersin.org/people/2006652/overview>)

Referent in comisia de sustinere a tezelor de doctorat/abilitare;

Referent în comisia de ocupare a posturilor didactice;

Referent la peste 50 de reviste cotate ISI (selecție): 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.

Lista de lucrări:

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., Fleaca 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., Fleaca 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 EI., 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., Fleaca 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., Fleaca 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., Fleaca 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., Fleaca 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., Ravník, 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., Alonso, V., Estellé, P., Wu, Z., Sundén, B., Doretti, L., Mancin, S., Çobanoğlu, N., Karadeniz, Z.H., Garmendia, N., Lasheras-Zubiate, 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. Moldoveanu, G. M., Huminic, G., Minea, A. A., Huminic, A., *“Experimental study on thermal conductivity of stabilized Al₂O₃ and SiO₂ 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., Bedelean B., Huminc 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

Articol 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., Mandă G, Pop S., Marta D.S., Huminic G, Huminic A., Vekas L, Daia C., Marinica O., Luculescu C., Niculescu A.M., „Highly magnetic Fe₃O₄ 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

Articol 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: 136403212, 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.ijheatmasstransfer.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.

Capitole de cărți în edituri internaționale

1. Huminic G, Huminic A, Minea A.A., "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 A.A., 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 Bakkrishnan, 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