

PERSONAL INFORMATION


CERBU Camelia

[All CV headings are optional. Remove any empty headings.]

✉ cerbu@unitbv.ro

☎ +40 722491398

THE JOB FOR WHICH IS THE APPLICATION

EXPERTISE FIELD AND RESEARCH INTEREST AREAS

Professor / Research

- Strength of materials, mechanics of the composite materials, elasticity and plasticity of the isotropic and anisotropic.
- Analysis of the stress and strain fields in mechanical structures (analytical methods, finite element method).
- Experimentally determination of the mechanical characteristics in case of the isotropic materials, anisotropic materials or composite materials; experimentally analysis of the strain states and stress states in case of the mechanical structures.
- Analysis of the effects of the environmental factors (moisture, temperature, thermal cycles etc) on the elastic characteristics and mechanical characteristics in case of the composite materials.

WORK EXPERIENCE

[Add separate entries for each experience. Start from the most recent.]

1.10.2016 - prezent
1.10.2007 – 1.10.2016
1.10.2002 – 1.10.2007
1.10.2000 – 1.10.2002

Professor

Associate professor

University Lecturer

University Assistant

Universitatea Transilvania din Braşov, B-dul Eroilor No.29, RO-500036, Brasov, www.unitbv.ro

Activities and responsibilities:

- Teaching courses: Strength of materials, Mechanics of composite materials, Non-linear analysis of deformable solids (Master), Dynamics of mechanical structures.
- Research activities.
- Scientific coordination: PhD theses, diploma projects, dissertation works.

Business or sector: Education and research

2016 - prezent

PhD supervisor (coordinator) at Doctoral School of Transilvania University of Brasov

Doctoral studies field: Mechanical Engineering

- 2015 - Habilitation thesis / Certificate of habilitation in the field of Mechanical Engineering OMECS Nr. 5336 / 29.09.2015

October 1997 – 1 OctOBER2000

Engineer

S.C. I.U.S. S.A. Braşov (Hand Tools Factory) – Research Department

- Design of technology of manufacturing for hand tools, computer aided design for production cutting tools (milling cutter).

Business or sector: Research

November 1996 – October 1997

Engineer

Automotive Institute of Brasov – I.N.A.R.

- Computer Aided Design by using AutoLISP of the inspection tools (calibre, groove pass, cylindrical plug gauge etc.)
- Business or sector: Research - Computer Aided Design.

EDUCATION AND TRAINING

[Add separate entries for each course. Start from the most recent.]

November 2015 – present

PhD Supervisor in field of Mechanical Engineering (UTBV)

Certificate of habilitation in the field of Mechanical Engineering (OMECS Nr. 5336 / 29.09.2015).

Habilitation thesis: "*Modeling, testing and optimizing of structures made of composite materials reinforced with fabrics and natural fibers*" (17th of September, 2015, Transilvania University of Brasov).

2014

Postgraduate training and continuing professional development program "Training program in blended-learning and modern educational technologies for university education" in the field of Electronic Engineering and Telecommunications, Educational Sciences

- Duration 80 hours / 10 ECTS (transferable study credits), Transilvania University of Braşov;
- Professional skills attestation certificate recognized by the Ministry of National Education.

1999 - 2005

PhD in the field of Engineering Sciences, Mechanical Engineering

- Date of public presentation: 17th of December, 2005, Transilvania University of Brasov.
- Title of PhD thesis: "*Research on structural optimization of parts made of composite materials mechanically loaded under aggressive environmental conditions.*"

1996 - 1997

Master: Computer Assisted Technological Engineering

Transilvania University of Brasov, B-dul Eroilor No. 29, RO-500036, Brasov, www.unitbv.ro
Faculty of Technological Engineering

1991 - 1996

Engineer in Mechanics field / specialization: Machine Building Technology, Computer Assisted Design and Technology

- **Head of graduation** (average grade for all years of study: 9.83; diploma exam: 10)
Transilvania University of Brasov, B-dul Eroilor No. 29, RO-500036, Brasov, www.unitbv.ro
Faculty of Technological Engineering
Disciplines studied: Manufacturing technology, Design assisted by computer, Simulation of the technological processes, Design of the cutting tools.

1987 - 1991

"Radu Negru" National College from Făgăraş, specialization: mathematics – physics.

PERSONAL SKILLS

[Remove any headings left empty.]

Mother tongue(s)

Română

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	C1
Replace with name of language certificate. Enter level if known.					
French	A1	A2	A1	A1	A1
Replace with name of language certificate. Enter level if known.					

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

Organisational / managerial skills

- Good experience in project or team management gained through my experience as project manager in the following research projects:
 - *Exploratory research project PN-II-PCE, IDEI 733 / 2009-2011, no. 601 / 19.01.2009* – Research concerning the mechanical behaviour of hybrid composite and nano-composite structures reinforced with particles, woven fabrics, recycled materials under aggressive environmental conditions;
 - *Research project of type AT, cod 132 CNCSIS, Nr. contract: 4GR /28.05.2007* – Research concerning the conservation of the mechanical characteristics of some members (motor boat hull) made of polymeric composite materials loaded in corrosive environment with humidity and temperature variation;
 - *Research project of type AT, code 414 CNCSIS, no. contract: 33.253 / 25.06.2003, 33.369 / 29.06.2004* - Structural optimization of the members made of composite materials, which work under environmental aggressive factors.
- **2013 - present, I am Coordinator of the Research Centre** entitled "Numerical Simulation, Testing and Mechanics of the Composite Materials" of the Department of Mechanical Engineering, within Research and Development Institute of Transilvania University of Brasov, location: Laboratory L9;
- **2024 – present, member of the Senate of Transilvania University in Braşov;**
- *2017 - present, I am coordinator of the partnership through the Erasmus + program (KA107 project) between Tianjin University of Commerce (China) and Transilvania University of Brasov,*
- *2019 – October 2023 and 2011 – 2015, member in Council of Faculty of Mechanical Engineering,*
- *2015 – present, member in Council of Department of Mechanical Engineering,*
- *2012 - 2022, coordinator of the study program Mechanical Engineering in English language.*
- Areas of interest in research
 - Strength of materials, elasticity and plasticity of the isotropic and anisotropic; mechanics of the composite materials.
 - Analysis of the stress and strain fields in mechanical structures (analytical methods, finite element method).
 - Experimental analysis of the strain field by the method of digital image correlation (DIC method).
 - Experimentally determination of the mechanical characteristics in case of the isotropic materials, anisotropic materials or composite materials; experimentally analysis of the strain states and stress states in case of the mechanical structures.
 - Analysis of the effects of the environmental factors (moisture, temperature, thermal cycles etc) on the elastic characteristics and mechanical characteristics in case of the composite materials.

Job-related skills / Areas of interest in research

- English communication skills and knowledge transfer through teaching:
- 2015 – 2019, I taught the course "Mechanics of composite materials" (in English) to the students from study program *Mechanical engineering in English*;
 - 2002 – 2008, I taught the course "Strength of materials" (in English) to the students from study programs Wood Science and Technology (WST) and *Mechanical engineering in English*;
 - 2012 – 2016, I taught the applications (seminar și laboratory classes) for course "Strength of materials".

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Levels: Basic user - Independent user - Proficient user

[Digital competences - Self-assessment grid](#)

Replace with name of ICT-certificates

- Skills for: programming in Matlab; finite element analysis in ABAQUS; optical measurement of deformations with the GOM Correlate Pro software by using digital image correlation method; computer-aided design in AutoCAD; Microsoft Office™; CorelDraw software.
- 20 – 22 September, 2023, training for GOM Correlate Pro software and for the optical system for measuring 3D strains - ARAMIS SRX Digital Image Correlation System;
- 14 - 19 December 2008, training "Introduction to Abaqus" for finite element analysis (FEA), certificated provided by Dassault Systems (Cybernetics - Bucharest);
- 2 - 3 February 2009, training "Contact in Abaqus/Standard", certificated provided by Dassault Systems (Cybernetics - Bucharest);
- 4 - 5 February 2009, training "Obtaining a Converged Solution with Abaqus", certificated provided by Dassault Systems (Cybernetics - Bucharest);
- Competence and skills in computational mechanics (8-12 September, 2008 – training: Computational and Experimental mechanics of Advanced Materials, CSIM - Udine, Italia).
- Competence and skills in programming and using of Microsoft Office™, gained by teaching at *Brasov Chamber of Commerce and Industry* - Education Department (in 2000 – 2008 I taught the courses: Introductory computer science, Electronic computer and network operator, Programmer analyst, Database design by Access software);
- 1997, training courses: C.A.D. using AutoCAD (provided by Autodesk) – two levels (AutoCAD 2D and AutoLISP).
- Driving license - category B

Other skills

ADDITIONAL INFORMATION

Publications

- Synthesis of the Scientific works published:
 - 40 indexed papers in Web of Science Core Collection publications;
 - 14 books published in national publishers (4 – unique or the first author);
 - 1 Patent, No. 127882 / 30.05.2017, OSIM Romania.
- H-index = 11 (Web of Science) - Link: <https://www.webofscience.com/wos/author/record/1467196>
- H-index = 12 (Scopus) – Link: <https://www.scopus.com/authid/detail.uri?authorId=35316849900>.
- I coordinated two (2) doctoral theses that were completed and publicly presented in September 2024 (both doctoral students received the title of Doctor).

Scholarships/ mobilities won, Presentations

- 9 - 15 November 2019, research presentation within *Tianjin University of Commerce* (China) – invited professor by Erasmus+ program.
- 15 - 19 November 2019, research presentation within *Northwestern Polytechnical University* from Xi'an și *Tianjin University* where I was invited professor.
- 3 - 14 November 2018, presentations at Tianjin University of Commerce (China) - invited professor by Erasmus+ program.
- 28th of October – 28th of November 2015, **Invited Professor by Tianjin University of Commerce** (China), Faculty of Mechanical Engineering, I presented the own research results published in my habilitation thesis: "*Modelling, testing and optimization of the structures made of composite materials reinforced with fabrics and natural fibers*".
- 2008, May - Department of Mechanical, Polytechnic University of Orleans, France - I presented a part of the research results obtained in my PhD thesis: "*Research on the structural optimisation of some members made of composite materials mechanically loaded under environmental aggressive conditions*".

References/ Reviewer

I reviewed articles for famous scientific journals: Journal of Composite - Part B: Engineering (Elsevier); Journal of Composite Materials (Sage Publications); Structures (Elsevier); Journal of Building Engineering (Elsevier); Measurement (Elsevier); Composite Structures (Elsevier); Material Sciences (Springer Publications); Journal of Natural (Taylor & Francis); Scientific Data (Nature); Journal of Industrial Textile (Sage); Reviews on Advanced Materials Science (de Gruyter); Heliyon; Buildings; Polymers; Materials; Bioresources; Journal Recent Patents on Materials Science (publicat de Bentham Science Publisher); Sustainability; SN Applied Sciences and so on.

- 249 verified peer reviews in Web of Science, for 171 papers.
(Link: <https://www.webofscience.com/wos/author/record/1467196>, last access date: 01.01.2025).

ANNEXES

A list of relevant publications / coordinated research is attached to this Curriculum Vitae.

The 1st of January, 2025

Prof. dr. eng. Camelia CERBU

LIST OF RELEVANT PUBLICATIONS /RESEARCH (selection)

PATENT

Patent, No. 127882 / 30.05.2017. Hybrid laminated composite material for outdoor applications. Method of production and method of use. **Authors: CERBU Camelia;** Ciofoaia Vasile. State Office for Inventions and Trademarks (OSIM) – Bucharest, Romania, date of issue: 30.05.2017.

BOOKS (selective list)

- 1) **Cerbu Camelia**, Strength of materials. Theory and applications, ISBN 978-606-19-0449-5, Editura Universității Transilvania din Brașov, 2014, 398 pagini;
- 2) **Cerbu Camelia**, Popa Alexandru Constantin V., Modelarea Structurilor Mecanice, Editura Universității Transilvania din Brașov, ISBN 978-606-19-0331-3, 2013, 396 pagini;
- 3) Popa Alexandru Constantin V., **Cerbu Camelia**, Introducere în Metoda Elementelor Finite, Editura Universității Transilvania din Brașov, 2013, ISBN 978-606-19-0332-0, 562 pagini;
- 4) **Cerbu Camelia** – Capitol în cartea "Woven Fabric Engineering", ISBN 978-953-307-194-7, SCIYO Publisher, 2010, Editor: Polona Dobnik Dubrovski; Titlu capitol "Effects of the long-time immersion on the mechanical behaviour in case of some E-glass / resin composite materials"; 24 pagini, www.sciyo.com
- 5) **Cerbu Camelia**, Curtu Ioan, Mecanica și rezistența materialelor compozite, Editura Universității Transilvania din Brașov, ISBN 978-973-598-614-8, 2009, format B5, 264 pagini;
- 6) **Cerbu Camelia**, Materialele compozite și mediul agresiv. Aplicații speciale; Editura Universității Transilvania Brașov, ISBN 978-973-635-861-6; 2006, format B5, 256 pagini.

PUBLISHED SCIENTIFIC WORKS (selective list)

- 1) Ursache, Stefania; **Cerbu, Camelia***; Hadar, Anton; Petrescu, Horia Alexandru (2024). Effects of rubber core on the mechanical behaviour of the carbon-aramid composite materials subjected to low-velocity impact loading considering water absorption, Materials (IF: 3.100/ JCR 2023, **Q1**), Aug. 2024, vol. 17(16), article no. 4055, doi: 10.3390/ma17164055, p. 1-22. ***Corresponding author: Cerbu Camelia.**
- 2) Ursache, Stefania; **Cerbu, Camelia***; Hadar, Anton (2024). Characteristics of Carbon and Kevlar Fibres, Their Composites and Structural Applications in Civil Engineering - A Review, Polymers (IF: 4.700/ JCR 2023, **Q1**), Jan. 2024, vol. 16(1), article no. 127. doi: 10.3390/polym16010127, p. 1-23. ***Corresponding author: Cerbu Camelia.**
- 3) Botis Marius Florin; Imre Lajos; **Cerbu Camelia*** (2022). Computer-aided design of a tensegrity structure. Structures (IF: 4.100/ JCR 2022, **Q2** / 2022), 2022, vol. 38, pp. 340-360. DOI: 10.1016/j.istruc.2022.01.084. <https://www.sciencedirect.com/science/article/abs/pii/S2352012422000844>. ***Corresponding author: Cerbu Camelia.**
- 4) Dumbrava Florin; **Cerbu Camelia*** (2022). Effect of the Looseness of the Beam End Connection Used for the Pallet Racking Storage Systems, on the Mechanical Behavior of the Bearing Beams. Materials (IF: 3.748/ JCR 2021, **Q1** / 2021), 2022, vol. 15(14), no. 4728. doi:10.3390/ma15144728. <https://www.mdpi.com/1996-1944/15/14/4728>. ***Corresponding author: Cerbu Camelia.**
- 5) **Cerbu Camelia**; Ursache Stefania; Botis Marius Florin; Hadar Anton (2021). Simulation of the Hybrid Carbon-Aramid Composite Materials Based on Mechanical Characterization by Digital Image Correlation Method, Polymers (IF: 4.967 / JCR 2021, **Q1**), 2021, vol. 13 (23), Article no. 4184. <https://doi.org/10.3390/polym13234184>.
- 6) Cherradi Youssef; Rosca Ioan Calin; **Cerbu Camelia**; Kebir Hocine; Guendouz Amine; Benyoucef Mustafa (2021). Acoustic properties for composite materials based on alfa and wood fibers, Applied Acoustics, ISSN 0003-682X (IF: 3.614/ JCR 2021, **Q1**), Vol. 174, March 2021, 107759, <https://www.sciencedirect.com/science/article/abs/pii/S0003682X20308641>.
- 7) **Cerbu Camelia**, Wang Huaiwen, Botis Marius Florin, Huang Zhen, Plescan Costel (2020). Temperature effects on the mechanical properties of hybrid composites reinforced with vegetable and glass fibers, Mechanics of Materials, ISSN 0167-6636 (IF: 3.266/ JCR 2020, **Q2** / 2020), Volume 149, October 2020, 103538, <https://doi.org/10.1016/j.mechmat.2020.103538>.
- 8) Dumbrava Florin, **Cerbu Camelia*** (2020). Experimental Study on the Stiffness of Steel Beam-to-Upright Connections for Storage Racking Systems. Materials (IF: 3.623 / JCR 2020, **Q1**), Vol.13, July 2020, no. 2949. <https://doi.org/10.3390/ma13132949>. ***Corresponding author: Cerbu Camelia.**
- 9) Xu Duohua, **Cerbu Camelia***, Wang Huaiwen, Rosca Ioan Calin (2019). Analysis of the hybrid composite materials reinforced with natural fibers considering digital image correlation (DIC) measurements, Mechanics of Materials, ISSN: 0167-6636 (IF: 2.993 /JCR 2019, **Q1** / 2019), vol. 135, august 2019, pp. 46–56. DOI: 10.1016/j.mechmat.2019.05.001; <https://doi.org/10.1016/j.mechmat.2019.05.001>. ***Autor de corespondență: Cerbu Camelia.**
- 10) Botis Marius Florin, **Cerbu Camelia*** (2020). A Method for Reducing of the Overall Torsion for Reinforced Concrete Multi-Storey Irregular Structures, Applied Sciences (FI 2.679/ JCR 2020, **Q2**), Vol. 10(16), 5555, <https://doi.org/10.3390/app10165555>. ***Corresponding author: Cerbu Camelia.**
- 11) **Cerbu Camelia**; Coșereanu Camelia (2016). Moisture effects on the mechanical behavior of fir wood flour/glass reinforced epoxy composite, BioResources, ISSN: 1930-2126, (IF: 1,321, SRI: 1.558, **Q2** / 2016), vol. 11, No. 4, 2016, pp. 8364-8385. DOI: 10.15376/biores.11.4.8364-8385. http://ojs.cnr.ncsu.edu/index.php/BioRes/article/view/BioRes_11_4_8364_Cerbu_Moisture_Effects_Mechanical_Behavior_Fir_Wood/4718
- 12) **Cerbu Camelia** (2015). Practical solution for improving the mechanical behaviour of the composite materials reinforced with flax woven fabric, Advances in Mechanical Engineering, SAGE Journals, ISSN 1687-8132 (IF: 0.640 / 2015, **Q4**), Vol. 7, Nr. 4, April 2015, DOI: 10.1177/1687814015582084. Link: <https://journals.sagepub.com/doi/full/10.1177/1687814015582084>