

PERSONAL INFORMATION

CERBU Camelia



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Gender Female | Date of birth 19 / 04 / 1972 | Nationality Romanian

THE JOB FOR WHICH IS THE APPLICATION

EXPERTISE FIELD AND RESEARCH INTEREST AREAS

Education / Research;

- Strength of materials, elasticity and plasticity of the isotropic and anisotropic; mechanics of the composite materials.
- Analysis of the stress and strain states 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

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, Braşov, www.unitbv.ro
 - Teaching courses: Strength of materials, Mechanics of composite materials, Non-linear analysis of deformable solids, Dynamics of mechanical structures.
 - Research activities.
 - Scientific Coordination: Diploma projects, dissertation works, PhD theses.

Business or sector: Education and research

2016 - prezent

PhD Coordinator at Doctoral School of Transilvania University of Brasov
 Doctoral studies field: Mechanical Engineering

- 2015 - Habilitation thesis / OMECS Nr. 5336 / 29.09.2015 (issued by Ministry of Education and Research of Romania).

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

- November 2015 – present **PhD Supervisor in field of Mechanical Engineering (UTBV)**
 Habilitation thesis: "*Modeling, testing and optimizing of structures made of composite materials reinforced with fabrics and natural fibers*", 17th of September, 2015 (OMECS Nr. 5336 / 29.09.2015 - issued by Ministry of Education and Research of Romania).
 Transilvania University of Brasov
- 1999 - 2005 **PhD in the field of Engineering Sciences, Mechanical Engineering**
 Transilvania University of Brasov
 Title of the 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
 Technological engineering assisted by computer (AutoCad, AutoLisp, etc.).
- 1991 - 1996 **Engineer / specialization: Machine Building Technology, Computer Assisted Design and Technology**
 Transilvania University of Brasov, B-dul Eroilor No.29, RO-500036, Brasov, www.unitbv.ro
 Faculty of Technological Engineering
 Manufacturing technology, design assisted by computer, simulation of the technological processes, design of the cutting tools.

PERSONAL SKILLS

Mother tongue(s) Română

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B1	B2	B1	B2	B1
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:
 - 2003-2004, 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.-Degradation of the mechanical characteristics in case of four kinds of composite materials reinforced with chopped glass fibres, after long time immersion (over 11 months)in aggressive environment (water, seawater, detergent solution).
 - 2007, Project of type AT, cod 132 CNCSIS, No. 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. FEM analysis and experimental analysis of the rear plate of a motor boat hull.
 - 2008 - 2011, Project IDEI, code ID_733 / 2008, Research concerning the mechanical behaviour of hybrid composite and nano-composite structures reinforced with particles, woven fabrics, recycled materials under aggressive environmental conditions. Analysis of mechanical behaviour and degradation in case of polymer composite materials reinforced with both glass fibres and wood flour.

- 2013 - present, I am Coordinator of the Research Center entitled "Numerical Simulation, Testing and Mechanics of the Composite Materials" of the Department of Mechanical Engineering within "Research and Development Institute of the Transilvania University of Brasov.
- 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 - present, 2011-2015 - member in Council of Faculty of Mechanical Engineering.
- 2015 – present, member in Council of Department of Mechanical Engineering
- 2012 - present, coordinator of study program Mechanical Engineering in English.

Job-related skills / 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 states 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.

English communication skills and knowledge transfer through teaching:

- 2015 - 2018 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

- Knowledge of Matlab software, Abaqus software.
- a good knowledge of Microsoft Office™ tools, CorelDraw.
- 14-19 decembrie 2008 - curs "Introduction to Abaqus" de analiză cu elemente finite (FEA), certificat Dassault Systems (cursul s-a organizat la Cybernetics - București);
- 2-3 februarie 2009 - curs "Contact in Abaqus/Standard", certificat Dassault Systems (Cybernetics - București);
- 4-5 februarie 2009 - curs "Obtaining a Converged Solution with Abaqus", certificat Dassault Systems (Cybernetics - București).

Other skills

- Driving license - category B

ADDITIONAL INFORMATION

Publications

- Synthesis of the Scientific works published:
 - 1 patent, Nr. 127882 / 30.05.2017, OSIM Romania;
 - 2 book chapters published in international publishers: 2 (1 chapter – single author);
 - 57 indexed papers (34 papers indexed in ISI Web of Science);
 - 14 books published in national publishers (3 – single author, 3 – the first author).

- Presentations**
- 9 - 15 noiembrie 2019, presentation within *Tianjin University of Commerce* (China) – invited professor by Erasmus+ program.
 - 15 - 19 noiembrie 2019, research presentation within *Northwestern Polytechnical University* from Xi'an și *Tianjin University* where I was invited professor.
 - 3-14 noiembrie 2018, prezentări la *Tianjin University of Commerce* (China) în cadrul programului Erasmus+.
 - 28th of October – 28th of November 2015, Invited Professor, *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 scientific work of research results obtained in my PhD thesis: “*Researches concerning to 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* (publicat de Sage Publications); *Structures*; *Journal of Building Engineering* (Elsevier); *Material Sciences* (Springer); *Buildings*; *Polymers*; *Materials*; *Bioresources*; *Journal Recent Patents on Materials Science* (publicat de Bentham Science Publisher); *Sustainability*; *SN Applied Sciences* etc..
- Link: <https://publons.com/researcher/1324782/camelia-cerbu/>

ANNEXES

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

The 23th of September, 2022

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) Botis Marius Florin; Imre Lajos; **Cerbu Camelia*** (2022). Computer-aided design of a tensegrity structure. Structures, 2022, vol. 38, pp. 340-360. DOI:10.1016/j.istruc.2022.01.084. <https://www.sciencedirect.com/science/article/abs/pii/S2352012422000844> *Autor de corespondență: **Cerbu Camelia**.
- 2) 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, 2022, vol. 15(14), no. 4728. doi:10.3390/ma15144728. <https://www.mdpi.com/1996-1944/15/14/4728> *Autor de corespondență: **Cerbu Camelia**.
- 3) **Cerbu Camelia**; Ursache Stefania; Botis Marius Florin; Hadăr Anton (2021). Simulation of the Hybrid Carbon-Aramid Composite Materials Based on Mechanical Characterization by Digital Image Correlation Method, Polymers (IF 4.329/ JCR2020), 2021, vol. 13 (23), Article no. 4184. <https://doi.org/10.3390/polym13234184>.
- 4) 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: 2.44), Vol. 174, March 2021, 107759, <https://www.sciencedirect.com/science/article/abs/pii/S0003682X20308641>.
- 5) **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, Volume 149, October 2020, 103538, <https://doi.org/10.1016/j.mechmat.2020.103538>.
- 6) Dumbrava Florin, **Cerbu Camelia*** (2020). Experimental Study on the Stiffness of Steel Beam-to-Upright Connections for Storage Racking Systems. Materials, Vol.13, July 2020, no. 2949. <https://doi.org/10.3390/ma13132949>. *Autor de corespondență: **Cerbu Camelia**.
- 7) 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 (FI:2.958, SRI: 1.954), 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**.
- 8) Botis Marius Florin, **Cerbu Camelia*** (2020). A Method for Reducing of the Overall Torsion for Reinforced Concrete Multi-Storey Irregular Structures, Applied Sciences, Vol. 10(16), 5555, <https://doi.org/10.3390/app10165555>. *Corresponding author: **Cerbu Camelia**.
- 9) **Cerbu Camelia**; Coșereanu Camelia (2016). Moisture effects on the mechanical behavior of fir wood flour/glass reinforced epoxy composite, BioResources, ISSN: 1930-2126, (FI: 1,396, SRI: 1.558), 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
- 10) **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 (FI: 1.024), Vol. 7, Nr. 4, April 2015, DOI: 10.1177/1687814015582084. Link: <https://journals.sagepub.com/doi/full/10.1177/1687814015582084>
- 11) **Cerbu Camelia**, Xu D., Wang H., Roșca I.C. (2018). The use of Digital Image Correlation in determining the mechanical properties of materials, The 3rd China-Romania Science and Technology Seminar (CRSTS 2018) IOP Publishing, IOP Conf. Series: Materials Science and Engineering 399 (2018) 012007, DOI: 10.1088/1757-899X/399/1/012007 (indexat WOS, SCOPUS). <https://iopscience.iop.org/article/10.1088/1757-899X/399/1/012007>