

PERSONAL INFORMATION

**CERBU Camelia**



✉ [cerbu@unitbv.ro](mailto:cerbu@unitbv.ro)

POSITION  
IOSUD UTBV

PhD Coordinator at Transilvania University of Brasov  
Doctoral studies field: Mechanical Engineering  
Since 2015

EXPERTISE FIELD AND  
RESEARCH INTEREST AREAS

- 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, Brasov, [www.unitbv.ro](http://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

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*" (17<sup>th</sup> of September, 2015)

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.

Job-related skills

- Good competences concerning to the theoretical and experimental knowledge within the following research areas: strength of materials, elasticity and plasticity of the isotropic and anisotropic; mechanics of the composite materials.
- Analysis of stress and strain states in mechanical structures.
- Experimentally determination of the mechanical characteristics in case of the materials (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.

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 Abaqus software, programming in MatLab.
- a good knowledge of Microsoft Office™ tools
- Driving license - category B

Other skills

ADDITIONAL INFORMATION

Publications

- Synthesis of the Scientific works published:
  - book chapters published in international publishers: 2 (1 chapter – single author);
  - 43 indexed papers (25 papers indexed in ISI Web of Science, 18 papers indexed in other databases);
  - 14 books published in national publishers (3 – single author, 3 – the first author);
  - 2 chapters of books published in international publishing houses (1 chapter – single author);
  - 1 patent, Nr. 127882 / 30.05.2017, OSIM Romania.

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*”.

H Indexes

- Hirsch index in accordance with ISI Knowledge (Web of Science): 5
- Hirsch index in accordance with Scopus: 5
- Hirsch index in accordance with Google Scholar: 9

References

- I reviewed articles in famous journals: *Journal of Composite Materials - Part B: Engineering*, Elsevier; *Journal of Composite Materials* (publicat de Sage Publications); *Materials*; *Buildings*; *Polymers*; *Journal of Building Engineering*, Elsevier; *Journal Recent Patents on Materials Science* (publicat de Bentham Science Publisher); *BioResources*; *Optoelectronics and Advanced Materials - Rapid Communications (OAM-RC)* etc.

ANNEXES

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

The 27<sup>th</sup> of March, 2020

Prof. dr. eng. Camelia CERBU

### LIST OF RELEVANT PUBLICATIONS /RESEARCH (selection)

#### 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](http://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.
- 7) Curtu Ioan, Ciofoaia Vasile, **Cerbu Camelia**, Kuchar Peter, Repanovici Angela, Botiș Marius, Rezistența materialelor. Probleme. (Festigkeitslehre), vol. II; Editura Infomarket Brașov, ISBN 973–8204–40–2; 2002.

#### PUBLISHED SCIENTIFIC WORKS (selective list)

- 1) 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, In Press, Accepted Manuscript (online: 2 May, 2019), <https://doi.org/10.1016/j.mechmat.2019.05.001>
- 2) Cosereanu Camelia, **Cerbu Camelia** (2019). Morphology, physical, and mechanical properties of particleboard made from rape straw and wood particles glued with urea-formaldehyde resin, Bioresources, volume 14 (2), pp. 2903-2918. [http://ojs.cnr.ncsu.edu/index.php/BioRes/article/view/BioRes\\_14\\_2\\_2903\\_Cosereanu\\_Particleboard\\_Urea\\_Formaldehyde\\_Res\\_in](http://ojs.cnr.ncsu.edu/index.php/BioRes/article/view/BioRes_14_2_2903_Cosereanu_Particleboard_Urea_Formaldehyde_Res_in)
- 3) **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](https://doi.org/10.1088/1757-899X/399/1/012007) (indexat SCOPUS)
- 4) **Cerbu, Camelia**; Botiș, Marius (2017). Numerical modeling of the flax / glass / epoxy hybrid composite materials in bending. Procedia Engineering, ISSN 1877-7058, Elsevier, Vol. 181, 2017, pp. 308–315, doi: [10.1016/j.proeng.2017.02.394](https://doi.org/10.1016/j.proeng.2017.02.394);
- 5) **Cerbu Camelia**; Coșereanu Camelia (2016). Moisture effects on the mechanical behavior of fir wood flour/glass reinforced epoxy composite, BioResources (BioRes.), ISSN: 1930-2126, vol. 11, No.4, 2016, pp. 8364-8385. DOI: [10.15376/biores.11.4.8364-8385](https://doi.org/10.15376/biores.11.4.8364-8385);
- 6) **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, Vol. 7, Nr. 4, April 2015, DOI: [10.1177/1687814015582084](https://doi.org/10.1177/1687814015582084), <http://ade.sagepub.com/content/7/4/1687814015582084.full.pdf+html>;
- 7) **Cerbu Camelia** (2014) Mechanical characterization of the flax / epoxy composite material, Procedia Technology, ELSEVIER, ISSN 2212-0173, The 8th International Conference Interdisciplinarity in Engineering, INTER-ENG 2014, 9-10 October 2014, Tirgu-Mures, România, Vol. 19, 2015, p. 268–275, DOI: [10.1016/j.protcy.2015.02.039](https://doi.org/10.1016/j.protcy.2015.02.039), <http://www.sciencedirect.com/science/article/pii/S2212017315000407>;
- 8) **Cerbu Camelia**, Curtu I., Constantinescu D. M., Miron M. C. (2011). Aspects concerning to the transverse contraction in the case of some composite materials reinforced with glass fabric, Materiale Plastice, ISSN 0025-5289, Vol. 48, Nr. 4, 2011, p.341-345, <http://www.revmaterialeplastice.ro/pdf/CERBU%20C%204%2011.pdf>;
- 9) **Cerbu Camelia**, Curtu I. (2011). Mechanical characterisation of the glass fibres / rubber / resin composite material, Materiale Plastice, ISSN 0025 – 5289, Vol. 48, Nr. 1, 2011, p. 93-97, (sursa: ISI Web of Science, SCOPUS, Google Scholar); <http://www.revmaterialeplastice.ro/pdf/CERBU%20C.pdf%201%2011.pdf>,
- 10) **Cerbu Camelia**, Teodorescu H. s.a., Adding fillers to change the mechanical behaviour of the glass composite materials, Proceedings of The World Congress on Engineering WCE 2011, Vol. III, ISBN 978-988-19251-5-2, ISSN 2078-0958 (Print), ISSN 2078-0966 (Online), 6-8 July 2, 2011, London, U.K, Publisher: Newswood Limited; Organization: International Association of Engineers; p.p. 2294-2297, [http://www.iaeng.org/publication/WCE2011/WCE2011\\_pp2294-2297.pdf](http://www.iaeng.org/publication/WCE2011/WCE2011_pp2294-2297.pdf);
- 11) **Cerbu Camelia**, Curtu I., Ciofoaia V., Roșca I. C., Hanganu L. C. (2010). Effects of the wood species on the mechanical characteristics in case of some E-glass fibres/wood flour/polyester composite materials, Materiale Plastice, ISSN 0025-5289, Vol. 47, Nr. 1, 2010, p.109-114, <http://revmaterialeplastice.ro/pdf/CERBU%20CAM.%201%2010.pdf>;
- 12) **Cerbu Camelia**, Chircan Eliza, Boboc Adrian, Modeling and simulation of the sandwich composite materials with core made of different profiles, Buletinul AGIR, ISSN 1224-7928 (categoria B+, cod 415 CNCISIS), Online: ISSN 2247-3548, an XXI, nr. 1, ianuarie-martie 2016, p. 59-63; <http://www.buletinulagir.agir.ro/articol.php?id=2500>;
- 13) **Cerbu Camelia**, Ciofoaia V., Curtu I., Vișan A. (2009). The effects of the immersion time on the mechanical behaviour in case of the composite materials reinforced with E-glass woven fabrics, Revista de Materiale Plastice, ISSN 0025-5289, Vol. 46, Nr. 2, 2009, p. 201-205, <http://www.revmaterialeplastice.ro/pdf/CERBU%20CA.pdf>.