TECHNICAL UNIVERSITY OF CLUJ-NAPOCA
FACULTY OF AUTOMOTIVE VEHICLES, MECHATRONICS AND MECHANICS

PERSONAL INFORMATION

Last/family name and first name(s)	BOTEAN Adrian-Ioan
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CURRENT PROFESSION / OCCUPATION

• Date	2011 - present
• Workplace	Technical University of Cluj-Napoca, Department of Mechanical Engineering, Chair of Strength of Materials, Faculty of Automotive Vehicles, Mechatronics and Mechanics
• Profession	Engineer
• Occupation	Lecturer
• Main activity	Teaching and research activities
• PhD supervisor	no
• Field	Mechanical Engineering

EDUCATION AND QUALIFICATIONS

• Year	2014-2015
• Name and type of organization	Technical University of Cluj-Napoca Postdoctoral scholarship
• Field of study	Biomedical Engineering
• Year	2010
• Name and type of organization	Technical University of Cluj-Napoca
• Degree awarded	PhD in Engineering Sciences
• Field of study	Mechanical Engineering
• Year	2002 - 2003
• Name and type of organization	Technical University of Cluj-Napoca Advanced Studies
• Field of specialization	Computer-Aided Design of Thermal Machines with Reduced Pollution
• Year	2001 – 2002
• Name and type of organization	Technical University of Cluj-Napoca Advanced Studies
• Field of specialization	Computer-Aided Analysis and Experimental Research in Mechanical Engineering
• Year	1996 - 2001
• Name and type of organization	Technical University of Cluj-Napoca
• Degree awarded	Engineer
• Field of study	Thermal Machines and Equipment

ACADEMIC TEACHING ACTIVITY

PROFESSIONAL EXPERIENCE	COURSE HOLDER	DEGREE PROGRAMME	YEAR OF STUDY
	Strength of Materials1	Electrical Engineering, Energy Engineering, Medical Engineering, Industrial Engineering, Economic Engineering, Industrial Robots	II
	Strength of Materials2	Industrial Engineering	II

SCIENTIFIC RESEARCH ACTIVITY

RESEARCH TOPICS

1. Analysis of the state of stresses and deformations in Bioengineering
2. Analysis of the state of stresses and deformations in Mechanical Engineering
3. Experimental analysis of stresses and deformations: photoelasticity (transmission and reflection), electrical resistive strain gauging, digital image correlation method, mechanical testing
4. Finite Element Method (structural analysis, heat transfer) – Ansys, Algor, RDM

PUBLICATIONS

(85 scientific articles and 4 books)

Adrian - Ioan BOTEAN, *Osul femural uman din perspectiva Rezistenţei materialelor,* Editura U.T.PRESS, Cluj-Napoca, 2023, 143 pagini, A4, ISBN 978-606-737-609-8.

Adrian - Ioan BOTEAN, *Rezistenţa Materialelor. Solicitări simple. Editia aII-a revizuită şi adăugită*, Editura U.T.PRESS, Cluj-Napoca, 2019, 454 pagini, format A4, ISBN 978-606-737-407-0.

Adrian - Ioan BOTEAN, *Rezistenţa Materialelor. Solicitări simple*, Editura U.T.PRESS, Cluj-Napoca, 2017, 388 pagini, format A4, ISBN 978-606-737-228-1.

Adrian - Ioan BOTEAN, *Metode numerice de calcul în Rezistenţa Materialelor. Îndrumător*, Editura U.T.PRESS, Cluj-Napoca, 2006, 206 pagini, format A4, ISBN (10) 973-662-232-0, ISBN (13) 978-973-662-232-8.

Adrian Ioan BOTEAN, *Extreme Deformations and Self-Coupling: An Analytical Approach to Beams Subjected to Complex Follower Loads*, Mathematics, 14 (6), 2026, MDPI, https://doi.org/10.3390/math14061009.

Adrian Ioan BOTEAN, *Application of the DTM to the Elastic Curve Equation in Euler-Bernoulli Beam Theory***,** Mathematics 2025, 13, 2647, https://doi.org/10.3390/math13162647.

Adrian - Ioan BOTEAN, *Approximation of the elastic curve differential equation by trigonometric series for an isotropic beam with a constant moment of inertia, complexly loaded, according to the Euler-Bernoulli theory*, Acta Technica Napocensis, Series: Applied Mathematics, Mechanics, and Engineering, ISSN 1221-5872 Vol.67, Issue I, pp.55-68, 2024.

Adrian Ioan BOTEAN, *The Use of Trigonometric Series for the Study of Isotropic Beam Deflection*, Mathematics 2023, 11(6), 1426 (Special Issue Advanced Mathematical Modeling and Numerical Solutions in Applied Mechanics and Engineering); https://doi.org/10.3390/math11061426.

GRANTS, RESEARCH CONTRACTS

6 research contracts: contract director (2 national and 1 with third parties)

1. 2011 – Project manager for a research, development and consultancy contract. No. 107/16.06.2011. Compression testing of 6 tubular parts (drawing 25291 P01) – SC Trelleborg Automotive Dej SRL.
2. 2008-2009 – Research contract director. Td research grant (human resources), CNCSIS code 217, contract no. 25/2008, Project title: Research on mechanical and thermal stresses in the cylinder head of a spark-ignition engine.
3. 2004-2006 – Research contract director. Research grant no. Td2, CNCSIS code 230. Project title: Study of thermo-mechanical stresses in internal combustion engines using modern research methods.

GRANTS, INSTITUTIONAL PROJECTS

1. May 2014 – October 2015 – Postdoctoral fellowship within the project co-financed by the European Social Fund through the Sectoral Operational Programme for Human Resources Development 2007–2013, Priority Axis 1 – "Education and professional training in support of economic growth and the development of a knowledge-based society", Major Intervention Area 1.5 – "Doctoral and postdoctoral programmes in support of research", Project title: "Inter-university partnership for excellence in engineering – PARTING", Contract no. POSDRU/159/1.5/S/137516, Beneficiary: Technical University of Cluj-Napoca, Research project title: "Study of the state of stresses and deformations in the area of the femoral neck",

Cluj-Napoca, 20.04.2026

Lecturer, PhD Eng., Adrian-Ioan BOTEAN