

PERSONAL INFORMATIONS

First name and Surname Marius Nicolae BABA



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Gender Masculin | Date of birth 28/08/1975 | Nationality Română

OCUPATIONAL FIELD

Education and academic research

PROFESIONAL EXPERIENCE

Period	2009 - present
Occupation or position held	Lecturer PhD eng.
Name of the employer	Faculty of Mechanical Engineering, Transilvania University of Braşov
Main activities and responsibilities	<ul style="list-style-type: none"> ▪ Teaching lectures, seminars and laboratories in Strength of Materials I and II ("Automotive Engineering" and "Industrial Design" undergraduate degree programs provided in English language by Transilvania University of Braşov); ▪ Teaching lectures and laboratories in Finite Element Method (master degree program "Advanced wood structures and innovative technologies" provided in Romanian language by Transilvania University of Braşov); ▪ Teaching lectures and laboratories in Fatigue live-based design under variable mechanical loading (master degree program "Simulation and testing in mechanical engineering" provided in Romanian language by Transilvania University of Braşov); ▪ Research in the field of strength and durability of mechanical structures made of composite materials.
Period	2013 - 2018
Occupation or position held	Senior structural engineer in the field of aerospace stress analysis and design (in parallel with the position of Lecturer PhD eng. at Transilvania University of Braşov)
Name of the employer	Consaro Engineering S.R.L Braşov (www.consaro.de)
Main activities and responsibilities	<p>Member of the structural design teams for the following projects:</p> <ul style="list-style-type: none"> ▪ EnMAP hyperspectral satellite: Drafting design; ▪ Airbus A320-MOD: Airplane Section 19 Structure Analysis; ▪ Airbus A320-NEO: Airplane Section 19 Flight Test Tailbumper Structure Analysis ▪ Airbus A320 Sharklet_S19: Airplane Section 19 Structure Analysis; ▪ Airbus A350XWB -900/-1000 Door Surrounds Airplane: FEM Creation and Validation for

Fuselage Structures, Door- and Cargo Door Surround for MSN1-MSN40 (4 major modification loops), Sizing and Certification, Bulk Cargo Door Surround strength analysis of Z-Strut bracket at frame C85 for MSN98 – New FEM proposal, Cargo and Passengers Floor Calculation and Reporting, Door- and Cargo Door Surround for MSN64-98-146-229 Calculation and Reporting, Rear Pressure Bulkhead Sizing and Certification for MSN59-88-98-146-188 Calculation and Reporting;

- Airbus A380 Wings: Airplane Flap Tracks FEM, Calculation and Reporting Rocket MT-Ariane 5-ME Launcher Cryogenic Upper Stage: FEM Creation and nonlinear finite element analysis of LH2 MH dome wall and LOX Collector, Strength analysis, Bolted joints calculation and Reporting;
- Rocket MT-Ariane 5-ECA+ Launcher Cryogenic Upper Stage: U-Ring of LH2 - Tank Structure - Strength Analysis and Reporting;
- Marengo Helicopter Carbon Tail Rotor Drive in Hybrid Technology: Metal-CFRP Strut Fitting Hand Calculation, Conception and implementation of an Excel parametric tool by using Classical Laminate Theory, Matrix Stiffness and Force methods for structural strength calculation;
- Airbus A400M VTP Rear Fuselage Fairing Airplane: FEM, Calculation and Reporting Development of Repair Solution and Structure Repair Manuals, Airbus A330-700L (Beluga XL) Main Deck Loading System Airplane, FEM Linear and Nonlinear, Calculation and Reporting (Power Drive Unit and Power Looking Unit), Fasteners assessment by hand calculation.

Period	2003 - 2008
Occupation or position held	Assistent professor eng.
Name of the employer	Faculty of Mechanical Engineering, Transilvania University of Braşov
Main activities and responsibilities	<ul style="list-style-type: none"> ▪ Teaching seminars and laboratories in Strength of Materials I and II (engineering degree programs provided in Romanian and English language by Transilvania University of Braşov); ▪ Research in the field of strength and durability of mechanical structures made of isotropic and anisotropic materials. ▪ Research in the field of fracture mechanics with applications in the field of strength assesment of laminate composite materials.
Period	2003 - 2006
Occupation or position held	Junior structural engineer in the field of stress analysis and design for civil engineering projects (in parallel with the position of Assistent professor eng. at Transilvania University of Braşov).
Name of the employer	Internaţional Engineering SRL Braşov

Main activities and responsibilities

- Design and strength calculation of structures in accordance with the provisions of the French standards CB71, NV65 and European regulations: Eurocode 1, Eurocode 3 and Eurocode 5.
- Finite element analysis for static and dynamic analysis of load-carrying structures (steel and timber) made of beams, bars and plates.
- The conception, calculation and detailing of wood-wood or wood-metal joints / fittings / connections.
- 3D graphic modeling and 2D drafting for the execution of the overall plans, the detailed plans or the cutting plans.

Period 2000 – 2003

Occupation or position held Laboratory preparation eng.

Name of the employer Faculty of Mechanical Engineering, Transilvania University of Braşov

Main activities and responsibilities

- Assisting the lectures in Strength of Materials I and II (engineering degree programs provided in Romanian and English language by Transilvania University of Braşov);
- Teaching laboratories in Strength of Materials I and II (engineering degree programs provided in Romanian and English language by Transilvania University of Braşov);
- Research in the field of strength and durability of mechanical structures made of isotropic and anisotropic materials.
- Research in the field of fracture mechanics with applications in the field of strength assesment of laminate composite materials.

EDUCATION

Period 2004 – 2010

Title of qualification awarded PhD in the fundamental domain ENGINEERING SCIENCES with the specialisation in "Mechanical Engineering", the field of Strength of materials and Theory of elasticity.

Faculty of Mechanical Engineering, Transilvania University of Braşov
 Title of the thesis: "Interlaminar fracture of lignocellulosic composite materials", Scientific coordinator Prof. univ. PhD, Emeritus, Honoris Causa Ioan CURTU

Period 1998 – 1999

Title of qualification awarded In-depth dissertation studies

Faculty of Wood Engineering, Transilvania University of Braşov

Period 1995 – 1998

Title of qualification awarded Engineer

Faculty of Wood Engineering, Transilvania University of Braşov

INTERNAȚIONAL MOBILITIES

- Period 2007 – 2008 (15 months)
Scholarship ICCE-Unioin in Mechanical engineering desig at Politecnico di Milano (Italia).
- Period 2019 (1 week)
ERASMUS Teaching mobility at University of West Attica, Piraeus (Grecia).
- Period 2003 (1month)
Scholarship CEEPUS at Budapest University Technical and Economics (Hungary)
- Period 2003 (1 month)
Scholarship CEEPUS at Slovak University of Technology in Bratislava (Slovakia)

PERSONAL COMPETENCES

Mother tongue Romanian language
OTHER LANGUAGES

Self-assessment
European level (*)

English language

Italian language

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Discurs oral	-
English language	B2	B2	B2	B2	B2
Certificate of language competences CLIM Transilvania University of Brasov					
Italian language	B2	B2	A2	A2	A2
			-		

(*) Common European Framework of Reference for Languages

Social skills and competences

Good communication skills acquired through the experience of senior structural engineer at the company Consaro Engineering SRL.
Good communication skills acquired over the years for the support of lectures / trainings.

Organisational skills and competences

Leadership acquired within the company Consaro Engineering SRL by coordinating part of the projects developed in the Brasov office: Airbus A350XWB -900/-1000 PAX-Cargo-Bulk Cargo Door Surround, Rocket Ariane 5 (Launcher Cryogenic Upper Stage), Airbus, A400M (VTP Rear Fuselage Fairing Airplane), Airbus A330-700L (Beluga XL) (Main Deck Loading System Airplane).

Technical skills and competences

A very good theoretical and practical knowledge of the methods of static calculation and fatigue calculation of mechanical structures.

Computer skills and competences

Advanced knowledge of MS Office tools: Word, Excel. Microsoft Office™
Advanced knowledge of assisted design software: AutoCad, TopSolid, Catia V.5, Autodesk Inventor.

Advanced knowledge of assisted design software: Abaqus, MSC Natran / Patran, Simcenter 3D.

Hobby Running

SCIENTIFIC
PUBLICATIONS/RESEARCH
CONTRACTS

Published books as first author
or coauthor

BABA, Marius, Nicolae (2019) Synopsis of Lectures in Strength of Materials for Undergraduates. Part 2, Editura Universității Transilvania din Brașov, ISBN 978-606-19-1087-8

BABA, Marius, Nicolae (2018) Proiectarea pe baza duratei de viață la solicitări variabile. Vol 1, Editura Universității Transilvania din Brașov, ISBN 978-606-19-1085-4, 978-606-19-1086-1

BABA, M., BACIU, FI., BĂDESCU, N., CERBU, C., CIOFOAIA, V., CURTU, I., GHIȚĂ, E., HADĂR, A., ILINCIOIU, D., ISPAS, B., MARȘAVINA, L., MOCANO, Șt., ROȘCA, V., SAVA, M., SISAK, I., TRIPA, P., VLĂSCEANU, D., ZICHIL, V., Coordonatori JIGA, G și PASTRAMĂ, Șt. D., (2004) Teste grilă de rezistența materialelor, Editura Tehnica – Info, Chișinău

Ioan CURTU, Vasile CIOFOAIA, Marius BABA, Camelia CERBU, Angela REPANOVICI Rezistența materialelor. Probleme, vol. IV, Editura Infomarket 2005, ISBN 973-8204-76-3, 236 pagini

BIȚ, Cornel., CERBU, Camelia., BABA Marius., (2002) Strength of Materials I, Reprografia Universității Transilvania din Brașov

Scientific articles published in
journals or conference
volumes indexed ISI or WoS
(last 10 years)

BABA Marius Nicolae, DOGARU Florin, GUIMAN Maria Violeta (2019) Low velocity impact response of laminate rectangular plates made of carbon fiber reinforced plastics, 13th International Conference Interdisciplinarity in Engineering, INTER-ENG 3 – 5 octombrie 2019, Târgu Mureș, România, articol acceptat spre publicare in Procedia Manufacturing Conference Series

BABA Marius Nicolae (2019) Delamination assessment of composite curved angles using simplified FEA models build-up by 2-D layered shell elements, 9th International Scientific Conference – IRMES 2019 Research and Development of Mechanical Elements and Systems, September 05 -07, 2019 Kragujevac, Serbia., articol acceptat spre publicare in IOP Conference Series: Materials Science and Engineering

BABA Marius Nicolae, ULEA Mihai, ROȘCA Călin Ioan, MIHĂLCICĂ Mircea, SCUTARU Maria Luminița (2019) Investigation of Mode II Interlaminar Fracture Toughness of Lignocellulosic Laminated Specimens – an Experimental and Numerical Approach, International Conference on Innovative Research, EUROINVENT 2019 May 16 -18, Iași, Romania. articol

publicat în IOP Conference Series: Materials Science and Engineering

ULEA Mihai, BABA Marius Nicolae (2019) International Conference on Innovative Research, EUROINVENT 2019 May 16 - 18, Iași, Romania. articol publicat în IOP Conference Series: Materials Science and Engineering

BABA. M. N. , F, DOGARU., I, CURTU., DINU Gabriela ., BAYER. Gabriela , Experimental determination of interlaminar fracture toughness of wood laminated composite specimens under DCB test, Revista de MATERIALE PLASTICE, nr. 4 din 2012, published by SC BIBLIOTECA CHIMIEI SA

SCUTARU, M. ,L., BABA, M., Investigation of the Mechanical Properties of Hybrid Carbon-Hemp Laminated Composites Used as Thermal Insulation for Different Industrial Applications revista:Advances in Mechanical Engineering issn:issn:1687-8132 2014

SCUTARU, M. ,L., BABA, M., BARITZ, M. I., Irradiation influence on a new hybrid hemp bio-composit revista:Journal of Optoelectronics and Advanced Materials revista: Journal of Optoelectronics and Advanced Materials issn:1454-4164, 2014

Dates, Rodica Nicoleta; Terciu, Ovidiu; Baba, Marius; Stan, Gianina Ileana; Curtu, Ioan., Behaviour of Bolted Wood Joints to Traction tests, Annals of DAAAM for 2009 & Proceedings of the 20th International DAAAM Symposium "Intelligent Manufacturing & Automation: Focus on Theory, Practice and Education" 25-28th November 2009, ISI Proceedings, ISSN 1726-9679, ISBN 978-3-901509-70-4, pg.1785-1786

Marius Nicolae Baba, Levente Józsa, Christos Potamitis, On the eigenvalue torsional buckling by finite element analysis of CFRP composite shafts subjected to torque with an imposed transversal displacement, ICMS 2019 & COMEC 2019, 21-22 November 2019, Braşov, România

Baba, Marius, Nicolae, Delamination assesment of curved composite laminates based on finite element analysis., 11th International Conference on Materials Science & Engineering, 13 – 16 Martie 2019, Braşov, România

BABA Marius Nicolae, Assessing the Mode I Interlaminar Fracture Toughness of Wood Laminated Specimens – An Experimental Approach, PRO LIGNO Journal Vol. 7 N° 3, in September 2011 ONLINE ISSN 2069-7430 ISSN-L 1841-4737, Publisher: Editura Universitatii TRANSILVANIA Brasov

Ioan CURTU, Marius BABA, Mariana STANCIU, On the numerical evaluation of the mixed mode delamination toughness for lignocelulosic composites, Annals of the University of Petroşani, Mechanical Engineering, 10 (2008), 33-40.

M. Baba, C. Itu, F. Dogaru., Micromechanics aspects about the prediction of elastic properties for a lignocelulosic composite lamina., "International Conference on Materials Science and Engineering BRAMAT 2007, 22 – 24 February, Brasov, Romania, ISSN 1223 – 9631

F. Dogaru, M. Baba, C. Itu., Low velocity impact tests of laminate CFRP composite plates., "International Conference on Materials Science and Engineering "BRAMAT 2007"., 22 – 24

Scientific articles presented at conferences or published in conference volumes with reviewers (or nonindexed journals)

February 2007, Brasov, Romania, ISSN 1223 – 9631

C. Itu, F. Dogaru, M. Baba., Dynamic con-rod analysis for different type of materials based on virtual simulation., "International Conference on Materials Science and Engineering "BRAMAT 2007"., 22 – 24 February 2007, Brasov, Romania, ISSN 1223 – 9631

Baba Marius, Curtu Ioan, A theoretical approach for determining the stress and stiffness of wood strands composites, International Conference "Advanced Composite Materials Engineering" Comat 2006, 19 – 22 october 2006, ISBN 976 – 635 –821 – 8, ISBN 978 – 973 –635 – 821 – 0, Brasov, Romania

Research contracts as the
main coordinator

Research contract no. 27684/14.03.2005 cod CNCSIS TD 292, 2005-2006, Microstructural phenomena in fracture mechanics of lignocellulosic composites, Grant value: 3000 lei.

Research contract no. 13117/01.10.2007, cod CNCSIS TD_93, 2007-2008, Interlaminar fracture mechanics of lignocellulosic laaminate composites, Grant value: 26.240 lei.

Research contracts as team
member

CNCSIS IDEI 187 / 110 din 1.10.2007 - Post-impact behaviour of CFRP reinforced laminate composites.

CNCSIS IDEI191/225 din 1.10.2007 - Modelling and simulation at mechanical and environment factors of composite materials reinforced with textile fibres

PN II 71-016/2007 MODIS - Monitorizarea. diagnoza și repararea structurilor complexe din materiale avansate

CEEX 49/2006 Rolight - Sistem de menagement prin procedee neinvazive a caracteristicilor fizico-mecanice, a fiabilității și degradării materialelor compozite, tehnologii "embedded" pentru monitorizare în timpul exploatării. aplicații la compozite lignocelulozice, structuri ușoare din materiale compozite, composite nanocelulozice

Technical expertise contracts

Customer: Cambric Consulting SA, Braşov (2012): Conception, design and drafting for the main frame of a stone milling machine.

Customer: KRONOSPAN SA, Braşov (2012): Bending and shear nails testing of OSB panels according to japanese standards (JAS) .

Inventions brevets

HYBRID CARBON-HEMP COMPOSITE MATERIAL AND PROCESS FOR OBTAINING THE SAME, WITH APPLICATION IN MOTOR VEHICLE AND MACHINE BUILDING INDUSTRY numar:RO129354 (A0) autori: SCUTARU MARIA LUMINITA [RO]; COFARU CORNELIU [RO]; TEODORESCU-DRAGHICESCU HORATIU [RO]; BABA MARIUS-NICOLAE [RO]; DOGARU FLORIN [RO]

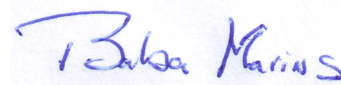
https://worldwide.espacenet.com/publicationDetails/biblio?DB=worldwide.espacenet.com&II=3&ND=3&adjacent=true&locale=en_EP&FT=D&date=20140430&CC=RO&NR=129354A0&KC=A0#

HYBRID COMPOSITE GLASS-HEMP FABRIC MATERIAL AND PROCESS FOR OBTAINING THE SAME, WITH APPLICATION IN THE MOTOR VEHICLE AND MACHINE BUILDING INDUSTRY numar:RO129711 (A0) autori:SCUTARU MARIA LUMINITA [RO]; COFARU CORNELIU [RO]; BABA MARIUS-NICOLAE [RO]; DOGARU FLORIN [RO]

https://worldwide.espacenet.com/publicationDetails/biblio?DB=worldwide.espacenet.com&I=2&ND=3&adjacent=true&locale=en_EP&FT=D&date=20140829&CC=RO&NR=129711A0&KC=A0#

Date: 26.09.2020

Lecturer PhD eng. Marius Nicolae BABA

A handwritten signature in blue ink that reads "Baba Marius". The signature is written in a cursive style with a large, stylized initial 'B'.