



## Europass Curriculum Vitae

### Personal information

First name(s) / Surname(s) **Dana Luca Motoc**  
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Nationality Romanian  
Date of birth 8<sup>th</sup> July 1969

**Present position / Occupational field** Associate professor - Faculty of Material Science and Engineering  
"Transilvania" University of Brasov

### Professional experience

Dates	October 1 <sup>st</sup> , 2012 - present
Occupation or position held	Associate professor
Main activities and responsibilities	Academic activities: composite materials, materials selection, operational research, robotics. Research activities: composite materials manufacturing, testing and characterizing. Management activities: students tutoring, undergraduate diploma/master dissertation papers advising, monitoring and coordinating.
Name and address of employer	"Transilvania" University of Brasov, Faculty of Material Science and Engineering, Material Science Department, 29 Eroilor Av., 500036, Brasov, Romania.
Type of business or sector	Academic education
Dates	October 1 <sup>st</sup> , 2003 - October 1 <sup>st</sup> , 2012
Occupation or position held	Associate professor
Main activities and responsibilities	Academic activities: course lectures on high level language computer programming, virtual instrumentation, technical optics, optoelectronics, geometrical optics, computerized optical systems, and computational mechanics. Research activities: composite materials manufacturing, testing and characterizing. Management activities: students tutoring, undergraduate diploma/master dissertation papers advising, monitoring and coordinating.
Name and address of employer	"Transilvania" University of Brasov, Faculty of Mechanical Engineering, Department of Precision mechanics and Mechatronics, 29 Eroilor Av., 500036, Brasov, Romania
Type of business or sector	Academic education
Dates	October 1 <sup>st</sup> , 1999 - October 1 <sup>st</sup> , 2003
Occupation or position held	Lecturer
Main activities and responsibilities	Academic activities: course lectures on high level language computer programming, geometrical and physical optics, equipments for optical processing information, optoelectronics, computerized optical systems and clinical diagnosis. Research activities: optical systems for engineering materials testing. Management activities: students tutoring, undergraduate diploma/master dissertation papers advising
Name and address of employer	"Transilvania" University of Brasov, 29 Eroilor Av., 500036, Brasov, Romania

Dates October 1<sup>st</sup>, 1995 - October 1<sup>st</sup>, 1999  
Occupation or position held Assistant professor  
Main activities and responsibilities Academic activities: course works and laboratories on high level language computer programming, geometrical and physical optics, optoelectronics.  
Research activities: optical systems for mechanical devices.  
Name and address of employer "Transilvania" University of Brasov, 29 Eroilor Av., 500036, Brasov, Romania

Dates October 1<sup>st</sup>, 1992 - October 1<sup>st</sup>, 1995  
Occupation or position held University assistant  
Main activities and responsibilities Academic activities: course works and laboratories on technical optics  
Name and address of employer "Transilvania" University of Brasov, 29 Eroilor Av., 500036, Brasov, Romania

### Education and training

Date September 29<sup>th</sup>, 2015  
Title of qualification awarded Habilitation degree  
Principal subjects/occupational skills covered Habilitation thesis delivered: *Tailoring the effective properties of hybrid polymer based composite materials*  
Domain Mechanical Engineering  
Name and type of organisation affiliated "Transilvania" University of Brasov, Interdisciplinary Doctoral School

Dates 2007-2009  
Title of qualification awarded Master of Science in Finance and Banks  
Principal subjects/occupational skills covered Finance analysis and management, public financial policies, finance accountancy, economics statistics, economical processes simulation and modelling  
Name and type of organisation providing education and training "Transilvania" University of Brasov, Faculty of Economical Sciences and Business Administration

Dates 1996-2002  
Title of qualification awarded PhD in the field of Mechanical Engineering, specialization Strength of Materials, Elasticity and Plasticity  
Principal subjects/occupational skills covered Thesis title: *Contributions to analysing the correlations between the tension level and the physical properties characteristic to certain materials by using non-destructive testing methods (sound, visual)*  
Name and type of organisation providing education and training "Transilvania" University of Brasov, Faculty of Mechanical Engineering  
Associated rights and privileges *Cum laudae*

Dates 1993- 1995  
Title of qualification awarded European Master of Science in Mechanical Engineering and Energy Management  
Principal subjects/occupational skills covered Finite element simulation of mechanical structures, thermodynamic processes, advanced robots and mechanisms, financial management, energy management  
Name and type of organisation providing education and training Technical University of Cluj Napoca  
International Technological University, The Free University of Brussels

Dates 1987- 1992  
Title of qualification awarded Licence diploma in engineering/ specialization: precision mechanics devices  
Principal subjects/occupational skills covered Computer aided design, manufacturing technologies, optoelectronics, optics, vibrations, modelling and simulation of mechanical devices, electronics, quality assurance.  
Name and type of organisation providing education and training Transilvania University of Brasov, Faculty of Mechanical Engineering

Other language(s)/Self-assessment	Understanding				Speaking				Writing	
	Listening		Reading		Spoken interaction		Spoken production			
	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user
	Listening		Reading		Spoken interaction		Spoken production		Listening	
English Language	A1	Basic	A1	Basic	A1	Basic	A1	Basic	A1	Basic
	Listening		Reading		Spoken interaction		Spoken production		Listening	
French Language	A1	Basic	A1	Basic	A1	Basic	A1	Basic	A1	Basic
	Listening		Reading		Spoken interaction		Spoken production		Listening	

Social skills and competences Team spirit and good communication skills acquired through experience as manager or member of 16 research projects (manager – 3 research grants; member – 13 research grants).  
Communication skills and competences concerning the knowledge transmission and continuing education gained through experience in the teaching activities within the “Transilvania” University of Brasov, since 1992.

Good ability to adapt multicultural environments.

Project and team management developed skill through experience as project manager

2007-2010 PNII-CNCSIS, IDEI Program, Title: *Advanced research aiming the development of multiphase polymeric composite materials with improved mechanical and physical properties*  
2004-2005 CNCSIS, AT 172, Title: *Analysis, manufacturing, modelling and non-destructive ultrasonic testing of particle reinforced polymeric composite materials for development a concurrent engineering environment*

Organisational skills and competences Experimental characterization/identification/evaluation of the behaviour/(mechanical, thermal, electrical) properties/aging of mechanical structures and advanced materials

Optical methods for advanced materials characterization (stress/strain states evaluation; mechanical properties identification based laser ultrasonic; surface parameter identification) – set-up, monitoring, use and tailoring

Mechanical and dynamic mechanical methods for advanced/multi-layered polymer based composite materials characterization

Mechanical methods for engineering structures behaviour under extreme environmental conditions

Electrical measures for advanced materials/composite materials characterization

Technical skills and competences Composite materials (particle/fibre) manufacturing based on self-developed/known technologies  
Environmental effects (temperature dependent, hygroscopic, moisture) tailoring and sizing in the process of composite materials characterization

Computer skills and competences Programming in high level computer languages – C, C++ ; graphical programming in LabView (8.0 and 2010); linear and non-linear multi-scale material modelling; structural analysis and simulation in FEM based environments; statistical data processing;

Fellowships 1<sup>st</sup> Jan. – 30<sup>th</sup> Aug. 1995 *Queens University of Belfast*, Astrophysics Laboratory, Northern Ireland, financial support of European Commission, Project Tempus, JEP 237/1993

1<sup>st</sup> Feb. – 1<sup>st</sup> May 1999 *Universite Bordeaux I*, Mechanical and Physics Laboratory, France, financial support of European Commission, Socrates Program

1<sup>st</sup> Sept. – 30<sup>th</sup> Oct. 2013 *PYCO Fraunhofer Research Institution for Polymeric Materials and Composites*, Berlin, Teltow Campus, Germany, financial support DAAD scholarship

Special awards 2008 – Special award for the best paper published in *Plastic Materials*, ISI journal  
Paper title: *Theoretical-experimental comparisons of multi-phase composite materials elastic coefficients retrieved from tensile, compressive and bending tests. Influencing factors*, vol. 45, no. 4

Professional associations affiliation American Society of Mechanical Engineers – since 2012  
European Composite Materials Association – since 2010  
Romanian Society of Biomaterials – since 2011  
Romanian Mechatronics Association – since 1999  
Romanian Optometry and Lens Manufacturing Association – since 2002  
OSA – 1995-1997  
IEEE – Laser Group – 1995-1997

Project evaluator Awarded by Romanian joint Ministry of Education and Ministry of Labour, Family and Social Protection (certificate no. 00340137, issued at 04/03/2014)

Post-graduate courses	<p>3<sup>rd</sup> – 8<sup>th</sup> July 2008 <i>Impact dynamics and testing methods and multiscale modelling of the mechanical behaviour and fatigue damage of engineering materials</i>, University of Hertfordshire, UK in collaboration with ONERA, France</p> <p>8<sup>th</sup> – 12<sup>th</sup> Sept. 2008 <i>Computational and experimental mechanics of advanced materials</i>, International Centre for Mechanical Sciences, Udine, Italy</p> <p>15<sup>th</sup> – 17<sup>th</sup> Nov. 2004 <i>Optical methods in experimental solid mechanics</i>, Transilvania University of Brasov, Romania in collaboration with University of Poitiers, France</p>
PhD external evaluator	<p>March 2011, Polytechnic University of Valencia, Thesis title – <i>Using natural based plasticizers to obtain flexible PVC low environmental impact</i> , Author – Octavio Angle Fenollar Gimeno, Coordinators: Juan Lopez Martin, Rafael Antonio Balart Gimeno</p> <p>March 2012, Polytechnic University of Valencia, Thesis title – <i>Structural optimization of topological defined morphological structures using genetic algorithms</i>, Author - Samuel Sánchez Caballero , Coordinators: Vicente Jesus Seguí Llinares, Jose Enrique Crespo Amorós y Miguel Ángel Sellés Cantó</p>
Visiting professor	April 17-25, 2012, University of Valencia, Computer Aided Design and Manufacturing Master degree class, title of lecture delivered: <i>Challenging the classical path: new approaches in polymer based composites modeling and simulation</i>
Invited lecture	30 Sept. 2013, PYCO Fraunhofer Research Institution for Polymeric Materials and Composites and Brandenburg Technical University at Cottbus, title of delivered lecture: <i>Polymer reinforced composites: an engineering perspective</i>
Additional information	<p>Chairman of section assigned to International Conferences</p> <p>2011 – 4<sup>th</sup> International Conference on Computational Mechanics and Virtual Engineering COMEC 2011, Brasov, Romania;</p> <p>2010 – Production management section within the 7<sup>th</sup> International DAAAM Baltic, Tallinn, Estonia</p> <p>2010 – 3<sup>rd</sup> International Conference Advanced Composite Materials Engineering, Brasov, Romania</p> <p>2010 – New materials and Traffic Pollution and Noise sections within the 11<sup>th</sup> International Congress on Automotive and Transport Engineering, Brasov, Romania;</p> <p>Expert – Romanian Agency of Quality Assurance in Higher Education, Applied Engineering speciality (2011)</p> <p>Expert – Executive Unit for Financing Higher Education and University Scientific Research, Engineering commission, project evaluator (2009)</p> <p>Member of DAAAM International reviewing committee for <i>The 19th International DAAAM Symposium "Intelligent Manufacturing &amp; Automation: Theory, Practice &amp; Education"</i>, 2009</p> <p>Member of DAAAM International Program Committee for <i>The 19th International DAAAM Symposium "Intelligent Manufacturing &amp; Automation: Theory, Practice &amp; Education"</i>, 2009</p>
Publishing activity	<p>Author and co-author of more than 130 scientific articles (15 articles in ISI journals, 25 articles in ISI proceedings, 75 in proceedings of international conferences world-wide)</p> <p>Author and co-author of 11 books (4 – unique author, 4 – first author)</p> <p>Author and co-author of 2 patents</p> <p><i>Pressure-force transducer embedded in concrete pillars (registered proposal)</i></p> <p><i>Adjusting resistor made of a piezo-resistive based effect composite material (awarded)</i></p>
Annex	Selected scientific papers/books/chapters in international books

# Annex

## Books (selected)

Szava I., Ciofoaia V., **Motoc Luca D.**, Curtu I. - *Metode experimentale în dinamica structurilor mecanice* (en. *Experimental methods in mechanical structures dynamics*), Ed. Universității "Transilvania" din Brașov, 2001, ISBN 973-9474-40-3

**Motoc Luca D.** - *Materiale compozite cu pulberi: analiză, modelare, fabricare și testare ultrasonică nedistructivă* (en. *Particle reinforced composite materials: analysis, modelling, manufacturing and non-destructive ultrasonic testing*), Ed. Universității „Transilvania” din Brașov, 2005, ISBN 973-635-527-6

Curtu I., **Motoc Luca D.** - *Micromecanica materialelor compozite. Modele teoretice* (en. *Composite materials micromechanics. Theoretical models*), Ed. Universității „Transilvania” din Brașov, 2009, ISBN 978-973-598-469-4 9

## Chapters in international books

**Motoc Luca D.**, Oltean I. D. - *Conductive polymeric composite material's behaviour under various loading conditions*, DAAAM International Scientific Book 2008, ISBN 3-901509-69-0, ISSN 1726-9687, Ed. B. Katalinic, Publisher DAAAM International Viena.

Șoica A., **Motoc Luca D.**, Lache S., Târulescu S. - *Aspects concerning of the automotive-pedestrian collision*, DAAAM International Scientific Book 2008, ISBN 3-901509-69-0, ISSN 1726-9687, Ed. B. Katalinic, Publisher DAAAM International Viena.

Curtu I., **Motoc Luca D.** - *Theoretical and experimental approach of multi-phase composite materials*, DAAAM International Scientific Book 2009, ISBN 978-3-901509-71-1, ISSN 1726-9687, Ed. B. Katalinic, Publisher DAAAM International Viena.

**Motoc Luca D.**, Ciofoaia V. - *Predicting, measuring and tailoring thermal properties of morphological and structural modified polymeric composite materials*, Engineering the future, Ed. L. Dudas, ISBN 978-953-307-210-4, Sciyo, <http://www.sciyo.com>, 2010.

## Papers (selected)

### ISI journals

**Motoc Luca D.**, Ferrandiz S., Balart R. - *Effects of fiber orientation and content on the mechanical, dynamic mechanical and thermal expansion properties of multi-layered glass/carbon fiber-reinforced polymer composites*, Journal of Composite Materials, 2015, p. 1211-1221.

**Motoc Luca D.**, Ivens, J., Dadirlat, N. - *Coefficient of thermal expansion evolution for cryogenic preconditioned hybrid carbon fiber/glass fiber reinforced polymeric materials*, Journal of Thermal Analysis and Calorimetry, 2012

**Motoc Luca D.**, Curtu I., Șoica A., Semenescu A. - *Multiphase polymeric composite materials CTE variation with extreme environmental conditions*, Materiale Plastice, vol. 47, no. 2, 2010, pp. 236-240, ISSN 0025-5289

**Motoc Luca D.**, Olteanu I., Luca V. - *Tailoring the multiphase composite materials' electrical properties*, Journal of Optoelectronics and Advanced materials, Vol. 12, no. 2, Aug. 2010, ISSN 1454-4164

**Motoc Luca D.**, Curtu I. - *Dynamic mechanical analysis of multiphase polymeric composite materials*, Materiale Plastice, vol. 46, no. 4, 2009, pp. 462-466, ISSN 0025-5289

Curtu I., **Motoc Luca D.** - *Theoretical-experimental comparisons of multi-phase composite materials elastic coefficients retrieved from tensile, compressive and bending tests. Influencing factors*, Materiale Plastice, ISSN 0025/5289, vol. 45, nr. 4, 2008, pp. 366-371

Oltean, D. I., **Motoc Luca D.**, Luca V., Roșu D. - *Electrical properties of metallic iron particle reinforced polymeric composite materials*, Journal of Optoelectronics and Advanced materials, Vol. 10, no. 12, 2008, pp. 3328-3331, ISSN 1454-4164

### ISI proceedings

**Motoc Luca D.** - *Dynamic mechanical characterization of CF/GF hybrid reinforced polymeric composite structures*, ESDA 2012 – Proceedings of the 11<sup>th</sup> Biennial Conference on Engineering Systems, Design and Analysis, July 2-4, Nantes, France, <http://www.asme.org/>

**Motoc Luca D.**, Vlase S. - *Micromechanical based simulation and experimental approaches in the thermal conductivities assesement of hybrid polymeric composite materials*, ESDA 2012 – Proceedings of the 11<sup>th</sup> Biennial Conference on Engineering Systems, Design and Analysis, July 2-4, Nantes, France, <http://www.asme.org/>

**Motoc Luca D.**, Pop, P. A., Ferrandiz Bou, S., Dadirlat, N. - *Tailoring thermal properties of hybrid glass fibers/carbon fibers reinforced polymeric composites*, IMECE2011 - Proceedings of the 2011 ASME International Mechanical Engineering Congress & Exposition, Nov. 11-17, Denver, Colorado, USA, <http://www.asme.org/>

**Motoc Luca D.**, Curtu I., Campean M. - *Environmental effects on multiphase polymeric composite materials thermal properties*, ECCM14- Proceedings to The 14<sup>th</sup> European Conference on Composite Materials, June 7-10 2010, Budapest, Hungary, ISBN 978-963-313-008-7, <http://eccm14.pt.bme.hu>

**Motoc Luca D.**, Pop A. P., Bejinaru Gh. - *Sizing the cryogenic conditioning on the CTE and Young modulus in case of polymeric multiphase composites*, MSEC 2010 – International Manufacturing Science and Engineering Conference, ASME 2010, Oct. 12-15, Erie, USA, ISBN 978-0-7918-3887-7, <http://www.asme.org/>

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15<sup>th</sup> March, 2016