Europass Curriculum Vitae

Personal information

First name(s) / Surname(s)	**Dana Luca Motoc**
Address(es)	Transilvania University of Brasov, 29 Eroilor Av., 500036, Brasov, Romania
Telephone(s)	
E-mail	danaluca@unitbv.ro
Nationality	
Date of birth	

Present position / Occupational field	**Associate professor - Faculty of Material Science and Engineering "Transilvania" University of Brasov**
Domain of habilitation thesis (apply for)	**Mechanical Engineering**

Professional experience

Dates	October 1st, 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 1st, 2003 - October 1st, 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 1st, 1999 - October 1st, 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 1st, 1995 - October 1st, 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 1st, 1992 - October 1st, 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

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

European level (*)

	Understanding				Speaking				Writing	
English	Listening		Reading		Spoken interaction		Spoken production			
Language	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user
French	Listening		Reading		Spoken interaction		Spoken production		Listening	
Language	A1	Basic	A1	Basic	A1	Basic	A1	Basic	A1	Basic

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.
Organisational skills and competences	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*
Technical 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 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	1st Jan. – 30th Aug. 1995 *Queens University of Belfast*, Astrophysics Laboratory, Northern Ireland, financial support of European Commission, Project Tempus, JEP 237/1993 1st Feb. – 1st May 1999 *Universite Bordeaux I*, Mechanical and Physics Laboratory, France, financial support of European Commission, Socrates Program 1st Sept. – 30th 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	3rd – 8th July 2008 *Impact dynamics and testing methods* and *multiscale modelling of the mechanical behaviour and fatigue damage of engineering materials*, University of Hertfordshire, UK in collaboration with ONERA, France 8th – 12th Sept. 2008 *Computational and experimental mechanics of advanced materials*, International Centre for Mechanical Sciences, Udine, Italy 15th – 17th Nov. 2004 *Optical methods in experimental solid mechanics*, Transilvania University of Brasov, Romania in collaboration with University of Poitier, France
PhD external evaluator	March 2011, Polytechnic University of Valencia, Thesis title – *Using natural based plasticizers to obtain flexible PVC low environmental impact* , Author – Octavio Angle Fenollar Gimeno, Coordinators: Juan Lopez Martin, Rafael Antonio Balart Gimeno March 2012, Polytechnic University of Valencia, Thesis title – *Structural optimization of topological defined morphological structures using genetic algorithms*, Author - Samuel Sánchez Caballero , Coordinators: Vicente Jesus Seguí Llinares, Jose Enrique Crespo Amorós y Miguel Ángel Sellés Cantó
Visiting professor	April 17-25, 2012, University of Valencia, Computer Aided Design and Manufacturing Master degree class, title of lecture delivered: *Challenging the classical path: new approaches in polymer based composites modeling and simulation*
Invited lecture	30 Sept. 2013, PYCO Fraunhofer Research Institution for Polymeric Materials and Composites and Brandenburg Technical University at Cottbus, title of delivered lecture: *Polymer reinforced composites: an engineering perspective*
Additional information	Chairman of section assigned to International Conferences 2011 – 4th International Conference on Computational Mechanics and Virtual Engineering COMEC 2011, Brasov, Romania; 2010 – Production management section within the 7th International DAAAM Baltic, Tallinn, Estonia 2010 – 3rd International Conference Advanced Composite Materials Engineering, Brasov, Romania 2010 – New materials and Traffic Pollution and Noise sections within the 11th International Congress on Automotive and Transport Engineering, Brasov, Romania; Expert – Romanian Agency of Quality Assurance in Higher Education, Applied Engineering speciality (2011) Expert – Executive Unit for Financing Higher Education and University Scientific Research, Engineering commission, project evaluator (2009) Member of DAAAM International reviewing committee for *The 19th International DAAAM Symposium "Intelligent Manufacturing & Automation: Theory, Practice & Education"*, 2009 Member of DAAAM International Program Commitee for *The 19th International DAAAM Symposium "Intelligent Manufacturing & Automation: Theory, Practice & Education"*, 2009
Publishing activity	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) Author and co-author of 11 books (4 – unique author, 4 – first author) Author and co-author of 2 patens *Pressure-force transducer embedded in concrete pillars (registered proposal)* *Adjusting resistor made of a piezo-resistive based effect composite material (awarded)*
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. Universităţii "Transilvania" din Braşov,2001, ISBN 973-9474-40-3

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

Curtu I., **Motoc Luca D**. – *Micromecanica materialelor compozite. Modele teoretice* (en. *Composite materials micromechanics. Theoretical models*) , Ed. Universităţii „Transilvania" din Braşov, 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., Țârulescu 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.

Pop M. A., **Motoc Luca D**., Constantinescu A., Geaman V., Derczeni R. A. – *CTE assessment of various glass fiber reinforced polymer composite architectures*, Metalurgia International, no. 5, 2013, p. 131-138.

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., Novac Gh., Bejinaru Gh. - *Measuring and characterizing CTE variations for multiphase polymeric composites subjected to extreme environmental conditions*, Metalurgia International, vol. 1, no. 1, 2011

Novac Gh., **Motoc Luca D.**, Popescu M. - *Thermal heating cycles and thermal regimes influences on CTE of SiC particle reinforced polymeric composites,* Metalurgia International, vol. 1, no. 1, 2011

Motoc Luca D., Curtu I., Soica 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 coeficients 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 11th 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 11th 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/

Olteanu I., **Motoc Luca D.** – *Factors influencing the electrical conductivity of composites with iron particles*, OPTIM 2012, The 13rd International Conference on Optimization of Electrical and Electronic Equipments, May 24-26, Brașov, Romania, under IEEE patronage, http://www.info-optim.ro/

Motoc Luca D., Curtu I., Campean M. – *Environmental effects on multiphase polymeric composite materials thermal properties*, ECCM14-Proceedings to The 14th 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/

Motoc Luca D., Cerbu C. - *Quantifying porosity influence on metallic particle reinforced composite properties*, Proceedings of the World Congress on Engineering 2010, vol. II, ISBN 978-988-18210-7-2, WCE 2010, June 30 – July 2, London, UK, http://www.iaeng.org/publication/WCE2010/

Motoc Luca D., N. Dadirlat, H. Teodorescu - *Novel multiphase polymeric composite structures with improved CTE designed for heating elements*, Proceedings of the 8th WSEAS International Conference on *Heat and mass transfer and Advanced Fluid Engineering* HTE10, 19-22 Aug. 2010, Taipei, Taiwan, http://www.wseas.com

Oltean I. D., **Motoc Luca D**., Luca V. – *Effective electrical conductivity estimation for a novel multi-phase composite material*, Proceedings of the 8th WSEAS International Conference on *Microelectronics, Nanoelectronics & Optoelectronics MINO'09*, May 30 – June 1 2009, Istanbul, Turcia, pp. 111-114, ISBN 978-960-474-085-7, ISSN 1790-5117, http://www.wseas.com

Luca V., **Motoc Luca D**., Oltean I. D. – *Multiphase composite materials elastic modulus non-destructive assesment*, Proceedings of the 2nd WSEAS International Conference on *Engineering Mechanics, Structures and Engineering Geology EMESEG'09*, July 22-24 2009, Rhodos, Grecia, pp. 192-195, ISBN 978-960-474-101-4, ISSN 1790-2769, http://www.wseas.com.

Motoc Luca D., Soica A. – *Mechanical behaviour of 3-phase polymeric composites subjected to static loading conditions*, Proceedings of the 6th International Conference of DAAAM Baltic, Industrial Engineering, Editor R.Kyttner, April 23-26 2008, Tallin, Estonia, ISBN 978-9985-59-783-5, pp. 507-512, http://innomet.ttu.ee/daaam/

Oltean, I. D, **Motoc Luca D**. – *Conductive polymeric composites behaviour under various loading conditions*, Proceedings of the 6th International Conference of DAAAM Baltic, Industrial Engineering, Editor R.Kyttner, April 23-26 2008, Tallin, Estonia, ISBN 978-9985-59-783-5, pp. 513-518, http://innomet.ttu.ee/daaam/

Teodorescu, D.H., Vlase, S., Candea, I., **Motoc, D.L.** – *Some averaging methods in the micromechanics of composite materials with periodic structure*, Proceedings of the 10th WSEAS Int. Conf. on Automatic Control, Modelling & Simulation (ACMOS'08), Istanbul, Turkey, May 27-30, 2008, ISBN 978-960-6766-63-3, ISSN 1790-5117, p. 210 – 214, http://www.wseas.com.

Teodorescu, D.H., Vlase, S., **Motoc, D.L**., Popa, I., Rosu, D., Teodorescu, F. – *Mechanical behavior of an advanced sandwich composite structure*, WSEAS Int. Conf. on Engineering Mechanics, Structures, Engineering Geology (EMESEG '08), Heraklion, Greece, July 22-24, 2008, ISBN 978-960-6766-88-6, ISSN 1790-2769, pp. 280 – 285, http://www.wseas.com.

Motoc Luca D., Teodorescu Drăghicescu H. - *Fillers' content influence on the mechanical properties of the glass mat reinforced polymeric composite,* The 19th International DAAAM Symposium "Intelligent Manufacturing & Automation: Focus on Next Generation of Intelligent Systems and Solutions", 22-25th October 2008, Trnava, Slovacia, ISSN 1726-9679, ISBN 978-3-901509-68-1, p. 0913-0914, http://www.daaam.org

Last up-date:

1st July, 2015

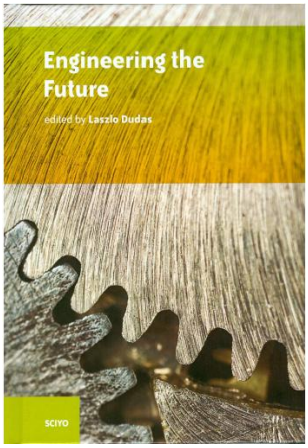
Books (selected)

Introduction in the measurements technique
Elements of elasticity theory
Mechanical and Opto-mechanical extensometers
Length and displacement measurements
Photo-elasticity
Photo-elastic layers
Moire method
Interferometric methods
Non-destructive ultrasonic methods
Ultrasonic signal processing

Foreword
Introduction
Solid bodies analysis based on their elastic coefficients
Elastic wave propagation in 1 and multiple layers
Laser generated elastic waves
Optical detection of mechanical displacements
FEM based simulation of isotropic and anisotropic materials' dynamical behaviour
Experimental research for isotropic and anisotropic elastic coefficients retrieval
References
Glossary
Annex

Introduction
Micromechanics of fibre reinforced composites
Micromechanics of particle reinforced composites
Particular cases
Micromechanics of hybrid composites
Dynamical properties of composite materials
References

Chapters (selected)



Chapter 3 - 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, p. 47-62.

Patents (selected)


ROMÂNIA DUPLICAT

ELIBERAT COTITULARULUI BREVETULUI DE INVENTIE NR. 123411

OFICIUL DE STAT PENTRU INVENTII SI MĂRCI

Brevet de invenţie

Nr. 123411

Acordat în temeiul Legii nr.64/1991 privind brevetele de invenţie, republicată în Monitorul Oficial al României, Partea I, nr.541, din 08 august 2007.

Titular: OLTEAN IOAN DĂNUŢ, CRISTIAN, BV, RO; MOTOC DANA, BRAŞOV, BV, RO

Titlul invenţiei: REZISTOR REGLABIL PRIN MODIFICAREA PRESIUNII APLICATE ASUPRA ELEMENTULUI REZISTIV

Inventator: OLTEAN IOAN DĂNUŢ, CRISTIAN, BV, RO; MOTOC DANA, BRAŞOV, BV, RO

Descrierea invenţiei, revendicările şi desenele la care se face referinţă în acestea, fac parte integrantă din prezentul brevet de invenţie.

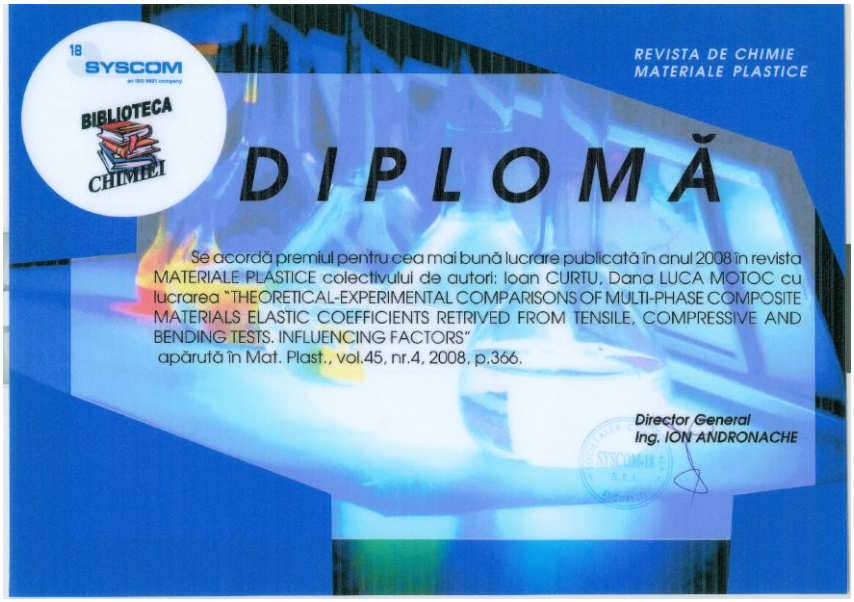
Durata brevetului de invenţie este de 20 ani, cu începere de la data de 31.03.2006, cu condiţia plăţii taxelor anuale de menţinere în vigoare a brevetului.

Director General

Bucureşti, Data eliberării 28.02.2012

Adjusting resistor made of a piezo-resistive based effect composite material
Authors: Ioan Dănuţ Oltean, Dana Luca Motoc
Delivered: 28th February 2012

Award



Visiting professor

Dates: 17-25 April 2012

Place: University of Valencia, Spain

Lecture delivered: *Challenging the classical path: new approaches in polymer based composites modeling and simulation*