



## Europass Curriculum Vitae

### Personal information

First name(s) / **Sorin Vlase**  
Surname(s)

Address(es) Transilvania University of Brasov, 29 Eroilor Av., 500036, Brasov, Romania

E-mail [svlase@unitbv.ro](mailto:svlase@unitbv.ro)

Nationality Romanian

### Present position / Occupational field

**Professor - Faculty of Mechanical Engineering  
"Transilvania" University of Brasov**

### Professional experience

Dates March 1<sup>st</sup>, 1996 - present

Occupation or position  
held Professor

From 2004 to 2019 **Head of Department of Mechanical Engineering**

Main activities and  
responsibilities

Academic activities: Mechanics, Vibrations, Stability, Elasticity, Multibody Systems, Numerical Methods, Dynamics, Dynamical Systems, Composite materials, Computational Mechanics, Finite Element Method;

Research activities: Finite Element Method, Analytical Mechanics, Dynamical Systems, Dynamics of the Multibody Systems, Composite materials mechanics, Vibration, Automotive Engineering;

Management activities: head of the Department of Mechanics (2004-2019), member of the Faculty council (1990-present), member of the senate of Transilvania University, students tutoring, undergraduate diploma/master dissertation papers advising, monitoring and coordinating.

Name and address of  
employer

"Transilvania" University of Brasov, Faculty of Mechanical Engineering, Mechanical Engineering Department, 29 Eroilor Av., 500036, Brasov, Romania.

Type of business or  
sector

Research, Academic education

Dates October 1<sup>st</sup>, 1991 - March 1<sup>st</sup>, 1996

Occupation or position  
held Associate professor

Main activities and  
responsibilities

Academic activities: Finite Element Method, Mechanics of Structures, Mechanics, Vibrations, Stability, Dynamics, Composite materials, Computational Mechanics, Dynamical Systems;

Research activities: Dynamical Systems, Dynamics of the Multibody Systems, Composite materials mechanics, Vibrations;

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, Mechanical Engineering Department, 29 Eroilor Av., 500036, Brasov, Romania

Type of business or sector	Research, Academic education
Dates	October 1 <sup>st</sup> , 1984 - October 1 <sup>st</sup> , 1991
Occupation or position held	Lecturer
Main activities and responsibilities	Academic activities: Finite Element Method, Mechanics of Structures, Mechanics, Vibrations Research activities: Dinamical Systems, Dynamics of the Multibody Systems, Composite materials mechanics; Finite Element Method Management activities: students tutoring, undergraduate diploma/master dissertation papers advising
Name and address of employer	“Transilvania” University of Brasov, Faculty of Mechanical Engineering, Mechanical Engineering Department, 29 Eroilor Av., 500036, Brasov, Romania
Type of business or sector	Research, Academic education
Dates	March 1 <sup>st</sup> , 1980 - October 1 <sup>st</sup> , 1984
Occupation or position held	Assistant professor
Main activities and responsibilities	Academic activities: Finite Element Method, Mechanics of Structures, Mechanics, Vibrations Research activities: Dinamical Systems, Dynamics of the Multibody Systems, Composite materials mechanics;
Name and address of employer	“Transilvania” University of Brasov, Faculty of Mechanical Engineering, Mechanical Engineering Department, 29 Eroilor Av., 500036, Brasov, Romania
Dates	October 1 <sup>st</sup> , 1976 - March 1 <sup>st</sup> , 1980
Occupation or position held	Research engineer
Main activities and responsibilities	Research activities, mechanical measurement, design,
Name and address of employer	SC ROMAN SA & SC INAR SA (Research Institute for Automotive Engineering Braşov), str. Poenelor, nr.5
Type of business or sector	Research & Industry

## Education and training

Date	June, 2015
Title of qualification awarded	Habilitation degree
Principal subjects/occupational skills covered	Habilitation thesis delivered: <b>MECHANICAL IDENTIFIABILITY IN AUTOMOTIVE ENGINEERING</b> Ordin 5351/29.09.2015
Domain	Aerospatial, Automotive and Transportation
Name and type of organisation affiliated	University of Pitesti, Interdisciplinary Doctoral School
Dates	1981-1989
Title of qualification awarded	PhD in the field of Mechanical Engineering

Principal subjects/occupational skills covered	Thesis title: <i>Contributions to the elastodynamic analysis of the mechanisms using FEM</i> . Ph.D. Father: prof. Florea Duditză																																																		
Name and type of organisation providing education and training	“Transilvania” University of Brasov																																																		
Dates	1977- 1982																																																		
Title of qualification awarded	Licence in mathematics																																																		
Principal subjects/occupational skills covered	Analysis, Algebra, Mechanics, Geometry, Statistics																																																		
Name and type of organisation providing education and training	University of Bucharest, Faculty of Mathematics																																																		
Dates	1971- 1976																																																		
Title of qualification awarded	Licence+master diploma in engineering/ specialization: Mechanical Engineering/Automotive Engineering																																																		
Principal subjects/occupational skills covered	Mechanical engineering, automotive engineering, computer aided design, manufacturing technologies, vibrations, modelling and simulation of mechanical devices.																																																		
Name and type of organisation providing education and training	University of Brasov, Faculty of Mechanical Engineering																																																		
Other language(s)/Self-assessment	<table><tr><th colspan="4">Understanding</th><th colspan="4">Speaking</th><th colspan="2">Writing</th></tr><tr><td colspan="2">Listening</td><td colspan="2">Reading</td><td colspan="2">Spoken interaction</td><td colspan="2">Spoken production</td><td colspan="2"></td></tr><tr><td>B2</td><td>Proficient user</td><td>B2</td><td>Proficient user</td><td>B2</td><td>Proficient user</td><td>B2</td><td>Proficient user</td><td>B2</td><td>Proficient user</td></tr><tr><td>B2</td><td>Basic</td><td>B2</td><td>Basic</td><td>B2</td><td>Basic</td><td>B2</td><td>Basic</td><td>B2</td><td>Basic</td></tr><tr><td>B1</td><td>Basic</td><td>B1</td><td>Basic</td><td>B1</td><td>Basic</td><td>B1</td><td>Basic</td><td>B1</td><td>Basic</td></tr></table>	Understanding				Speaking				Writing		Listening		Reading		Spoken interaction		Spoken production				B2	Proficient user	B2	Proficient user	B2	Proficient user	B2	Proficient user	B2	Proficient user	B2	Basic	B2	Basic	B2	Basic	B2	Basic	B2	Basic	B1	Basic	B1	Basic	B1	Basic	B1	Basic	B1	Basic
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B1	Basic	B1	Basic	B1	Basic	B1	Basic	B1	Basic																																										
Social skills and competences	Team spirit and good communication skills acquired through experience as manager or member of more as 50 research projects (manager – 20 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 1980. Good ability to adapt multicultural environments.																																																		
Organisational skills and competences	Finite Element Method for the use to the dynamic analysis of Multibody Systems. 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																																																		

Technical skills and competences	Composite materials (particle/fibre) manufacturing based on self-developed/known technologies Industrial abilities in mechanical and automotive engineering
Computer skills and competences	Programming in Matlab, MathCAD); linear and non-linear multi-scale material modelling; structural analysis and simulation in FEM based environments; statistical data processing;
Fellowships	April-May 1992, <b>Technische Gesamthochschule Wuppertal, Germany</b> , DAAD; May-August, December 1993, <b>Technische Universität, München, Germany</b> , Tempus; July-August 1994, <b>University of Athens</b> , Tempus October-December, 1994, <b>Technische Universität, Stuttgart</b> , Germany, TEMPUS, IMG-94-RO-1102/1994. June 1999, <b>Technische Universität, Stuttgart</b> , Socrates June 1999, <b>Universität Gesamthochschule Wuppertal</b> , Tempus June, 2001, <b>Technische Universität Karlsruhe</b> , Germany 2011,2012,2013,2014,2015,2016,2017 Erasmus mobilities, Miskolc and Gyor, Hungary
Special awards	Corresponding Member of the Romanian Academy of Technical Sciences
Professional associations affiliation	American Society of Mechanical Engineers – since 1990 EUROMECH – 2006 ARTENS - 1995 SMRTA – 2014 ARMSM-2007 SIAR-2008
Project evaluator	Evaluator UEFISCDI – since 2006
Post-graduate courses and other training	<b>1990</b> , September CISM courses, Szombathely, Ungaria; <b>2002</b> , June, NATO –ASI Workshop, Virtual Nonlinear Multibody System, Praga; <b>2006</b> , October, CISM, Udine, Italy; <b>2006</b> , December, Hottinger Academy, Darmstadt, Germany; <b>2007</b> , May, ZACEcourses in, Nonlinear Finite Element Method, Berlin, Germany; <b>2007</b> , October, Bruel&Kjaer courses, München, Germany. <b>2008</b> , June, CISM, Udine, Italy. <b>2015</b> , May, Ferrara, Italy, COST
PhD evaluator	More than 30 PHD Thesis evaluated
Other activities	Evaluator in The Romanian Agency for Quality Assurance in Higher Education. More than 10 evaluations

Additional information	<p>Organizer of the International Conferences:  <b>COMAT2006, COMAT2008, COMAT2010, COMAT2012, COMAT 2014, COMAT2016, COMAT2018</b>  <b>COMEC2005, COMEC2007, COMEC2009, COMEC2011, COMEC2013, COMEC2015, COMEC2017, COMEC2019,</b>  <b>ICSM2019,</b>  <b>eMECH2016, eMECH2018,</b>  <b>INTERNATIONAL WORKSHOP ON COMPUTATIONAL MECHANICS, Braşov, octomber,2006,</b>  <b>MODERN TRENDS IN MECHANICS, 2005,</b></p> <p>In Scientific or Organising Committee:  <b>OPTIMED 2006, June, Braşov;</b>  <b>5th BALKAN SCHOOL IN NUCLEAR PHYSICS, Braşov, 2006, september;</b>  <b>The XXXI-th National Conference in Mechanics of Solid, Chişinău, 28-30 september, 2007;</b>  <b>CONFERENCE on MULTIBODY SYSTEMS' DYNAMICS , Piteşti, octomber, 2007;</b>  <b>NATIONAL CONFERENCE on MECHANICS OF SOLIDS, CNMS –XXXII, Piteşti, 11-13 September 2008;</b>  <b>The 3rd INTERNATIONAL CONFERENCE ON TEORETICAL AND APPLIED MECHANICS(MECHANICS 07),</b>  <b>Tenerife, Canary Islands, Spain, December 14-16, 2007;</b>  <b>3rd Int. Conf. on DYNAMICAL SYSTEMS and CONTROL (CONTROL '07), Arcachon, France, 13-15 October 2007;</b>  <b>6th Int. Conf. on NON-LINEAR ANALYSIS, NON-LINEAR SYSTEMS AND CHAOS (NOLASC '07);</b>  <b>The 3rd IASME International Conference on EDUCATIONAL TECHNOLOGIES (EDUTE'07), 2007;</b>  <b>The 9th International Conference on MATHEMATICAL METHODS AND COMPUTATIONAL TECHNIQUES IN ELECTRICAL ENGINEERING (MMACTEE '07), 2007;</b>  <b>The 7th International Conference on WAVELET ANALYSIS &amp; MULTIRATE SYSTEMS (WAMUS'07), 2007;</b>  <b>OPTIMED 2008,</b>  <b>FRAM 2008 – FRACTURE MECHANICS, 10-11 octombrie 2008, Brasov,</b>  <b>TEHNONAV 2006, TEHNONAV 2008;</b>  <b>CNMS – XXXIII, NATIONAL CONFERENCE on MECHANICS OF SOLIDS, Bucuresti, 10-12 September 2009;</b>  <b>CNMS-XXXIV,CNMS-XXXV,CNMS-XXXVI,CNMS-XXXVII,CNMS-XXXVIII,CNMS-XXXIX, CNMS-XL2010-2018</b>  <b>„ACOUSTICS AND VIBRATION OF MECHANICAL STRUCTURES” , AVMS2009 Timişoara, 28-29 mai 2009,2011,2013,2015,2017,2019.</b>  <b>INTER-ENG International Conference, 2009, 2010,2011,2012,2013,2014,2015,2018 Targu Mures, Petru Maior University,</b>  <b>Conference on Experiments/ Process/ System Modeling/Simulation/Optimization (3rd IC-EpsMsO), Athens, Greece, from 8th to 11th of July, 2009.</b>  etc</p>
Publishing activity	<p>Author and co-author of more than 300 scientific articles (112 papers in WoS ISI indexed).  Author and co-author of 20 books  1 book published in Springer Verlag</p>
Annex	<p>Selected scientific papers/books/chapters in international books</p>

## Annex

### Books (selection)

In English (2)

Vlase, S., Ochsner, A., Marin, M., **Eigenvalue and Eigenvector Problems in Applied Mechanics**. Springer, 2019

Vlase, S., **Mechanical Identifiability in Automotive Engineering**. Derc Publishing House, USA, 2015.

In Romanian (20)

Vlase, S., **Elastodynamic of Finite Elements**. Ed. LUX LIBRIS, 1996. 134pg

Vlase, S., **Mechanics. Statics**. Ed. INFOMARKET, 2003,2008. ISBN 973-8204-52-6, 229 pg.

Vlase, S., **Computational Mechanics**. Ed. INFOMARKET, 2006. ISBN 973-8204-75-5.

Vlase, S., s.a., **Mechanics. Kinematics and Dynamics. Problems**. Ed. Univ. Transilvania, Brasov, 2014

Vlase, S., **Mechanics. Dynamics**. Ed. Infomarket, 2005. 973-8204-74-7.265 pg.

Vlase, S., s.a., **Composite Materials. Calculus Methods**. Editura Universității TRANSILVANIA, 2007. ISBN 978-973-635-890-6. 200 pg.

Vlase, S., **Mecanics. Kinematics**. Ed. Infomarket, 2007. ISBN 978-973-8204-96-6.

### Chapters in international publishing house books (selection)

**Encyclopedia Springer**. Fiber-reinforced composites: methods to determine mechanical properties. Sorin VLASE et al, **Springer**, 2020.

**Vlase, S.**, Finite Element Analysis of the Planar Mechanisms: Numerical Aspects. In Applied Mechanics - 4. **Elsevier**, 1992,p.90-100.

Teodorescu H., **Vlase, S.**, Rosu, D., Ulea, M. , Residual Internal Stresses determined Experimentally in Hollow Composite Laminates , in E. E. Gdoutos (Editor), Experimental Analysis of Nano and Engineering Materials and Structures. **Springer**. Alexandroupolis, Greece, July 1-6, 2007, Springer, Dordrecht, The Netherlands, ISBN 978-1-4020-6.

Szava &all – Selected Chapters of Mechanics of Composite Materials-III, Ed. Univ. TRANSILVANIA din Brasov, ISBN 978-606-19-0224-8,2013 (**Vlase** 53pg).

Szava&all – Selected Chapters of Mechanics of Composite Materials-II, Slovakia, 2012 (**Vlase**,62pg).

**Vlase,S.**,Munteanu,V., Scutaru,L., Kinematical Analysis of the Multibody Systems using Topological Description, **DAAAM International**

**Scientific Book 2008**, Vol. 7, ISSN 1726-9687, ISBN 3-901509-69-0, Editor: B. Katalinic, hard cover, Publisher DAAAM International Vienna, Vienna.

### Editor (selection)

**S. Vlase**, Proceeding of COMAT, COMEC series 2005-2019

**S. Vlase**, I. Curtu, The 1st International Conference ADVANCED COMPOSITES MATERIALS ENGINEERING, Ed. Universității TRANSILVANIA din Braşov, 2006.

**S. Vlase**, S.Lache, Gh. Radu, The 2nd International Conference ADVANCED COMPOSITES MATERIALS ENGINEERING, Ed. Universității TRANSILVANIA din Braşov, 2008.

**S. Vlase**, A. Chiru, The 2nd International Conference COMPUTATIONAL MECHANICS and VIRTUAL ENGINEERING, COMEC2007. Ed. Universității TRANSILVANIA, Braşov,2007.

**S. Vlase**, A. Chiru, Yasushi Niitsu, The 3rd International Conference COMPUTATIONAL MECHANICS and VIRTUAL ENGINEERING, COMEC2009. Ed. Universității TRANSILVANIA, Braşov, 2009.

D. Bigoni, **S. Vlase**, A. Chiru, The 3rd International Conference COMAT2010 - ADVANCED COMPOSITES MATERIALS ENGINEERING, Ed. **Infomarket**, 2010.

**S. Vlase**, C. Papalettere, The 3rd International Conference COMPUTATIONAL MECHANICS and VIRTUAL ENGINEERING, COMEC2011. Ed. Lux Libris, Braşov, 2011.

### Papers inx in ISI Web of Science-selection (120)

(19 paper WoS published only in 2019)

Vlase, Sorin; Scarlatescu, Daniel; Marin, Marin, Finite element analysis of an elbow tube in concrete anchor used in water supply networks. PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART L-JOURNAL OF MATERIALS-DESIGN AND APPLICATIONS. Article Number: UNSP 1464420719871690, 2019

Vlase, Sorin; Marin, Marin; Oechsner, Andreas, Considerations of the transverse vibration of a mechanical system with two identical bars. PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART L-JOURNAL OF MATERIALS-DESIGN AND APPLICATIONS Volume: 233 Issue: 7 Pages: 1318-1323 Published: JUL 2019.

Stanciu, Mariana D.; Vlase, Sorin; Marin, Marin, Vibration Analysis of a Guitar considered as a Symmetrical Mechanical System. SYMMETRY-BASEL Volume: 11 Issue: 6 Article Number: 727 Published: JUN 2019.

Vlase, S.; Marin, M.; Oechsner, A.; et al., Motion equation for a flexible one-dimensional element used in the dynamical analysis of a multibody system. CONTINUUM MECHANICS AND THERMODYNAMICS Volume: 31 Issue: 3 Pages: 715-724 Published: MAY 2019

M. Marin, S. Vlase, M. Paun, Considerations on double porosity structure for micropolar bodies. AIP Advances **5**, 037113; <http://dx.doi.org/10.1063/1.4914912>, 2015.

M. L. Scutaru, H. Teodorescu-Draghicescu, S. Vlase, M. Marin, Advanced HDPE with increased stiffness used for water supply networks. Journal of Optoelectronics and Advanced Materials, Vol. 17, No. 3-4, 2015, p. 484 – 488, 2015.

Száva I., Vlase S., Gálfi P.B., Munteanu R.I., Ionescu D.R., Evaluation of the clean softwood components'longitudinal Young's moduli by means of overall measurements. WOOD RESEARCH 60 (4): 555-566, 2015.

H.Teodorescu-Draghicescu, S. Vlase, M.D. Stanciu, I. Curtu, M. Mihalcica, Advanced Pultruded Glass Fibers-Reinforced Isophthalic Polyester Resin. Materiale Plastice, 52, No. 1, 62-54, 2015.

Vlase, S., Eigenvalues and Eigenmodes of an Inclined Homogeneous Truss in a Rotational Field. Rom. Journ. Phys., 59, 699-714 (2014a).

Heitz, T. Teodorescu-Draghicescu, H. Lache, S. Chiru, A. Vlase, S. Calin, M. R.,Advanced T700/XB3585 UD carbon fibers-reinforced composite, Journal of Optoelectronics and Advanced Materials, VL 16,IS 5-6,p568-573,MAY-JUN 2014.

Radu, I. S., Vlase, S., Calin,M. R., Developing shape-memory materials using fast acting cyclic stresses for memory stabilizing. Optoelectronics and Advanced Materials- Rapid Communications, VL 8,IS 3-4, p.251-254, MAR-APR 2014.

Vlase,S.,Danasel,C.,Scutaru,M.L.,Mihalcica,M., Finite Element Analysis of a Two-Dimensional Linear Elastic Systems with a Plane "RIGID MOTION", Romanian Journal of Physics,VL 59,IS 5-6,p.476-487,2014.

Vlase,S.,Purcarea, R.,Teodorescu-Draghicescu,H.,Calin,M.R.,Szava,I., Mihalcica,M.,Behavior of a new Heliopol/Stratimat300 composite laminate. Optoelectronics and Advanced Materials- Rapid Communications,,VL 7,IS 7-8,p.569-572, JUL-AUG 2013.

Modrea, A., Vlase, S., Teodorescu-Draghicescu, H., Mihalcica, M., Calin, M. R., Astalos, C.,Properties of advanced new materials used in automotive engineering. Optoelectronics and Advanced Materials- Rapid Communications,,VL 7,IS 5-6,p.452-455,MAY-JUN 2013.

Modrea, A.,Vlase, S.,Calin, M. R.,Peterlicean, A.,The influence of dimensional and structural shifts of the elastic constant values in cylinder fiber composites. Journal of Optoelectronics and Advanced Materials, VL 15,IS 3-4,p.278-283,MAR-APR 2013.

Vlase, S., Teodorescu, P. P.,Elasto-Dynamics of a Solid with a General "Rigid" Motion using FEM Model.Part I. Theoretical Approach. Romanian Journal of Physics, VL 58,IS 7-8,p872-881,2013.

Vlase, S.,Teodorescu, P. P.,Itu, C.,Scutaru, M. L., Elasto-Dynamics of a Solid with a General "Rigid" Motion using FEM Model.Part II. Analysis of a Double Cardan Joint. Romanian Journal of Physics, VL 58,IS 7-8,p882-892,2013.

Vlase, S.,Teodorescu-Draghicescu, H.,Calin, M. R.,Scutaru, M. L.,Advanced PolyLite composite laminate material behavior to tensile stress on weft direction. Journal of Optoelectronics and Advanced Materials, VL 14,IS 7-8,p658-663,JUL-AUG 2012:

Calin, M. R.,Calin, M. A.,Vlase, S.,Radulescu, I.,Advanced materials in experimental equipments for absolute measurement of X and gamma-ray exposure rate with free-air and cavity ionization chambers. Journal of Optoelectronics and Advanced Materials, VL 14,IS 3-4,p.282-286,MAR-APR 2012.

Stanciu, A.,Teodorescu-Draghicescu, H.,Vlase, S.,Scutaru, M. L.,Calin, M. R., Mechanical behavior of CSM450 and RT800 laminates subjected to four-point bend tests. . Optoelectronics and Advanced Materials- Rapid Communications, VL 6,IS 3-4,p.495-497,MAR-APR 2012.

Scutaru, Maria Luminita,Vlase, Sorin,Some Properties of Motion Equations Describing the Nonlinear Dynamical Response of a Multibody System with Flexible Elements. JOURNAL OF APPLIED MATHEMATICS, DI 10.1155/2012/628503,2012.

Vlase, S.,Dynamical Response of a Multibody System with Flexible Elements with a General Three-Dimensional Motion. Romanian Journal of Physics,VL 57,IS 3-4,p676-693,2012.

Niculita, C.,Vlase, S.,Bencze, A.,Mihalcica, M.,Calin, M. R.,Serbina, L., Optimum stacking in a multi-ply laminate used for the skin of adaptive wings. Optoelectronics and Advanced Materials- Rapid Communications,VL 5,IS 11,p.1233-1236,NOV 2011.

Calin, M. R.,Calin, M. A.,Vlase, S.,Radulescu, I.,Simion, C. A.,Advanced materials and technologies for high-pressure krypton detectors in industrial use. Journal of Optoelectronics and Advanced Materials, VL 13,IS 9-10,p.1181-1184,SEP-OCT 2011.

Katouzian, M., Vlas, S., Calin, M. R., Experimental procedures to determine the viscoelastic parameters of laminated composites. Journal of Optoelectronics and Advanced Materials, VL 13, IS 9-10, p.1185-1188, SEP-OCT 2011.

Teodorescu-Draghicescu, H., Stanciu, A., Vlas, S., Scutaru, L., Calin, M. R., Serbina, L., Finite element method analysis of some fibre-reinforced composite laminates. Optoelectronics and Advanced Materials- Rapid Communications, VL 5, IS 7, p.782-785, JUL 2011.

Teodorescu-Draghicescu, H., Vlas, S., Scutaru, L., Serbina, L., Calin, M. R., Hysteresis effect in a three-phase polymer matrix composite subjected to static cyclic loadings. Optoelectronics and Advanced Materials- Rapid Communications, VL 5, IS 3-4, p.273-277, MAR 2011.

Vlas, S., Teodorescu-Draghicescu, H., Motoc, D. L., Scutaru, M. L., Serbina, L., Calin, M. R., Behavior of multiphase fiber-reinforced polymers under short time cyclic loading. Optoelectronics and Advanced Materials- Rapid Communications, VL 5, IS 3-4, p.419-423, MAR 2011.

Vlas, S., Teodorescu-Draghicescu, H., Calin, M. R., Serbina, L., Simulation of the elastic properties of some fibre-reinforced composite laminates under off-axis loading system. Optoelectronics and Advanced Materials- Rapid Communications, VL 5, IS 3-4, p.424-429, MAR 2011.

Teodorescu-Draghicescu, Horatiu, Vlas, Sorin, Homogenization and averaging methods to predict elastic properties of pre-impregnated composite materials. COMPUTATIONAL MATERIALS SCIENCE, VL 50, IS 4, p.1310-1314, DOI 10.1016/j.commatsci. 2010.04.040, FEB 2011.

Vlas, S., Method of Eliminating Lagrangian Multipliers from the Equation of Motion of Interconnected Mechanical Systems. Journal of Applied Mechanics, Transactions of ASME, 54 (1), pp. 235-237, 1987.

Vlas, S., Elimination of Lagrangian multipliers. (1987) *Mechanics Research Communications*, 14 (1), pp. 17-22.

## GRANTS AND CONTRACT AS PROJECT COORDINATOR

### International Grants/Project Coordinator

1. **FINITE ELEMENT ANALYSIS OF FIBROUS COMPOSITE MATERIALS.** NATO-EV: Contract number: CPB.EAP.EV.982300/21/ 2006, Project coordinator: **Sorin Vlas**;
2. Technische Universität, Stuttgart, Germany, **Dynamical Analysis of Mechanical Systems.** TEMPUS, Contract number: IMG-94-RO-1102/1994, Project coordinator: **Sorin Vlas**;
3. **Finite Element Methods Applied to the Calculus of Composites Materials.** PROMETEUS, Technische Universität, München, Germany, 1993. Project coordinator: **Sorin Vlas**.

### National Grants/Project Coordinator

4. **Modelling and simulation of behavior under mechanical loads, by means of finite element methods, of composite materials in order to identify their properties.** CEEX MODULUS I- Contract number: 42/2005, Beneficiary: MCT, Project coordinator: **Sorin Vlas**.
5. **Results and trends in modern mechanical fiber reinforced polymer composite materials.** CEEX Modulus III, Contract number: 35/2006, Beneficiary: MCT, Project coordinator: **Sorin Vlas**.
6. **Experimental and nonlinear analysis and optimal control of mechanical multibody systems with applications in mechanical engineering and robotics - ADEL.** CEEX MODULUS I, Contract number: 61/2006, Beneficiary: MCT, Project coordinator: **Sorin Vlas**.
7. **Virtual analysis of multibody systems with applications in automotive design (symbolic representations and numerical simulation).** Contract number: 930/2007, CNCSIS, Tip A, 2007, Beneficiary: MCT, Project coordinator: **Sorin Vlas**.
8. **Developing interdisciplinary laboratory for modeling and identification of advanced multifunctional composite materials mechanics - COMLAB.O2.1. IMPACT** Contract number: 784-iunie 2007, Beneficiary: MCT, Project coordinator: **Sorin Vlas**.
9. **Increased reliability of the bearings used in the automotive industry. AUTO-RULO. IMPACT-** Contract number: 1358/2008 –2008, Beneficiary: MCT, Project coordinator: **Sorin**
10. **The 2nd Advanced Composite Materials Engineering - COMAT2008.** Contract number: 710/2008 – Beneficiary: MCT, Project coordinator: **Sorin Vlas**.



11. **Developement of Componentes of Advanced Composite Materials with Applications in Automotive Engineering.** POSCCE, 2012 with IMM VIOSON srl and INAR SA Braşov. Project coordinator: **Sorin Vlase.**
12. **System calibration measurement and control equipment used in industry, operating at high temperatures.** Innovation cecks. 2014, Landa srl Bucuresti, Beneficiary: Project coordinator: **Sorin Vlase.**
13. **Grant PNII Contract number: 51-041/2007.** Beneficiary: MCT, Project coordinator: **Sorin Vlase.**
14. **Rigid motion control systems (robots and manipulators). Part I. Dynamic analysis of the motion of elastic solids.** Contract number: Grant 5005/28/1996. Beneficiary: Ministerul Învăţământului, D.G.I.S.C.S.U. Project coordinator: **Sorin Vlase.**
15. **Finite element analysis of mechanical systems with elastic elements (with applications to robots and manipulators).**Contract number: 4005/nr.282, 1995, Beneficiary: CNCSIS - Ministerul Învăţământului. Project coordinator: **Sorin Vlase.**

### **Contract with SME and other authorities**

16. **Noise measurements to validate assessed by vehicular traffic; measurements for determining chemical pollution.** Contract number: 4165AK/2007. Beneficiary: Ministry of Environment and Sustainable Development. Project coordinator: **Sorin Vlase.**
17. **Noise map for the city of Targu Mures 2009,** Beneficiary: Targu Mures City Hall, Project coordinator: **Sorin Vlase**
18. **Noise map for the city of Targu Mures 2014,** Beneficiary: Targu Mures City Hall, Project coordinator: **Sorin Vlase**
19. **Forced vibrations of the U12 engine.** Contract number: 452/1984. Beneficiary: CCSITT Braşov. Project coordinator: **Sorin Vlase**
20. **Stresses and vibration of the crankshaft nr. 232.03.101.** Contract number: 621/1983, Beneficiary: INMT Bucureşti. Project coordinator: **Sorin Vlase.**

Last up-date:  
30<sup>th</sup> September, 2019