



# Europass Curriculum Vitae

Personal information

First name(s) / Surname(s)

Sorin Vlase

Address(es)

Transilvania University of Brasov, 29 Eroilor Av., 500036, Brasov, Romania

Telephone(s)

 $(00)\ 40\ 268\ 418992\ or\ (00)\ 40\ 722$ 

643020

E-mail

svlase@unitbv.ro; svlase@yahoo.com

Nationality

Romanian

Date of birth

10th July 1952

Present position / Occupational field

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

Professional experience

Dates

held

March 1st, 1996 - present

Occupation or position

Professor

Main activities and

Academic activities: Mechanics, Vibrations, Stability, Dynamics, Composite materials, Computational Mechanics:

responsibilities

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

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, Mechanical Engineering

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

Type of business or sector

Academic education

Dates

October 1st, 1991 - March 1st, 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;

Research activities: Dinamical Systems, Dynamics of the Multibody Systems, Composite materials mechanics:

Management activities: students tutoring, undergraduate diploma/master dissertation papers advising, monitoring and coordinating.

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

Name and address of employer

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Type of business or sector

Academic education

Dates

held

October 1st, 1984 - October 1st, 1991

Occupation or position

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:

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

Academic education

Type of business or sector

Dates

March 1st, 1980 - October 1st, 1984

Occupation or position

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 1st, 1976 - March 1st, 1980

Occupation or position

held

Main activities and

Engineer

responsibilities

Reseach 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

Habilitation degree

awarded

Principal

Domain

Habilitation thesis delivered: MECHANICAL IDENTIFICATIONS IN AUTOMOTIVE ENGINEERING

subjects/occupational skills covered

Aerospatial, Automotive and Transportation

Name and type of organisation affiliated

University of Pitesti, Interdisciplinary Doctoral School

Dates

1981-1989

Title of qualification

PhD in the field of Mechanical Engineering

awarded

Page 2/9 - Curriculum vitae of Sorin Vlase Principal subjects/occupational skills covered

Thesis title: Contributions to the elastodynamic analysis of the mechanisms using FEM. Ph.D. Father: prof. Florea Duditza

Name and type of organisation providing education and training

"Transilvania" University of Brasov

Dates

1977-1982

Title of qualification awarded

Licence diploma 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)/Selfassessment

> English Language

French
Language
German
Language

	Understanding				Speaking				Writing	
Li	Listening		Reading		Spoken interaction		Spoken production			
C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	
Li	Listening		Reading		Spoken interaction		Spoken production		Listening	
В1	Basic	B1	Basic	B1	Basic	B1	Basic	В1	Basic	
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 – 15 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 Multibidy 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

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, Technische Gesamnthochschule Wuppertal, Germany, DAAD; May-August 1993, Technische Universität, München, Germany, Tempus;

July-August 1994, University of Athens, Tempus

October-December, 1994, Technische Universität, Sttutgart, Germany, TEMPUS, IMG-94-RO-1102/1994.

June 1999, Technische Universität, Sttutgart, Socrates

June 1999, Universität Gesamnthochschule Wuppertal, Tempus

June, 2001, Technische Universität Karlsruhe, Germany

## 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

1990, September CISM courses, Szombothely, Ungaria;

2002, June, NATO -ASI Workshop, Virtual Nonlinear Multibody System, Praga;

2006, Octomber, CISM, Udine, Italy:

2006, December, Hottinger Academy, Darmstadt, Germany;

2007, May, ZACEcourses in, Nonlinear Finite Element Method, Berlin, Germany;

2007, Octomber, Bruel&Kjaer courses, Munchen, Germany.

2008, June, CISM, Udine, Italy.

# PhD evaluator

More than 20 PHD Thesis evaluated

Other activities Evaluator in The Romanian Agency for Quality Assurance in Higher Education. More than 10 evaluations

#### Additional information

Chairman of the International Conferences:

COMAT2006, COMAT2008, CONAT2010, COMAT2012, COMAT 2014, COMAT2016, COMEC2005, COMEC2007, COMEC2009, COMEC2011, COMEC2013, COMEC2015, INTERNATIONAL WORKSHOP ON COMPUTATIONAL MECHANICS, Braşov, octomber, 2006, MODERN TRENDS IN MECHANICS, 2005,

In the Scientific or Organising Committee:

OPTIMED 2006, June, Braşov;

5th BALKAN SCHOOL IN NUCLEAR PHYSICS, Braşov, 2006, september;

The XXXI-th National Conferenc in Mechanics of Solid, Chisinau, 28-30 september, 2007;

CONFERENCE on MULTIBODY SYSTEMS' DYNAMICS, Piteşti, octomber, 2007;

NATIONAL CONFERENCE on MECHANICS OF SOLIDS, CNMS –XXXII, Pitesti, 11-13 September 2008;

The 3rd INTERNATIONAL CONFERENCE ON TEORETICAL AND APPLIED MECHANICS (MECHANICS 07), Tenerife, Canary Islands, Spain, December 14-16, 2007;

3rd Int. Conf. on DYNAMICAL SYSTEMS and CONTROL (CONTROL '07), Arcachon, France, 13-15 October 2007

6th Int. Conf. on NON-LINEAR ANALYSIS, NON-LINEAR SYSTEMS AND CHAOS (NOLASC '07);

The 3rd IASME International Conference on EDUCATIONAL TECHNOLOGIES (EDUTE'07), 2007;

The 9th International Conference on MATHEMATICAL METHODS AND COMPUTATIONAL TECHNIQUES IN ELECTRICAL ENGINEERING (MMACTEE '07), 2007:

The 7th International Conference on WAVELET ANALYSIS & MULTIRATE SYSTEMS (WAMUS'07), 2007; OPTIMED 2008.

FRAM 2008 – FRACTURE MECHANICS, 10-11 octombrie 2008, Brasov,

TEHNONAV 2006, TEHNONAV 2008;

CNMS – XXXIII, NATIONAL CONFERENCE on MECHANICS OF SOLIDS, Bucuresti, 10-12 September 2009; "ACOUSTICS AND VIBRATION OF MECHANICAL STRUCTURES", AVMS2009 Timişoara, 28-29 mai 2009,2011,2013,2015.

INTER-ENG International Conference, 2009, 2010,2011,2012,2013,2014,2015, Targu Mures, Petru Maior University,

Conference on Experiments/Process/System Modeling/Simulation/Optimization (3rd IC-EpsMsO), Athens, Greece, from 8th to 11th of July, 2009.

### Publishing activity

Author and co-author of more than 300 scientific articles (30 articles in ISI journals, more than 80 papers ISI indexed)

Author and co-author of 18 books

Annex

Selected scientific papers/books/chapters in international books

### **Annex**

#### Books (selected)

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.

Deliu, Gh., Vlase, S., Mechanics. Statics. Problems. Ed. Albastră, Cluj, 2004. ISBN 973-650-139-6.

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 books

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

Vlase, S., Munteanu, V., Scutaru, L., Kinematical Analysis of the Multibody Systems using Topological Description, DAAAM 2008, 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.

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).

#### Editor (selection)

- S. Vlase, I. Curtu, The 1st International Conference ADVANCED COMPOSITES MATERIALS ENGINEERING, Ed. Universității TRANSILVANIA din Brasov, 2006.
- **S. Vlase**, S.Lache, Gh. Radu, The 2nd International Conference ADVANCED COMPOSITES MATERIALS ENGINEERING, Ed. Universității TRANSILVANIA din Brașov, 2008.
- **S. Vlase**, A. Chiru, The 2nd International Conference COMPUTATIONAL MECHANICS and VIRTUAL ENGINEERING, COMEC2007. Ed. Universității TRANSILVANIA, Brașov,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 (selected)

#### Articles in ISI journals

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 Matrials, 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 Isophtalic 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 Matrials, 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 Matrials- 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 Matrials- 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 Matrials- 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 Matrials, 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 Matrials, 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 Matrials, 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 Matrials- 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 Matrials- 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 Matrials, VL 13, IS 9-10, p. 1181-1184, SEP-OCT 2011.

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

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

Teodorescu-Draghicescu, H., Vlase, 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 Matrials- Rapid Communications, VL 5, IS 3-4, p.273-277, MAR 2011.

Vlase, 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 Matrials- Rapid Communications, VL 5, IS 3-4, p419-423, MAR 2011.

Vlase, 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 Matrials- Rapid Communications, VL 5, IS 3-4, p.424-429, MAR 2011.

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

Vlase, 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.

Vlase, S., Elimination of lagrangian multipliers. (1987) Mechanics Research Communications, 14 (1), pp. 17-22.

### GRANTS AND CONTRACT AS PROJECT COORDINATOT

## **International Grants/Project Coordinator**

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

# **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 Vlase.
- 5. Results and trends in modern mechanical fiber reinforced polymer composite materials. CEEX Modulus III, Contract number: 35/2006, Beneficiary: MCT, Project coordinator: Sorin Vlase.
- 6. Experimental and nonlinear analysis and optimal control of mechanical multibody systems with applications in mechanical engineering and robotics ADEL. CEEX MODULUL I, Contract number: 61/2006, Beneficiary: MCT, Project coordinator: Sorin Vlase.
- 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 Vlase.
- 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 Vlase.
- Increased reliability of the bearings used in the automotive industry. AUTO-RULO. IMPACT- Contract number: 1358/2008 –2008, Beneficiary: MCT, Project coordinator: Sorin
- The 2nd Advanced Composite Materials Engineering COMAT2008. Contract number: 710/2008 Beneficiary: MCT, Project coordinator: Sorin Vlase.
- 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 Bucureşti, 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 Învătământului. Project coordinator: Sorin Vlase.

# **Contract with IMM and other authorities**

- **16.** Noise measurements to validate assessed by vehicular traffic; measurements for determining chemical pollution. Contract number: 4165AK/2007. Beneficiary: Terti 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: 30th March, 2016