CURRICULUM VITAE

1. Name: **HORATIU**
2. Surname: **TEODORESCU-DRAGHICESCU**
3. Date and place of birth: 7th AUGUST 1960, BRASOV, ROMANIA
4. Citizenship: ROMANIAN
5. Civil status: MARRIED
6. Studies:

Institution	TRANSILVANIA University of Brasov, Romania	TRANSILVANIA University of Brasov, Romania
Period: from (month, year) until (month, year)	Sept. 1980 – June 1985	April 1995 – May 2001
Obtained diplomas or degrees	Mechanical Engineer	Doctor Engineer

7. Scientific degree: Doctor engineer, Branch of science: Mechanical Engineering
8. Professional experience:

Period:	Oct. 1985 – Oct. 1987	Oct. 1987 – Oct. 2000	Oct. 2000 – May 2002	June 2002 – Sept. 2005	From Oct. 2005 until present
Place:	Sfantu Gheorghe, Romania	Bucharest, Romania	Brasov, Romania	Brasov, Romania	Brasov, Romania
Institution:	I.M.A.S.A.	Research and Development Institute for Mechanical Equipments	S.C. METALOPLAST S.A.	COMPOZITE Ltd.	TRANSILVANIA University of Brasov
Function:	Design engineer	Scientific researcher 3rd rank	Design manager	Quality manager	Assoc. prof.
Description:	Design of prototypes and automotive parts	Research and design of military equipment	Design of tools and prototypes	Quality assurance, research, design of polymer matrix composite structures	Mechanics Department

9. Fields of academic interest and research: Polymer matrix composite structures, Materials science, Computational mechanics with some research projects such as:

A. The increase of loading capability of fiber reinforced polymer composite tubes, by introduction of supplementary internal stresses.

Experimental results:

- Design and accomplishment of an original device for the pre-tension of cylindrical tubular specimens;
- Determination of geometric elements of the specimens and the cutting manner of the fabric strip against the axis roll;
- Elaboration of tube specimens type necessary for the pre-tension using different types of glass fabrics;
- Determination of the pre-tension features of the tube specimens and the stages of introduction of internal stresses in tubular specimens;
- determination of weeping pressures both in the case of non pre-tensioned specimens and in the pre-tensioned ones, specimens subjected to hydraulic internal pressure;
- Determination of the increase of loading capability of the pre-tensioned specimens against the non pre-tensioned ones;
- determination of the residual internal stresses introduced in the manufacturing process of the specimens, using a method that consists in the radial cutting on the generatrix of some rings cuts from the specimens;

Theoretical results:

- elaboration of a calculus regarding the mechanical behaviour of ±E composite tube reinforced with glass fibers, tube with the layers sequence $[55/-55]_3$ subjected to internal pressure. Determination of UD layers stresses and strains in 3 stages of the tube: non pre-tensioned, pre-tensioned and subjected again;
- accomplishment of a study regarding the dependence of the basic elastic properties of the glass fiber reinforced lamina on the fibers volume fraction, in case of ±E composite tube with the sequence $[55/-55]_3$. The calculus shows a substantial increase of the Young moduli with the increase of fibers volume fraction;

- Elaboration of a calculus regarding the mechanical behaviour of a composite tube reinforced with glass fabric, tube subjected to internal pressure. It has been determined the stresses and strains of UD laminas in 3 stages of the tube: non pre-tensioned, pre-tensioned and subjected again to internal pressure;
- accomplishment of a study of comparison regarding the increase of loading capability of ±E composite tube reinforced with glass fibers, tube with the layers sequence $[55/-55]_3$, against the increase of loading capability of a composite tube reinforce with glass fabric. This comparison was accomplished at different pre-tension pressures;

B. Theoretical approaches in the field of modelling ultra lightweight and extreme tough composite sandwich structures

- elaboration of an equivalent calculus model of a composite sandwich structure which presents the skins based on epoxy resin reinforced with carbon fabric and the core is made from expanded polystyrene. The structure is subjected to a biaxial field of normal loads and a shear load. This structure presents applications in the field of non-conventional energies. It has been accomplished a study of comparison regarding the rigidity of a sandwich structure with skins based on epoxy resin reinforced with carbon fabric, against the rigidity of the same structure but with skins based on polyester resin reinforced with glass fabric;
- Elaboration of a behaviour model of the sandwich structure subjected to linear vibrations, compared to a behaviour model of steel subjected to the same vibrations. The sandwich structure presents a very good behaviour regarding the vibrations damping;
- Elaboration of a calculus model of composite sandwich structures (panels) subjected to bending.

C. Theoretical approaches regarding the behaviour at temperature and humidity variations of fibers reinforced laminate structures

- elaboration of a calculus model regarding the behaviour of laminate structures reinforced with different glass and carbon fabrics, structures subjected to a temperature variation due to the structures cooling from the polymerization temperature to the environmental temperature. Stresses and strains has been determined that appear due to this variation;
- elaboration of a calculus model regarding the behaviour of laminate structures reinforced with different glass and carbon fabrics, structures subjected to a humidity variation due to the change with some percents of the relative air humidity. Stresses and strains has been determined that appear due to this variation;
- elaboration of a calculus model regarding the behaviour of laminate structures reinforced with different glass and carbon fabrics, structures subjected to a combined temperature and humidity variations. Stresses and strains has been determined that appear due to this combined loading.

D. Theoretical approaches regarding the modelling of Sheet Moulding Compounds (SMC)

- Elaboration of a model to characterize the Sheet moulding Compounds (SMC), composite materials that are extreme heterogeneous, using various homogenization approaches.

10. Published papers: 50 papers in the fields of polymer matrix composite structures, materials science and computational mechanics

11. Member of the professional associations: Romanian Association of Break Mechanics, from 1996

12. Specializations: WOLFANGEL GmbH, Germany, 2002 in the field of polymer matrix composite structures;
GOM GmbH, Germany, 2007 in the field of optical measurements techniques.

13. Experience in national/international research programmes:

Programme/Project	Function	Period
CEEX/SICOMSUV Contract nr. 129/2006	Project manager on behalf Transilvania University of Brasov	2006 – 2008
Competitive and Sustainable Growth Programme/CRAF-1999-71564 Contract No. G5ST-CT-2002-50329	Execution on behalf COMPOZITE Ltd Brasov	2002 - 2004
RELANSIN / SIRTEM Contract no. 1795/17.09.2003	Execution on behalf COMPOZITE Ltd Brasov	2003 - 2005
INVENT/ STAR 2 Contract no. 171/10.2004	Project manager on behalf COMPOZITE Ltd. Brasov	2004 – 2006
CEEX/ROBOSIS Contract no. 41/2005	Project manager on behalf COMPOZITE Ltd. Brasov	2005 – 2008
CEEX/COMPMEF Contract no. 42/2005	Researcher/specialist on behalf Transilvania University of Brasov	2005 – 2008
CEEX/CAMCOM Contract no. 23/2006	Researcher/specialist on behalf Transilvania University of Brasov	2006 – 2008
CEEX/MECPMC Contract no. 35/2006	Researcher/specialist on behalf Transilvania University of Brasov	2006 – 2008
IMPACT/ECORECIP	Project manager on behalf Transilvania University of Brasov	2007 - 2009

14. Other mentions: owner of innovation certificate no. 454/04.11.1988 released by the National Defence Department Bucharest, Romania.

Brasov, 18th January 2008

Assoc.prof.dr.eng. Horatiu Teodorescu