

## Curriculum Vitae

### PERSONAL INFORMATION

FIRST NAME(S) / SURNAME(S) CONSTANTINESCU, Dan Mihai  
ADDRESS(ES) University POLITEHNICA of Bucharest, Department of Strength of Materials, Splaiul  
Independentei nr. 313, Bucharest 060042, ROMANIA  
<https://orcid.org/0000-0001-5400-7804>; [Scopus Author ID: 25633577600](#)  
TELEPHONE(S) 40 21 4029210 Mobile: 40 737520501  
FAX(ES) 40 21 4029213  
E-MAIL dan.constantinescu@upb.ro d\_constantinescu@yahoo.com  
NATIONALITY Romanian  
GENDER male

### WORK EXPERIENCE

DATES **from September 1983 to September 1985**  
OCCUPATION OR POSITION HELD design and manufacturing engineer  
MAIN ACTIVITIES AND RESPONSIBILITIES **from November 1983 to September 1985. Design Engineer**; design of cutting tools for gears; in charge of four research contracts.  
**from September 1983 to November 1983. Manufacturing Engineer**; research in the use of diesel-methanol emulsions as fuel for diesel engines.  
NAME AND ADDRESS OF EMPLOYER Fine Mechanics Research Institute, Bucharest, Romania  
ARO 4 Wheel Drive Car Factory Campulung Muscel, Romania  
TYPE OF BUSINESS OR SECTOR industry and research  
DATES **from 1985 - present**  
OCCUPATION OR POSITION HELD assistant professor, senior lecturer, associate professor, and professor from 2003; PhD adviser from 2008  
MAIN ACTIVITIES AND RESPONSIBILITIES **from May 2002 – present**. Experimental and numerical researches concerning interlaminar and intralaminar failure in composite and nanocomposite materials. Fatigue of composites and metallic materials. Propagation of damages and delaminations. Formulation of constitutive equations for static and impact loadings for light metallic alloys and ceramic materials.  
**from August 1999 to May 2002**. Fracture mechanics research: interface cracks along and parallel to bondlines by using 2D and 3D photoelasticity. Three-dimensional propagation of cracks in mixed modes (by using 3D photoelasticity).  
**from May 1999 to July 1999**. Fracture mechanics research: optical strain gradient method applied for the investigation of three-dimensional effects in front of the notch front.  
**from September 1997 to May 1999**. Consultant for SISTEMATIC, Romanian firm for finite element structural analysis and representative in Romania for the sales of the ALGOR finite element code. Engineering applications for the 3D finite element design of automotive wheels and crankshafts.

**from April 1993 to May 1999.** Researches in fracture mechanics, fatigue, and structural integrity topics as: determination of non-singular stress, strain, and displacement fields around the crack tip, three dimensional evaluation of the stress intensity factors for various crack configurations, strain based approach for the determination of fatigue lives, crack propagation under creep loading conditions, methods and procedures for the assessment of structural integrity. Acquired experience in 2D and 3D finite element modelling using finite element codes with the understanding of boundary conditions, details of modelling and interpretation of results.

**from November 1992 to April 1993.** Research on the stress controlled creep and fatigue interactions in low cycle fatigue for plastic materials under the influence of frequency.

**from January 1991 to July 1991.** Fracture mechanics research by using photoelasticity and moiré interferometry for star shaped cylinders models with internal cracks.

**from September 1986 to January 1991.** Engaged in research contracts for complex stress analysis and structural analysis by using experimental techniques (strain gages and photoelasticity) and the finite element method. Experimental analysis for real structures and finite modelling for automotive wheels, bus structures, pressure vessels, generator rotors, systems of pipes, cracked plates.

**from September 1985 to September 1986. Research Engineer** at the Department of Strength of Materials, Polytechnic Institute of Bucharest; performed research in applied mechanics by using strain gage techniques for pipe systems and automotive wheels.

**NAME AND ADDRESS OF EMPLOYER** Department of Strength of Materials, University POLITEHNICA of Bucharest Splaiul Independentei nr. 313, Bucharest 060042, Romania

**TYPE OF BUSINESS OR SECTOR** education and research

**Dates** **from August 1999 to May 2002**

**Occupation or position held** Visiting Associate Professor

**Main activities and responsibilities** Fracture mechanics research: interface cracks along and parallel to bondlines by using 2D and 3D photoelasticity. Three-dimensional propagation of cracks in mixed modes (by using 3D photoelasticity).

**Name and address of employer** Department of Engineering Sciences and Mechanics, Virginia Polytechnic Institute & State University, Blacksburg, USA

**Type of business or sector** education and research

**Dates** **from October 2002 – April 2010**

**Occupation or position held** senior scientific researcher

**Main activities and responsibilities** Experimental researches of fibre glass and carbon composites. Propagation of damages and delaminations.

**Name and address of employer** Institute of Solid Mechanics of the Romanian Academy Str. Constantin Mille nr. 15, 010141, Bucharest, Romania

**Type of business or sector** research

## INTERNATIONAL RESEARCH AND FELLOWSHIPS

**from 2006 to 2009.** Magnesium Forged Components for Structural Lightweight Transport Applications, FP6, COLL-CT-2006-030208.

**from 2003 to 2005.** Aluminum MMC Extruded Product with High Stiffness and Wear Resistance, FP5, CRAFT-1999-71564.

**from July 2003 to August 2003.** Programme of the European Commission, contract HPRI-CT-2002-00184; Complex Loading Effect on Damage Accumulation and Fatigue Life of Multidirectional Flat and Curved Panels; EXSACOM, DLR, Braunschweig, Germany

**February 2003.** Programme of the European Commission, HPRI-CT-1999-00024/II-78; Interlaminar failure in composite materials; AMTT – Aerospace and space Materials Technology Testhouse, Seibersdorf, Austria.

**from August 1999 to May 2002.** Department of Engineering Science and Mechanics, Virginia Polytechnic Institute & State University Department, USA. Worked at contracts:

Influence of Loading Fixtures and Specimen Geometry on Stress Intensity Factor Fields, Sparta Inc., with Air Force Research Laboratory, 1999-2001.

Development of An Experimental Based Rationale for Analyzing Cracked Solid Rocket Motor Integrity, P.O. #RPO10230 ERC Inc., with Air Force Research Laboratory, 2001-2002.

**from May to July 1999.** DAAD Fellow, Institute for Technical Mechanics, Carolo-Wilhelmina University of Braunschweig, Germany

**September 1996, and June 1995.** Co-operation sponsored by the National Research Council, Twinning Program Participants with Romania; Lehigh University, USA

**from November 1992 to April 1993.** Engaged in research, adviser Professor I. Emri, University of Ljubljana, Slovenia

**from January 1991 to July 1991.** Fulbright Fellow, engaged in research, adviser Professor C.W. Smith, Department of Engineering Science and Mechanics, Virginia Polytechnic Institute & State University Department, USA

## EDUCATION AND TRAINING

Dates	<b>1978-1983</b>
Title of qualification awarded	Mechanical engineer
Principal subjects/occupational skills covered	Automotive engineering; final grade 9.54
Name and type of organisation providing education and training	Polytechnic Institute of Bucharest
Level in national or international classification	Higher education
Dates	<b>1986 – 1987</b>
Title of qualification awarded	Postgraduate diploma
Principal subjects/occupational skills covered	Experimental methods; final grade 9.80 analyses of stress and strain states through experimental methods
Name and type of organisation providing education and training	Polytechnic Institute of Bucharest

Level in national or international classification	Higher education
Dates	<b>1990-1997</b>
Title of qualification awarded	PhD in Mechanical engineering
Principal subjects/occupational skills covered	Strength of materials, elasticity and plasticity; Fracture mechanics; Experimental mechanics; Finite element method
Name and type of organisation providing education and training	University POLITEHNICA of Bucharest
Level in national or international classification	Higher education

## PERSONAL LANGUAGE SKILLS AND COMPETENCES

Mother tongue(s) Romanian

Other language(s)

Self-assessment

*European level (\*)*

**Language**

**Language**

**Language**

	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
French	C2	C2	C2	C2	C2
Russian	C2	B1	B2	B2	A1

(\*) [Common European Framework of Reference for Languages](#)

## TECHNICAL SKILLS AND COMPETENCES

Research activities in the Laboratory for Experimental Mechanics & Fracture de la Department of Engineering Science and Mechanics, Virginia Polytechnic Institute & State University, USA, 1999 – 2002.

Head of laboratories: Modelling and Simulation of the behaviour and damage of materials (from 2004) and Fracture mechanics and Fatigue (from 2007)

Member of the Scientific Committee of the Management Agency for Scientific Research, Innovation, and Technological Transfer, Ministry of Education, Research, and Innovation, Bucharest, (2007 – 2010).

Member of the executive committee of the Department of Strength of Materials, Polytechnic University of Bucharest, (2004 – present).

Expert reviewer at the National Council for Scientific Research in Higher Education (CNCSIS) and for the Excellence in Research Programme CEEX (2005, 2006, 2007, 2008).

Member in the Commission 2 of CNCSIS – Engineering Sciences (2007 – 2011).

Member of CNATDCU, Commission 17, Mechanical Engineering, Mechatronics and Robotics (2016-present).

Director of the Research Centre of Applied Mechanics, Polytechnic University of Bucharest, (2005 – present).

## MANAGEMENT SKILLS AND COMPETENCES

Fellow of the Robert Schuman Foundation at the European Union and European Parliament – Brussels and Strasbourg, February-March 1995.

Have taken courses of Leadership Development organized at Virginia Polytechnic Institute & State University (director of programme Dr. Richard Harshberger), 2001.

Director general, General Direction for Higher Education, Ministry of Education and Research, Bucharest, Romania; from January 2006 to July 2007.

Member of the Bologna Follow up Group (BFUG), as representative of Romania from January 2006 to July 2007.

Member of the BFUG Board during June 2006 to May 2007, as Romania was an elected country.

Head of the Department of Strength of Materials (from 2020)

## **SERVICE TOWARDS THE SCIENTIFIC COMMUNITY**

Member of several scientific committees and peer reviewer at several national and international conferences in engineering.

Reviewer for the journals: Engineering Fracture Mechanics, Theoretical and Applied Fracture Mechanics, Mechanics of Materials, International Journal of Solids and Structures, Materials & Design, International Journal of Impact Engineering, Journal of Adhesion, Journal of Adhesion Science and Technology, Mechanics of Time Dependent Materials, Engineering Failure Analysis, Journal of Engineering Design, Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications, Applied Mathematical Modelling, Applied Mechanics, Meccanica, Polymers, Materials, AIAA Journal, Romanian Proceedings of the Romanian Academy series A, Journal of Technical Sciences - Applied Mechanics (Revue de de Mécanique Appliquée), Scientific Bulletin of University Politehnica, Series D: Mechanical Engineering, Materials Today Proceedings, Materiale Plastice, Revista de Chimie, Frattura ed Integrità Strutturale (Fracture and Structural Integrity), Powder Technology.

Member of the editorial scientific committees of the journals: Frattura ed Integrità Strutturale (Fracture and Structural Integrity), Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications, Romanian Journal of Technical Sciences - Applied Mechanics, Scientific Bulletin of University Politehnica, Series D: Mechanical Engineering.

## **RESEARCH AND COMPETENCE DOMAINS**

Fracture mechanics, fatigue, Mechanics of composites, Experimental and numerical methods applied in Applied Mechanics

Participated to the development of more than 55 contracts.

## **ACADEMIC RESPONSABILITIES AND RECOGNITION**

- Vicepresident of the Romanian Society for Fracture Mechanics (2010-present)
- Vicepresident of the Romanian Society for Experimental Mechanics and Testing of Materials (2011-present)
- Representative of Romania in the Scientific Committee of the Danubia-Adria Society for Experimental Mechanics (2011-present).

## **RESEARCH CONTRACTS DEVELOPED AS DIRECTOR OR PARTNER RESPONSIBLE**

- CNCSIS nr.23/2004: DESIGN AND TESTING OF MULTIFUNCTIONAL COMPOSITE LAMINATES AND SANDWICHES USED FOR ASSURING THE STRUCTURAL INTEGRITY OF STRUCTURES (director), 2004-2006
- AMCSIT / RELANSIN 2004 nr.1967/2004: PROCEDURE, METHODOLOGY, AND EQUIPMENT FOR THE DYNAMIC TESTING OF VARIOUS ARMOUR PLATES - PMEB (responsible), 2004-2006
- CEEX 202/2006: MODELLING AND SIMULATION OF THE BEHAVIOUR OF COMPOSITE MATERIALS AT COMPLEX LOADINGS WITH APPLICATIONS IN AERONAUTICAL ENGINEERING – MOSCOM (director), 2006-2008

- CEEEX 255/2006: INTEGRATED TECHNOLOGICAL PLATFORM FOR THE ELECTROCHEMICAL ENGINEERING OF SURFACES FOR ADVANCED MATERIALS; APPLICATIONS IN THE EVALUATION OF THE INTEGRITY AND RELIABILITY OF THE STRUCTURES – ELSURFSTRUCT (responsible), 2006-2008
- CEEEX 2-CEX06-10-81/2006-CERES: INTEGRATED NETWORK OF MONITORING THE STRUCTURAL INTEGRITY OF THE CRITICAL COMPONENTS FROM THE NUCLEAR COMPONENTS – RIMIS (responsible), 2006-2008
- PN II 81-008/2007: COMPLEX COMPOSITE STRUCTURES MEANT FOR THE BALISTIC PROTECTION OF PERSONS AND CIVIL AND MILITARY EQUIPMENTS, EXPOSED AT IMPACT WITH SUPERSONIC SPEEDS – PROTECTIMPACT (responsible), 2007-2010
- PN II 82-097/2008: PERFORMANT COMPOSITE ARMOURES FOR MULTIPLE PROTECTION – PROTECTCOMB (responsible), 2008-2011
- PN II 72-207/2008: ADVANCED TECHNOLOGIES FOR PROCESSING SURFACES USED IN THE PRODUCTION OF SPARE PARTS AND SUBASSEMBLIES FROM THE AUTOMOTIVE INDUSTRY – TAPS\_AUTO (responsible), 2008-2011
- PN II 206/2012: HIGH PERFORMANCE LIGHTWEIGHT PANELS WITH A NEW OPTIMIZED DESIGN FOR ADVANCED AIRCRAFT STRUCTURES - HIPEAS (director), 2012-2014
- PN III, European and International Cooperation – Horizon 2020, M.ERA-NET 11/2015: FUNCTIONAL HIERARCHICAL COMPOSITES FOR STRUCTURAL APPLICATIONS - HIEROCOMP (director), 2015-2018

**REPRESENTATIVE  
PUBLICATIONS IN WoS  
JOURNALS  
IF 2019**

Miron M.C., Constantinescu D.M., Strain fields at an interface in a sandwich composite, *Mechanics of Materials*, vol. 43, pp. 870-884, 2011, FI=2,958

Apostol D.A., Constantinescu D.M., Temperature and speed of testing influence on the densification and recovery of polyurethane foams, *Mechanics of Time-Dependent Materials*, vol.17, pp. 111-136, 2013, FI=1,831

Sandu M., Sandu A., Constantinescu D.M., Apostol D.A., Single-strap adhesively bonded joints with square or tapered adherends in tensile test condition, *International Journal of Adhesion and Adhesives*, vol. 44, pp.105-114, 2013, FI=2,501

Picu C.R., Li Z., Soare M.A., Sorohan S., Constantinescu D.M., Nutu E., Composites with fractal microstructure: the effect of long range correlations on elastic-plastic and damping behavior, *Mechanics of Materials*, vol. 69, pp. 251-261, 2014, FI=2,958

Marsavina L., Constantinescu D.M., Linul E., Apostol D.A., Voiconi T., Sadowski, T., Refinements of fracture toughness of polyurethane foams, *Engineering Fracture Mechanics*, vol. 129, pp. 54-66, 2014, FI=2,908

Berer M., Major Z., Pinter G., Constantinescu D.M., Marsavina L., Investigation of the dynamic mechanical behavior of polyetheretherketone (PEEK) in the high stress tensile regime, *Mechanics of Time-Dependent Materials*, vol. 18, pp. 663-684, 2014, FI=1,831

Marsavina L., Constantinescu D.M., Linul E., Voiconi T., Apostol D.A., Shear and mode II fracture of PUR foams, *Engineering Failure Analysis*, vol. 58, pp. 465-476, 2015, FI=2,203

Picu C.R., Sorohan S., Soare M.A., Constantinescu D.M., Towards designing composites with stochastic composition: Effect of fluctuations in local material properties, *Mechanics of Materials*, vol. 97, pp. 59-66, 2016, FI=2,958

Stuparu F.A., Constantinescu D.M., Apostol D.A., Sandu M., A Combined Cohesive Elements-XFEM Approach for Analyzing Crack Propagation in Bonded Joints, *Journal of Adhesion*, vol. 92, pp. 535-552, 2016, FI=2,366

Marsavina L., Constantinescu D.M., Linul E., Stuparu F.A., Apostol D.A., Experimental and numerical crack paths in PUR foams, *Engineering Fracture Mechanics*, vol. 167, pp. 68-83, 2016, FI=2,908

Stuparu F.A., Apostol D.A., Constantinescu D.M., Picu R.C., Sandu M., Sorohan St., Local evaluation of adhesive failure in similar and dissimilar single-lap joints, *Engineering Fracture Mechanics*, vol. 183, pp. 39-52, 2017, FI=2,908

Sorohan St., Constantinescu D.M., Sandu M., Sandu A.G., On the homogenization of hexagonal honeycombs under axial and shear loading. Part I: Analytical formulation for free skin effect, *Mechanics of Materials*, vol. 119, pp. 74-91, 2018, FI=2,958

Sorohan St., Constantinescu D.M., Sandu M., Sandu A.G., On the homogenization of hexagonal honeycombs under axial and shear loading. Part II: Comparison of free skin and rigid skin effects on effective core properties, *Mechanics of Materials*, vol. 119, pp. 92-108, 2018, FI=2,958

Sorohan St., Constantinescu D.M., Sandu M., Sandu A.G., In-plane homogenization of commercial hexagonal honeycombs considering the cell wall curvature and adhesive layer influence, *International Journal of Solids and Structures*, vol. 156-157, pp. 87-106, 2019, FI=2,787

Mocian O.A., Constantinescu D.M., Sandu M., Sorohan, Ș., Experimental evaluation of the response of sandwich panels in low-velocity impact, *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications*, vol. 233(3), pp. 315-327, 2019, FI=1,568

Coman C.-D., Constantinescu D.M., Temperature effects on joint strength and failure modes of hybrid aluminum-composite countersunk bolted joints, *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications*, vol. 233(11), pp. 2204-2218, 2019, FI=1,568

Picu C.R., Krawczyk K.K., Wang Z., Pishvazadeh-Moghaddam H., Sieberer M., Lassnig A., Kern W., Hadar A., Constantinescu D.M., Toughening in nanosilica-reinforced epoxy with tunable filler-matrix interface properties, *Composites Science and Technology*, vol. 183, 107799, 2019, IF=6,309

Constantinescu D.M., Mocian O.A., Sandu M., Sorohan Șt., Low velocity impact response and damage characteristics of foam core sandwich panels with thin GFRP facesheets, *Proceedings of the Romanian Academy, Series A*, vol. 20(4), pp. 369-376, 2019, IF=1,402