

Prof. Ion STROE, Universitatea "Politehnica" din București, Splaiul Independenței  
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## PERSONAL INFORMATION

**Ion STROE**


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Sex M | Date of birth 09/06/1952 | Nationality Romanian

## POSITION

Professor  
Department of Mechanics, University Politehnica of Bucharest, Romania  
Honorary Member, FIA Alumni

## WORK EXPERIENCE

1998 onwards

**Full Professor**

University POLITEHNICA of Bucharest

Address: 313, Splaiul Independence, 060 032, Bucharest, Romania

- Department of Mechanical Engineering, UPB – Teaching and research activities.
- *Courses taught:* • Mechanical Engineering, Faculty of Aerospace Engineering; • Mechanical vibrations (Faculty of Aerospace Engineering); • Technical Mechanics (Faculty of Engineering Teaching in Foreign Languages); • Special Items of Space Flights (Master, Department of Aerospace Engineering); • Dynamic Aerospace Systems (Master, Faculty of Aerospace Engineering); • Dynamics of rotors (Master, Faculty of Aerospace Engineering); • Complements of Analytical Mechanics and Dynamical Systems (Master, ISB, Department of Mechanical Engineering).
- 2008-2016, Head of Department of Mechanical Engineering, UPB (coordination team of Mechanical Engineering Department of UPB);
- 1998-2006, collaboration with Romanian Space Agency (ROSA).

**Business or sector:** University and Research

1982 - 1998

**Assistant Professor, Lecturer, Associate Professor**

University POLITEHNICA of Bucharest

Address: 313, Splaiul Independence, 060 032, Bucharest, Romania

- Department of Mechanical Engineering, UPB – Teaching and research activities.

**Business or sector:** University and Research

## 1978 - 1982 Engineer and Researcher

Institute of Fluid Mechanics and Aerospace Constructions, Bucharest (National Institute for Scientific and Technical Creation, Bucharest), currently **INCAS**

- participation in program of the first jet designed entirely in Romania, IAR 99.

**Business or sector:** Research and Development in Aerospace Engineering

## 1976 - 1978 Engineer

Flight Test Center, Craiova, Romania

- participation in the approval of the first Romanian jet, IAR 93.

**Business or sector:** Research and Development in Aerospace Engineering

## EDUCATION AND TRAINING

### 1995 Certificate of Completion of a multi-disciplinary program of space studies

The International Space University, Summer Session, Stockholm, Sweden.

### 1986 PhD in Fluid Mechanics, Aerodynamics and Aerospace Constructions

EQF level 8

University POLITEHNICA of Bucharest (313, Splaiul Independentei, 060032, Bucharest, Romania)

### 1976 Aircraft Engineer, specializing in aircraft

EQF level 6/7

University POLITEHNICA of Bucharest (Romania)

## PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
French	A2	A2	A2	A2	A2
Russian	A2	A2	A2	A2	A2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user

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

Organisational / managerial skills  
Communication skills

I worked in many successful teams, achieving:

- The approval of the first Romanian jet, IAR 93;
- The IAR 99 (the first jet designed entirely in Romania);
- National program "Aerospacial" (2000-2006);
- Over 60 research contracts;
- 2008-2016, Head of Department of Mechanical Engineering, UPB (coordination team of Mechanical Engineering Department of UPB).

**Project management experience;**  
**Evaluator, European Commission, 2007.**

## Job-related skills

**Areas of research interest:**

- Space dynamics;
- Dynamical systems;
- Dynamics of systems of bodies;
- Mechanical vibration.

## Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Levels: Basic user - Independent user - Proficient user

[Digital competences - Self-assessment grid](#)

- good command of : Matlab/Simulink, Microsoft Office; C, Fortran, TurboPascal.

## Driving licence

B

## ADDITIONAL INFORMATION

**Affiliations:**

- Member of IAA (International Academy of Astronautics) in 2009, corresponding member (2002-2009);
- Member of the Planetary Society from Pasadena, USA;
- Founding member of Romanian Society of Acoustics;
- Member of the Romanian Association of Machinery and Mechanisms Theory;
- Founding member of the "School on Dynamics of Rotor Systems", Khmel'nitsky, Ukraine (1998);
- Member AAAR (Aeronautics and Astronautics Association of Romania);
- Scientific secretary of Astronautics and Aeronautics Commission of the Romanian Academy in 1999.

**Specializations:**

- Course "Responsive Systems for Active Vibration Control" organized by the Université Libre de Bruxelles, 2001;
- Course "Virtual Nonlinear Multibody Systems" organized by the Technical University in Prague, 2002;
- Advanced Courses Study Institute, Cargèse (Corsica, France), 2003.

- In October 2000, Prof. Ion Stroe received the **Diploma** "for remarkable contributions on developing of space activities in Romania", from the **Romanian Space Agency**;
- In 2001 he received the **Honor Diploma** "for the whole activity dedicated to promotion, developing and progress of Romanian aeronautical activity", from the Faculty of Aerospace Engineering of the University "Politehnica" of Bucharest;
- In 2002 Prof. Ion Stroe was elected IAA (International Academy of Astronautics) corresponding member and in 2009 he was elected full member of the mentioned academy.

## ANNEX 1

**Research Contracts**

60 research contracts, including: **-26 Research contracts as a manager or director**, -34 Research contracts as a member of the research team. Three relevant contracts:

- National project PNCDI II CNMP Partnership, contract no. 81-031 / 14.09.2007, "*Intelligent system for monitoring and active control of mechanical structures (SIMOCA)*", 2007-2010, Coordinator: UPB, **Project Manager: Prof. Ion STROE**; Partner: Institute of Solid Mechanics, Bucharest;
- Project coordinated by **Romanian Space Agency**, entitled "*Microsatellite space mission for scientific and exploration purposes (GOLIAT)*", 2005-2008; Partner: UPB, Partner Responsible: **Prof. Ion STROE**;
- National project CEEX contract nr. 22/1/20.09.2006, "*Synergic system for launching/recovery of dynamic satellite objects (SILROS)*", 2006-2008; Coordinator: INCAS, Partner: UPB, Partner Responsible: **Prof. Ion STROE**.

## ANNEX 2

### 10 relevant PUBLICATIONS

1. Radu P. Voinea, Ion V. Stroe, Introducere în teoria sistemelor dinamice, Editura Academiei Române, Bucuresti, 2000.
2. Radu Voinea, Ion Stroe, Mihai Valentin Predoi, Technical Mechanics, Editura Politehnica Press, Bucuresti, 2010, reeditare in 2012.
3. R. Voinea, I. Stroe - A General Method for Kinematics Pairs Synthesis, The Scientific Journal of IFToMM, Mech. Mach. Theory, Pergamon, Elsevier Science Ltd., 30, 3, pp. 461-470, 1995.
4. I. Stroe, Asupra miscarii plane a vehiculului spatial in prezenta unui centru atractiv, Studii si Cercetari de Mecanica Aplicata, nr.5, 1985.
5. I. Stroe, P. Parvu, Weight functions method in Stability Study of Systems, PAMM 8 (1), 10385-10386, 2008.
6. Ion Stroe, Andrei Craifaleanu, Generalization of the Lagrange Equations Formalism for Motions with Respect to Non-Inertial Reference Frames, *Applied Mechanics and Materials Vol. 656 (2014) pp 171-180*, © (2014) TransTechPublications,Switzerland, doi:10.4028/www.scientific.net/AMM.656.171
7. I. Stroe, D. Prunariu, Asupra miscarii generale a vehiculului spatial sub actiunea unui centru atractiv, Studii si Cercetari de Mecanica Aplicata, 52, 2, pp. 85-89, 1993.
8. I. Stroe, On the Motion of Rotating Machinery in Non-Inertial Reference Frame, Mecanica Apliquee, 39, 6, pp. 707-714, 1994.
9. M.M.Nita, I. Stroe, S.Cioc - Three-Dimensional Motion of Material Point in the Gravitational Field of Two Fixed Centres, Mecanica Apliquee, 42, 5-6, pp.381-389, 1997, Bucharest.
10. Ion Stroe, Stefan Staicu, Calculus of Joint Forces Using Lagrange Equations and Principle of Virtual Work, Proceedings of the Romanian Academy, Series A, Volume 11, Number 3/2010, pp. 253-260.

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