Europass Curriculum Vitae

Personal information

Surname(s) / First name(s)	**RADNEF / Sorin Stefan**
Address(es)	
Telephone(s)	
Fax(es)	
E-mail	
Nationality	ROMANA
Date of birth	
Gender	male

Total years of Experience

39+5

Work experience

Current position	Researcher for Flight Dynamics and Control at INCAS-Bucharest Member in the Scientific Council of INCAS Associate lecturer at UPB – Technical mechanics course for electrotechnical engineers Associate Lecturer at UPB – Flight dynamics course of space vehicles for the master's degree
Main activities and responsibilities	Scientific consultancy for flight dynamics and control Seminar of Mechanics and Flight Dynamics for new and senior employees
Name and address of emploier	National Institute of AeroSpatial Research and Development “Elie Carafoli”, INCAS, Bucharest, blvd Iuliu Maniu 220, Romania
Dates	**2007-2015**
Ocupation or position held	Scientific Manager President of the Scientific Council of INCAS
Main activities and responsibilities	Research activities coordination Coordination for the development and contracting of research projects Current administrative activities
Name and address of employer	National Institute of AeroSpatial Research and Development “Elie Carafoli”, INCAS, Bucharest, blvd Iuliu Maniu 220, Romania

Type of business or sector	Research and Development department
Dates	**1995 -2007**
Occupation or position held	Senior engineer/ researcher (scientific and technical design) degree II, responsible for flight dynamics and control activities, scientific manager at INCAS
Main activities and responsibilities	-stability and control studies for permanent assisted control of airships; a new model and procedure -studies and conceptual design for a “free wing aircraft”(mechanical subsystems and propeller system) -flight dynamics for the experiment regarding solar eclipse -conceptual design of algorithm and general scheme of the automatic control for an UAV (unmanned aircraft-common configuration); control laws generation to follow a given flight path -performance and dynamics (stability and control) of a sea plane; general model for quasi-steady flights relative to the trajectory -dynamics of control subsystem for the aircraft IAR-99 with numerical simulation of an hydraulic device -studies regarding flight mission control, programming and stability for a space reusable vehicle; new method to derive control laws using an algebraic model for constraints -PhD Thesis concerning theory and applications regarding the problem of pursuing a desired trajectory, as a constraint of the flight mission; mainly for space vehicles -coordination of department activities
Name and address of employer	**National Institute of AeroSpatial Research and Development, INCAS; Bucharest, Romania**
Type of business or sector	Flight Dynamics Department
Dates	**1992 -1995**
Occupation or position held	Senior engineer/ researcher (scientific and technical design) degree II, responsible for flight dynamics activities
Main activities and responsibilities	-stability and control studies for the aircraft with free wing; dynamic model for the controlled flight of such an airplane -preliminary plans of an airplane with free wing; structure design of engine unit support; preliminary plan for the propeller system; conceptual design of a kinematic scheme for the control system -dynamics and control of an unmanned aircraft (unconventional configuration) and of a hot air balloon -analysis of experimental results -stability of unsteady flights, controlled along the trajectory; development of new criteria -theory and simulations for tracking control along a given flight path -coordination of department activities since 1993
Name and address of employer	**Institute of Fluid Mechanics and Flight Dynamics, IMFDZ-SA ; (the same institute but having another name); Bucharest, Romania**
Type of business or sector	Flight Dynamics Department
Dates	**1980 -1992**
Occupation or position held	research engineer (scientific and technical design)

Main activities and responsibilities	-aerodynamic data calculations for the aircrafts IAR-93, IAR-95, IAR-99, IAR-701, IAR-705, MM-241; procedures using closed formulae and diagrams, comparison with experimental and finite element methods results -performance, stability and flying qualities for IAR-93, IAR-95, IAR-99, IAR-701, IAR-705, MM-241 -flight simulations for IAR-705 and missile MM-241; an aircraft simulator model for IAR-99 -dynamics and control during taxiing for IAR-701, IAR-705, IAR-99 -specifications for/ flight testing program and analysis of final experimental results for IAR-93, IAR-99, IAR-824 -expert' s reports regarding flight breakdown of a bomber and training and fighter aircrafts -program manager for MM-241 missile (regarding the activities developed at INCREST); design and research for the FMS and the FCS
Dates	**1981 -1992**
Occupation or position held	Associate lecturer
Main activities and responsibilities	Technical mechanics– seminars and laboratory
Name and address of employer	**Polytechnica University - Bucharest**
Type of business or sector	Technical Mechanics Department
Dates	**1980 -1981**
Occupation or position held	Associate lecturer
Main activities and responsibilities	Fluid mechanics – seminars and laboratory
Name and address of employer	**Petroleum – Gas University of Ploiesti**
Type of business or sector	Thermodynamics and Fluid Mechanics Department
Dates	**1977 -1980**
Occupation or position held	design engineer, technical quality assurance inspector
Main activities and responsibilities	Aircraft structure and components design and analysis: Second subsystem for control operation of the powered-glider IS-28M2 Winch support to keep up the powered-glider IS-28M2 Tail-skid for the aircraft IAR 824C Technological design of tail-skid components Structural design of rear fuselage for the sailplane IS-28M2 Landing gear for the aircraft IAR-824C (project evaluation and design modifications) Components for the landing gear of IAR-824C (new design and design modifications) Technical quality inspector, technologist for simple elements and complex components
Name and address of employer	**Aircraft Company IAv - Brasov, Romania**
Type of business or sector	Department of Aircraft Design; Department of Quality Assurence
Dates	**1976 -1977**
Occupation or position held	technologist and quality assurance engineer
Main activities and responsibilities	regular maintenance, final adjustments, ground and in flight tests after regular maintenance, technical controls
Name and address of employer	**Utilitarian Aviation Company; Bucharest, Romania**

Type of business or sector	techologist and quality assurance engineer

Education and training

Dates	**1994**
Title of qualification awarded	graduate certificate
Principal subjects/occupational skills covered	Management of Research Activities
Name and type of organisation providing education and training	**"Research and Technology Minister" and directed by Scient Consult ltd.**
Level in national or international classification	university level

Dates	**1991-2001**
Title of qualification awarded	Ph. D for Aerodynamics and Flight Dynamics
Principal subjects/occupational skills covered	"Dynamics and Control Studies concerning Pursuing Problems"
Name and type of organisation providing education and training	**Polytechnic University of Bucharest**
Level in national or international classification	post graduate university level

Dates	**1977-1983**
Title of qualification awarded	diploma degree
Principal subjects/occupational skills covered	Mathematics (Mechanics and IT related Theory and Methods)
Name and type of organisation providing education and training	**University of Bucharest**
Level in national or international classification	university level

Dates	**1971-1976**
Title of qualification awarded	diploma degree
Principal subjects/occupational skills covered	aircraft design, manufacturing and technological analysis, structure analysis for aerospace vehicles, flight dynamics and control, flying qualities, aerodynamics and fluid dynamics,
Name and type of organisation providing education and training	**Polytechnic University of Bucharest** **Department of Aerospace Engineering**
Level in national or international classification	university level

Personal skills and competences

Mother tongue(s) **romana**

Other language(s) **english, french**

Self-assessment

European level (*)

	Understanding				Speaking				Writing	
	Listening		Reading		Spoken interaction		Spoken production			
Language english		well		well		well		well		well/ excelent
Language french		well		well		well		well		well

(*) Common European Framework of Reference for Languages

Social skills and competences

Organisational skills and competences

Project manager for 4 romanian projects and responsible for the FQ activities of romanian participation at european projects
Responsible for Flight Dynamics SW tool, regarding handling qualiies
Department manager over 17 years
Scientific manager at INCAS from 2007 till 2015

Technical skills and competences

As derived from “work experience”

Computer skills and competences

Usual ones: MsWindows Office, Matlab, Mathcad, programming language as FORTRAN

Artistic skills and competences

Fine Arts School (4 years)

Other skills and competences

Driving licence

personal auto - driving licence B

Additional information

Membership in Professional Societies:
AGIR since 1992 (engineers' Romanian society)
ROMAI since 1994 (Romanian society, concerning applied mechanics and mathematics)
GAMM since 1995 (German society, concerning applied mechanics and mathematics)
AIAA since 1995 till 1997

Associated assistant lecturer at:
Polytechnic University of Bucharest; Bucharest, Romania,
1981 – 1992/ 2014-2024/ Catedra de Mecanică
2016-2024/ Facultatea Ingineria Sistemelor Aerospațiale
Oil and Gases Institute; Ploiesti, Romania, 1980 - 1981

Annexes

Papers and communications at national and international conferences

1. Radnef Sorin, *Steady Flight Relative to Trajectory,* The Second Conference of Applied and Industrial Mathematics, ROMAI, Oradea, August 1994, Romania
2. Radnef Sorin, Manolescu H., *Development of a missile program, ship-to-ship type, by side of effective production* (following a tested design solution), The Third Scientific Session "Design and Manufacture of Ships, Armament and Fight Technics for The Navy", section: armament and dredgers' equipment, Constanta, October 1994, Romania
3. Radnef Sorin, *From Optimal Solutions on the Reduced Dynamic Model of Symetric Flight to Near-optimal Controls on the Dynamic Model*, International Congress on Industrial and Applied Mathematics", Jul. 3-7 1995, Hamburg, Germany
4. Radnef Sorin, Dynamic *Model for the Controlled Motion along a Given Flight Path*, AIAA -

Atmospheric Flight Mechanics Conference, paper 95-3485, August 1995, Baltimore, MD, USA
5. Radnef Sorin, *An Inverse Problem Concerning Flight Dynamics with Rotors Influence*, International Conference on Dynamics of Rotor Systems, 21-23 May 1996, Kamenets-Podolsky, Ukraine
6. Radnef Sorin, *A General Inverse Problem in Controlled Flight Movement*, South African Conference on Applied Mechanics, Proceedings of 2 July 1996, Eskom Midrand, Gauteng, South Africa
7. Radnef Sorin, *A Deep Modelling of Dynamics for RPV's Flight Controllability*, Proceedings of RPV's Twelfth International Conference, 9-11 September 1996, Bristol, United Kingdom
8. Radnef Sorin, Tecuceanu George, *A Proper Robust Design of RPV 's Flight Control System*, Proceedings of RPV's Twelfth International Conference, 9-11 September 1996, Bristol, United Kingdom
9. Radnef Sorin, *Single Point Based Navigation Algorithm*, The 4th Saint Petersburg International Conference on Integrated Navigation Systems, 26-28 May 1997, Saint Petersburg, Russia
10. Radnef Sorin, *Extended Steady Flights: Trajectories, Control and Stability*, AIAA - Atmospheric Flight Mechanics Conference, paper 97-3651, 11-13 August 1997, New Orleans, LA, USA
11. Radnef Sorin, *Stability of Motion along the Trajectory (Flight Path)*, Second International Conference on Differential Equations and Dynamical Systems, August 1-4 1997, Waterloo, Canada
12. Radnef Sorin, *Active Control of Flight using Intrinsic Adaptive Algorithm*, Second South African Conference on Applied Mechanics (SACAM '98), January 12 - 15, 1998, UCT Center for Research in Computational and Applied Mechanics University of Cape Town, South Africa
13. Radnef Sorin, *Controlul zborului – Navigatia autonoma*, Congres of American Romanian Academy of Arts & Sciences, 2002, Universitatea Oradea, Romania
14. Radnef Sorin, *Controlul stabilizant al evolutiilor, unei nave spatiale, in vecinatatea unui corp atractiv*, Conferinta de Matematica Aplicata si Industriala – ROMAI, 2002, Universitatea Pitesti, Romania
15. Radnef Sorin, *Structural stable solutions of Differential Algebraic Equations*, The 5th Congress of Romanian Mathematicians, 2003, Universitatea Pitesti, Romania
16. Radnef Sorin, *A versatile solution of "tracking problem" for nonlinear systems*, Conferinta de Matematica Aplicata si Industriala – ROMAI, 2003, Universitatea Oradea, Romania
17. Radnef Sorin, *Differential modelling of DAEs solutions*, International Conference on Theory and Applications of Mathematics and Informatics, 2003, Universitatea 1 Decembrie, Alba Iulia, Romania
18. Radnef Sorin, *Differential modelling of DAEs solutions for flight control*, International Conference on Nonlinear Problems in Aviation and Aerospace, 2004, Universitatea de Vest, Timisoara, Romania
19. Radnef Sorin, *Stabilising control for flight behaviour in the proximity of a planet*, International Conference on Nonlinear Problems in Aviation and Aerospace, 2004, Universitatea de Vest, Timisoara, Romania
20. Radnef Sorin, *Coordinates of intrinsically defined curves*, Conferinta de Matematica Aplicata si Industriala – ROMAI, 2004, Universitatea Pitesti, Romania
21. Radnef Sorin*, Control Laws Free of Smooth Perturbation Terms*, ICTAMI 05 – International Conference on Theory and Applications of Mathematics and Informatics, Alba Iulia, 2005, Acta Universitatis Apulensis-Mathematics Informatics- no 11 2006
22. Radnef Sorin, *Analytic Solution of Non Autonomous Linear ODE,* GAMM 2006 Anual Conference, 27-31 martie 2006, Berlin, Germania, PAMM 2006
23. Radnef Sorin, *Stability by Thrust Control for Satellites at low Altitudes*, al 5-lea Congres Internaţional de Analiză Neliniară - WCNA 2008, 2 – 9 iulie 2008, Orlando - Florida, SUA, organizat de Federaţia Internaţională de Analiză Neliniară - IFNA
24. Radnef Sorin, *Stability by Thrust Control for Satellites at low Altitudes*, Journal of Nonlinear Analysis, 2009
25. Radef Sorin*, DAEs Solutions with Dichotomic Structure,* ICTAMI 09 – International Conference on Theory and Applications of Mathematics and Informatics, Alba Iulia, 2009

Main projects and my responsibilities:
a. *projects*
1. Programul IAR – 93, inginer aerodinamica 1980 – 1983, inginer dinamica zborului 1984 - 1987
2. Programul IAR – 99, inginer aerodinamica 1980 – 1983, inginer performante 1983 – 1984, ingineer dinamica zborului 1985 - 1989
3. Programul IAR – 95, inginer aerodinamica 1981 – 1983, inginer performante 1984 – 1985,

ingineer dinamica zborului 1985 - 1987
4. Programul MM – 241, coordonator program, inginer pentru aerodina-mica si dinamica zborului 1987 -1989
5. Programul IAR – 701, inginer dinamica zborului 1985 - 1989
6. Orizont 2000/ Studii privind bazele teoretice ale Dinamicii Zborului: Stabilitate, Comanda, Optimizare, Robustete, responsabil de tema, responsabil cu activitatile privind stabilitatea si controlul zborului 1992 - 1998
7. Orizont 2000/ Cercetare – Dezvoltare privind analiza si sinteza in dinamica zborului, responsabil de tema, responsabil cu activitatile privind organizarea si algoritmul de functionare a sistemului de asistare a controlului curent 1992 - 1998
8. AeroSpatial/ Sistem aeropurtat de avertizare de tip minielicopter/ responsabil cu activitatile de stabilitate si control al zborului 2002 - 2004
9. AeroSpatial/ Dinamica si Controlul Zborului in lungul Traiectoriei, Director de proiect, responsabil cu activitatile privind generarea legilor de control in evolutii cu restrictii 2003 - 2005
10. AeroSpatial/ Dinamica si controlul elicopterului in fazele terminale maritime, Director de proiect, responsabil cu activitatile privind dinamica si controlul elicopterului 2004 – 2006
11. Centrul de Competenta Romano Olandez in Ingineria Aerospatiala/ Operation of helicopters on board of ships. Responsabil pentru partea romana, Dinamica si controlul elicopterului in situații de zbor specifice 2005 - 2008
12. AeroSpatial/ {sateliti la joasa inaltime}/ Director de proiect
13. AeroSpatial/ {lansare-recuperare space ships}/ Director de proiect
14. Star/ DYLARPHA/ Director de proiect
15. EC FP6/ CESAR/ Subtask leader
16. EC FP7/ ESPOSA/ Subtask leader
17. Dinamica și Controlul Sistemelor Mecanice cu Rotori - Raport de Consultanță Științifică, 2020-2022
18. Caracteristicile inerțiale ale aeronavelor – Avion IAR-99SM. Procedura generală și programul generic tip Excel aferent în cadrul programului de upgradare 2022-2024

b. responsibilities

Research and development regarding Flight Dynamics Synthesis and Analysis/ Cercetare - Dezvoltare privind Sinteza şi Analiza în Dinamica Zborului,

Analysis and Synthesis of control system and configuration for aero- and astro-ships having prescribed missions/ Analiza şi sinteza configuraţiei şi sistemului de control pentru aero- şi astro- nave cu misiuni impuse,

Research and development regarding the foundamentals of controlled flight dinamics/ Cercetare-dezvoltare privind fundamentele dinamicii zborului comandat (Stabilitate şi Controlabilitate, Control Optimal),

Flight dynamics and control allong the trajectory/ Dinamica şi Controlul Zborului în Lungul Traiectoriei,

Helicopter flight dynamics and control for terminal marine flight phases/ Dinamica si Controlul Elicopterului în Fazele Terminale Maritime,

Operation of helicopters on board of ships –proiect romano olandez- .

Permanent System of Satellites having a controlled Trajectory at LEO/ Sistem satelitar permanent cu traiectorie controlata, la joasa altitudine

Dynamic Launching and Recovery Procedures from High Altitudes/ Proceduri de Lansare si Recuperare Dinamica de la Mari Inaltimi