Curriculum Vitae	
Personal information	
Surname / First name	PISO Marius-Ioan
Address	
Telephone	00 40 21 3168722
Fax	00 40 21 3128804
E-mail	marius.piso@rosa.ro
Nationality	Romanian
Date of birth	
Gender	Male
Work experience	
Dates	2022 / 10 - present
Occupation or position held	Senior Scientist 1st Degree / Research Professor
Main activities and responsibilities	President of the ROSA Scientific Council Management of RTD national / international projects Main activities and responsibilities TBD (2023)
Name and address of employer	Romanian Space Agency (ROSA)
Type of business or sector	Space. Research & Development. Government agency.
Dates	2004 – 2022 / 10
Occupation or position held	President and Chief Executive Officer
Main activities and responsibilities	President of the ROSA Board General executive management of the ROSA organization Representative of the legal person Management of RTD Programs and projects National and International high-level representation
Name and address of employer	Romanian Space Agency (ROSA)
	Change Descent & Development Covernment econov
Type of business or sector	Space. Research & Development. Government agency.

Occupation or position held	Director of National Space Technology and Advanced Research Programme (STAR)						
Main activities and responsibilities	Management of national projects coherent with the European Space Agency (ESA)						
Name and address of employer	Romanian Space Agency (ROSA)						
Type of business or sector	Research & Development						
Dates	2002-2006						
Occupation or position held	Director of National Programmes on Space, Aerospace and Security						
Main activities and responsibilities	Management of the National Programmes on Space, Aerospace and Security included in the National Plan for RDI						
Name and address of employer	Romanian Space Agency (ROSA)						
Type of business or sector	Research & Development						
Dates	1995-2004						
Occupation or position held	Chief Executive Officer						
Main activities and responsibilities	Executive management of the ROSA organization Representative of the legal person Management of RTD Programs and projects National and International high-level representation Development of direct RTD activities						
Name and address of employer	Romanian Space Agency (ROSA)						
Type of business or sector	Research & Development						
Dates	1988 – 1999						
Occupation or position held	Ministerial Counsellor						
Main activities and responsibilities	Advisor to the Minister of Research and Technology for Programs and Institutional organization						
Name and address of employer	Minister for Research and Technology						
Type of business or sector	Research & Development						
Dates	1990 - р						
Occupation or position held	Head of Laboratory and Research Professor						
Main activities and responsibilities	Management of a research group, direct RTD activities, international representation						
Name and address of employer	Institute of Space Science / Institute of Atomic Physics						
Type of business or sector	Research & Development						
Dates	1982 – 1990						
Occupation or position held	Research scientist						
Main activities and responsibilities	Head of the Inertial Sensors Division since 1988 Research and technology development activities						
Name and address of employer	Institute for Electrical Engineering Bucharest						
Type of business or sector	Research & Development						

Education and training										
Dates Title of qualification awarded Principal subjects/occupational skills covered Name and type of organisation providing education and training	1998-1999 Graduate Global and national security, disaster management, high-level management National Defence College, Bucharest, Romania									
Dates Title of qualification awarded Principal subjects/occupational skills covered Name and type of organisation providing education and training	1999 Senior Scientist 1 st degree Research Professor Institute of Space Science / Institute of Atomic Physics, Bucharest									
Dates Title of qualification awarded Principal subjects/occupational skills covered Name and type of organisation providing education and training	Docto Theo applie Palla	1990-1994 Doctor in Physics Theoretical physics and astrophysics: Contributions to space-time structures with applications in field theories (Ioan Gottlieb, Radu Miron, Ioan Cotaescu, Nicolae Ionescu- Pallas) University "AI.I. Cuza" Iasi								
Dates Title of qualification awarded Principal subjects/occupational skills covered Name and type of organisation providing education and training	Diplo Nucle	1977-1982 Diploma in Physics Nuclear physics and astrophysics: Gravitational radiation (Zoltan Gabos) University "Babes-Bolyai" Cluj								
Personal skills and competences	congru	uent and syn	erge	etic to the main	act	ivities				
Mother tongue	Roma	anian								
Other Languages Self-assessment	Understanding Speaking Writing						Writing			
European level (*)	Li	stening		Reading		Spoken interaction		Spoken production		
English	C 2	Proficient	C 2	Proficient	C 2	Proficient	C 2	Proficient	C 2	Proficient
French	B 2 In	dependent	B 2	Independen t	B 2	Independen t	B 2	Independen t	В 2	Independen t
German	A 2	Basic	A 2	Basic	A 2	Basic	A 2	Basic	A 2	Basic
Organizational skills and competences	Manag	ger of resear	ch te -leve	eams starting fi el managemen	rom	ference for Lar basic in 1984 nce 25 years. E	to d	irector of orgar		
Technical skills and competences	organi		nor a	and co-author o		eading membe 0 patents, more				

Computer skills and competences	Experience since 1978 on all major office systems. Experience in algebraic computing since 1988. Utilization of MATLAB and MATHCAD. Specific computational media in space systems.
Driving licence	B category

Awards and Honours

2003 Knight of the National Order Faithful Service (Ordinul national Serviciul Credincios in grad de cavaler) 2008 Officer of the National Order Faithful Service (Ordinul national Serviciul Credincios in grad de ofiter)

2015 Doctor Honoris Causa, Technical University of Moldova 2015 Doctor Honoris Causa, University of Timisoara 2019 Doctor Honoris Causa, Politechnica University of Bucharest

Chairman of the United Nations Committee on the Peaceful Uses of Outer Space (UN-COPUOS) for 2020 – 2021 and member in G-15 COPUOS leadership (2018 – 2024)

IAA – Academy Book Award (2022)

International Academy of Astronautics (IAA): c. Member (2004), Member (2007), Board of Trustees (2008), Section Chair (2009), Vice-President (2019, re-elected 2021), IAA Vice-President and Chairman of the Scientific Activities Committee (elected Oct 2021).

European Academy of Sciences and Arts (EASA): Member (2005), Delegate elect for Romania (2021 -)

As a recognition of his achievements, the Asteroid (10466) 1981 ET7 was named "Marius-Ioan" (International Astronomical Union 2017).

National

Director of the AEROSPACE national RTD programme (2001 - 2005) Director of the SECURITY RESEARCH national RTD programme (2004-2006) Director of the STAR - Space Technology and Advanced Research RTD Programme (2011 - 2022)

Advisory Council for Research, Development and Innovation, member (1998 - 2004, 2005 - 2009, 2012 - 2016), Chairman, Committee for Aeronautics and Space (2001 - 2004, 2005 - 2009); Chairman, Committee for ICT, Space and Security (2012 - 2016)

National Council for Accreditation, Titles and Universities (CNTADTC, member (2006 - 2010)

Inter-Ministerial Committee on Security Research, Executive President (2004 - 2008, 2011 - 2022) GLIPIC

International

European Space Agency (ESA)

Initiator of the processes of accession of Romania to ESA (1990) and participant to the conclusion of the first Agreement of Cooperation between Romania and ESA (1992), executive support for the conclusion of the second Agreement of Cooperation between Romania and ESA (1998)

Signatory of the Romania - ESA Programme of European Cooperating State Agreement (PECS) (2006)

Signatory of the Accession Agreement of joining Romania to the ESA Charter (2011)

Head of the Delegation of Romania to the ESA Council (2011 - 2022)

Co-chair of the ESA - Romania Task Force for the implementation of the industrial incentive scheme (2011 - 2022)

Member in the Romanian Delegation and participant to the last five ESA Councils at Ministerial Level in Berlin (2006), Hague (2009), Naples (2012), Luxembourg (2014), Luzern (2016), Seville (2019).

European Union

Participant to the definition of the Green (White) Paper on European Space Policy (2002 - 2004)

National representative in the EU Framework Programs FP6 and FP7 Programme Committees and Boards:

- AEROSPACE, SPACE
- Security Research, Secure Societies
- Global Monitoring for Environment and Security (GMES), actual COPERNICUS
- Galileo, member of the board of Galileo Supervisory Authority (2004), presently EUSPA, AB National Delegate (2021)

Member in the European Security Research Infrastructure Forum (ESRIF) (2004 - 2008)

United Nations

United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) and its Scientific and Technical Subcommittee (STSC)

Representative of Romania (1994 - p) Head of the Delegation of Romania (2001 - p) Chairman of UN-COPUOS (2020-2022)

Provided executive support for the Chairmanship of Romania for COPUOS - STSC (2008 - 2011) and the Chairmanship of Romania for COPUOS (2012 - 2014)

Provided the development of a Network of Space Science and Technology Research and Education for Central, Eastern and South-Eastern Europe (1995 - 2001)

National coordinator and organizer of the UNISPACE III Regional Preparatory Conference for Eastern Europe (1999)

Member of several working groups and action teams, as: Disaster management (SPIDER), Near Earth Objects (NEO), Space Missions Planning Action Group (SMPAG), Action Team for Space Exploration and Innovation, Long-Term Sustainability of Outer Space (LTS)

NATO

Science for Peace and Security Committee (including NATO - Russia Council), representative of Romania (2004 -) Space Science and Technology Advisory Group (SSTAG), founding member and local chair for the first SSTAG Specialist Meeting, Bucharest (2006)

Other international

International Academy of Astronautics (IAA): member (2004), member Board of Trustees (2007 - p), Chairman of Section 4 Social Sciences (2015 - 2019), Vice-president (2019-p), Chair of the Scientific Activities Committee (2021)

International Astronautical Federation (IAF): representative of ROSA (2009 - p) Committee on Space Research (COSPAR), secretary of the National Committee (1994-) Member of the European Academy of Sciences and Arts (2003 - p)

Participant at high level in major space events (International Astronautical Congresses, Heads of Space Agencies summits, National Space Symposium etc.) (2000 +)

Provided executive support for the organization of European Interparliamentary Space Conference (EISC) since 2008; local organizer for EISC in Romania 2008, 2016.

AREAS OF COMPETENCE

Mr. Marius-Ioan Piso was the President and Chief Executive Officer of the Romanian Space Agency (ROSA) (2004, 1995). Since October 2022 he works as President of the ROSA Scientific Council. He is also head of laboratory in the Institute of Space Science (1990). He detains a doctoral degree in Physics (1994) and the title of Scientific Researcher first degree (Research Professor) (1999). Mr. Piso serves as the Chairman of the Scientific Activities Committee of the International Academy of Astronautics (elected 2021) and the Chairman of the United Nations Committee on the Peaceful Uses of Outer Space (2020 – 2022). Mr. Marius-Ioan Piso is serving in several leading positions in relevant national and international organizations, committees and boards related to his competencies.

Space policy and global security

Initiated, drafted and lead most documents on Romanian National Space Policy and related (1994 – present).

Promotor and leader of the International Academy of Astronautics (IAA) Study Group "Space Systems as Critical Infrastructures" (2007 – 2019). Organizer of a series of 10 annual international topical conferences. Priority for the definition of the legal frame for space critical infrastructures in Romania (2012). Legal frame defined presently in EU (2019) and t.b.d. in US (2021, Space Critical Infrastructures Act).

Initiated and presently leader in Romania of Space Situational Awareness (SSA) / Space Surveillance and Tracking (SST) / Space Traffic Management (STM) scientific, technical and infrastructure activities. Including Romania in the 8 EU ME consortium of EU STT major programme (EU / DEFIS / SST). In development.

Selected work:

(Book) A. Gheorghe, <u>M.I. Piso</u>, A. Georgescu & Katina P.F. (2019), *Critical Space Infrastructures - Risk, Resilience and Complexity*, Springer Nature, ISBN: 978-3-030-12604-9.

(Book) M.I. Piso (ed) (2019), *Space Systems as Critical Infrastructure*, International Academy of Astronautics, Paris, ISBN/ EAN IAA: 978-2-917761-63-2.

- 1. Ronald C Merrell, Alice Lee, S Yunkap Kwankam, Beatrice Mwape, Collins Chinyama, Rifat Latifi, Marius-Ioan Piso, Florin Serban: *Satellite applications for telehealth in the developing world*. Journal of Telemedicine and Telecare 09/2006; 12(6):321-324., DOI:10.1258/135763306778558105
- D. Andreescu, <u>M.I. Piso</u>, M. Niţă: Postgraduate training for space science and technology education. Advances in Space Research 12/1997; 20(7-20):1375-1378., DOI:10.1016/S0273-1177(97)00732-1
- 3. C. Oprişiu, <u>M.I. Piso</u>, D.D. Prunariu: *Small aircraft as a tool for space applications education*. Advances in Space Research 12/1997; 20(7-20):1361-1364., DOI:10.1016/S0273-1177(97)00730-8
- 4. Marius Trusculescu, Mugurel Balan, Claudiu Dragasanu, Alexandru Pandele, Marius-Ioan Piso: *Nanosatellites: The Tool for Earth Observation and Near Earth Environment Monitoring*. Earth Observation, 01/2012: pages 25-40; InTech., ISBN: 978-953-307-973-8, DOI:10.5772/28445
- Catalin Cucu-Dumitrescu, Marius-Ioan Piso: Formation Flying through Geodesic Motion and the Different Geometrical Requirements. Emerging and Future Technologies for Space Based Operations Support to NATO Military Operations, Edited by RTO-MP-RTB-SPSM, 01/2006: pages 1-1 - 1-13; RTO, Neuilly-sur-Seine, France., DOI:10.13140/RG.2.1.4131.9441
- I. Stroe, D. D. Prunariu, M. I. Piso, G. V. Manciu: *Dynamics of large object removal systems*. Proceedings Of The Third European Conference On Space Debris, Vols 1 And 2, Edited by SawayaLacoste, H, 09/2001: pages 713-716; European Space Agency, ESA SP-587, 2005., ISBN: 92-9092-733-X
- M. I. Piso, D.D. Prunariu: Network of Space Science and technology capacity building institutions in Central Eastern and South-Eastern Europe. NATO Advanced Research Workshop on Science and Technology Management, Edited by A.T Balaban, E.N. Carabateas, F.T. Tanasescu, 01/1997; NATO SCIENCE AND TECHNOLOGY MANAGEMENT.

Higher level activities and position papers in UN-COPUOS, European Space Agency (ESA), European Union and NATO as representative and boards member (1995 – present). Chairman COPUOS (2020 – present). Member in UN-COPUOS working groups as: Near-Earth Objects (NEO), Long-term Sustainability of Outer Space (LTS), Space Technology for Disaster Management. National Coordinator for UNISPACE III Regional in Bucharest (1999). Main organizer of relevant conferences as NATO Space Science and Technology Advisory Group (2006), GMES-Copernicus Bucharest (2010 – 2019), Group on Earth Observations (GEO) ministerial (Bucharest, 2009), 2nd International Conference on Planetary Defense (Bucharest, 2012).

Nano-magnetic fluids research and applications

Research and applications of magneto-fluidic composite materials, sensors, actuators and electro-optic devices. Priorities and applications for research, geophysics, on-board systems, motion measurement, other industrial. Covered by patents and publications (selected):

- 1. M. I. Piso: *Applications of magnetic fluids for inertial sensors*. Journal of Magnetism and Magnetic Materials 07/1999; 201(1):380-384., DOI:10.1016/S0304-8853(99)00164-X
- 2. <u>M.I. Piso</u>, L. Vékás: *Magnetic fluid composites and tools for microgravity experiments*. Journal of Magnetism and Magnetic Materials 07/1999; 201(1-3-201):410-412., DOI:10.1016/S0304-8853(99)00150-X
- 3. <u>M. I. Piso</u>: Induced internal rotation in magnetic fluid composites. Advances in Space Research 12/1998; 22(8):1265-1266., DOI:10.1016/S0273-1177(98)00162-8
- 4. <u>M.I. Piso</u>, L. Vékás: *Composite magnetofluidic media in microgravity*. Advances in Space Research 12/1998; 22(8-22):1237-1240., DOI:10.1016/S0273-1177(98)00153-7
- L. Vékás, <u>M.-I. Piso</u>, I. Potencz, D. Bica: On the Behaviour of Complex Magnetizable Fluid Media in Microgravity Conditions. FIRST INTERNATIONAL SYMPOSIUM ON MICROGRAVITY RESEARCH & APPLICATIONS IN PHYSICAL SCIENCES AND BIOTECHNOLOGY, VOLS I AND II, PROCEEDINGS, Edited by O. Minster, B. Schürmann, 01/2001: pages 183-192; European Space Agency, ESA SP-454, 2001., ISBN: 92-9092-657-0, DOI:10.13140/RG.2.1.4123.7523
- 6. Ladislau Vekas, Marius-Ioan Piso: *Romanian Magnetic Fluids Bibliography*. Romanian Reports in Physics 01/1995; 47(3-5):503-517.
- 7. M.A. Sarbu, <u>M.I. Piso</u>: *MAGNETOFLUIDIC MATERIAL AS AN ACTIVE MEDIUM FOR ACOUSTICAL SENSORS*. Le Journal de Physique Colloques 02/1990; 51(C2)., DOI:10.1051/jphyscol:19902210
- 8. M. I. Piso: *GRAVITATIONAL, STATIC AND DYNAMIC GRADIENT METER*. Ref. No: RO115672 (B), Year: 04/2000, DOI:10.13140/RG.2.1.3425.8960
- 9. M. I. Piso, C.V. Bostina: *FLUID GYROMETER*. Ref. No: RO115565 (B1) 2000-03-30, Year: 03/2000, DOI:10.13140/RG.2.1.4867.6880
- 10. M. I. Piso, C. Lascu, G. Pintilescu, I. Andreescu: *TRIAXIAL FERROFLUIDIC ACCELEROMETER*. Ref. No: R0115571 (B) 2000-03-30, Year: 03/2000, DOI:10.13140/RG.2.1.2082.4083
- 11. M. I. Piso, S. Mamulea: *MOVEMENT DETECTOR FOR LOW GRAVITY CONDITIONS*. Ref. No: RO115570 (B1) 2000-03-30, Year: 03/2000, DOI:10.13140/RG.2.1.2639.4643
- 12. M. I. Piso, G. Pintilescu: *CONTROLLED THERMODYNAMIC TRANSFER DEVICE*. Ref. No: RO115423 (B1) 2000-02-28, Year: 02/2000, DOI:10.13140/RG.2.1.1984.1040
- 13. M. I. Piso, A.M. Nechifor, E.G. Tutos: *ACTIVE MAGNETOFLUIDIC MEMBRANE*. Ref. No: RO115135 (B1) 1999-11-30, Year: 11/1999, DOI:10.13140/RG.2.1.2770.5367
- 14. NECHIFOR A, NECHIFOR G, PINTILESCU G, PISO M, TUTOS E: Liquid membrane based gas and liquids mixture separator consists of magnetite etc. particles membrane prepared in a relatively short time and adjustable. Ref. No: RO110407-B1, Year: 01/1996, DOI:10.13140/RG.2.1.4343.4009
- 15. M. I. Piso, G. Kraft: VIBRATIONS LIMITER. Ref. No: RO104301 (B1) 1993-12-23, Year: 12/1993
- 16. M. I. Piso, G. Kraft, S. Nicolae: *OPTICAL BALAYAGE SYSTEM*. Ref. No: RO103789 (B1) 1993-10-02, Year: 10/1993, DOI:10.13140/RG.2.1.1164.9042
- 17. M. I. Piso, G. Kraft: *VERTICAL GEOPHONE WITH VARIABLE RELUCTANCE*. Ref. No: RO103411 (B1) 1993-06-01, Year: 06/1993, DOI:10.13140/RG.2.1.3917.4166
- 18. M. I. Piso, G. Kraft, D. Iancu: *OPTICAL SWEEPING OUT SYSTEM*. Ref. No: RO103678 (B1) 1993-05-01, Year: 05/1993, DOI:10.13140/RG.2.1.1885.8007
- 19. M. I. Piso, H. Minti: A.C AND D.C. BALLAST. Ref. No: RO99816 (B1) 1990-09-28, Year: 03/1992
- 20. M. I. Piso, G. Kraft, C. Radulescu: VIBRATIONS LIMITER. Ref. No: RO101561 (A2) 1991-11-02, Year: 11/1991
- 21. M. I. Piso, G. Kraft, A. Aciu, C. Ilie, I. Popovici, C. Radulescu: *Magnetic fluid bearing*. Ref. No: RO102539-A, Year: 10/1991
- 22. M. I. Piso: *BIAXIAL ACCELERATION TRANSDUCER*. Ref. No: RO99036 (B1), Year: 05/1990, DOI:10.13140/ RG.2.1.4998.7604
- 23. M. I. Piso: UNIAXIAL ACCELERATION TRANSDUCER. Ref. No: RO98568 (B1) 1990-03-30, Year: 03/1990

- 24. M. I. Piso, A. Aciu, H. Minti: *BIAXIAL ACCELEROMETER*. Ref. No: RO98569 (B1), Year: 03/1990, DOI:10.13140/ RG.2.1.1853.0325
- 25. M. I. Piso: INCLINATION AND ACCELERATION LIMITER. Ref. No: RO96584 (B1) 1989-04-01, Year: 05/1989, DOI:10.13140/RG.2.1.2541.1608
- 26. M. I. Piso, H. Minti, A. Aciu: VIBRATION LIMITER. Ref. No: RO96583 (A2) 1989-03-30, Year: 03/1989
- 27. M. I. Piso: DYNAMIC AND STATIC ACCELERATION TRANSDUCER. Ref. No: RO86751 (A2) 1985-04-17, Year: 04/1985, DOI:10.13140/RG.2.1.4441.7043
- 28. V. Damian, D. Apostol, F. Garoi, L. Vekas, D. Bica, M.I. Piso, A. Damian: *ADAPTIVE OPTICAL SYSTEM WITH MAGNETIC LIQUID*. Ref. No: RO123435 (B1) 2012-04-30, Year: 04/2012, DOI:10.13140/RG.2.1.4163.1769

Gravitation and space science

Since 1981 developed research in gravitational radiation included in the diploma work "Radiatia gravitationala" under the supervision of prof. Zoltan Gabos from UBB and published in the proceedings of the 10th International Conference of Gravitation and General Relativity papers accepted by prof. Edoardo Amaldi. As a research scientist in ICPE since 1983 he developed and conducted research on high sensitive systems devoted to terrestrial and space detection and measurement of very weak gravitational effects. His doctoral thesis (1994) introduced an algebraic model of space-time structure which validated the General Relativity Theory and as a Z-module useful in computer simulations. He lead since 1986 - 1992 a national programme devoted to experimental and theoretical studies in gravitation and inertial measurements which included major Romanian universities and institutes of Physics, programme supporting the initial establishment of the Romanian Space Agency and the re-shaping of the Institute of Space Science Bucharest.

- 1. Silvia Onofrei, Marius I. Piso: A Model of a Static Star on a 2+1 Dimensional Background. Romanian Astronomical Journal 01/1994; 4:23.
- 2. M. I. Piso: Relativistic action over simplicial paths in Euclidean spaces. II Nuovo Cimento B 11/1993; 108(11):1307-1311., DOI:10.1007/BF02741282
- 3. Nicholas Ionescu-Pallas, Ion Simaciu, Marius-Ioan Piso: Search for a solution of Seeliger's gravitational paradox in the framework of general relativity theory. Proceedings of the Romanian Academy Series A: Mathematics, Physics, Technical Sciences, Information Science 08/2005; Vol. 6(No. 2):2-12.
- 4. Nicholas Ionescu-Pallas, Marius I. Piso, Silvia Onofrei: Solar System test for the existence of gravitational waves. Romanian Astronomical Journal 01/2004; 4:75.
- 5. <u>Marius I. Piso</u>, Nicholas Ionescu-Pallas, Surface action for a point particle, adsabs.harvard.edu ArXiv: physics 9712010 (1997)
- 6. Marius I. Piso, Simplicial Euclidean Relativistic Lagrangian, adsabs.harvard.edu ArXiv gr-qc9407015 (1994)
- 7. <u>M. Piso</u>, O. Cristea: *Highly Excited Atoms in Gravitational Field*. Revue Roumaine de Physique 01/1984; 29(7):625.
- M.I. Piso, H. Minti, M. Alexandrescu, A. Aciu, D. Stancu: Short Range 1/r² Experiments, Progress Report. Studies in Gravitation Theory, Edited by I. Gottlieb, N.I. Ionescu-Pallas, 01/1988: pages 183-191; CIP PRESS, Bucharest, 1988
- 9. M. I. Piso: *Highly Excited Atoms in Gravitational Field*. Proceedings of the 10th International Conference on Gravitation and General Relativity; 01/1983
- 10. M. Piso: *Discrete Spacetime Structure*. Proceedings of the 10th International Conference on General Relativity and Gravitation; 01/1983
- 11. M. Piso: *Terrestrial Sources of Gravitational Radiation*. 10th International Conference on General Relativity and Gravitation, held July 4-9, 1983, in Padova, Italy.; 01/1983

16.02.2023