Europass Curriculum Vitae

Personal information			
Surname(s) / First name(s)	**Isvoranu Dragos Daniel**		
Address	23, Baba Novac, 031626, Bucharest (Romania)		
Telephone(s)	+40 021.325.07.04	Mobil	+40 730047064
E-mail	ddisvoranu@gmail.com		
Nationality	Romanian		
DOB	10/03/1959		
Gender	Male		

Work experience	
Dates	15/06/2025 →
Occupation or position held	Part Time Senior Researcher at R&D Launchers and In-Space Advanced Propulsion System Department
Main activities and responsibilities	- Research of the Thermal jacket of the combustion chamber of a LOX/LCH4 rocket engine - Helicon thruster design and analysis
Name and address of employer	National Research and Development Institute for Gas Turbines COMOTI., B-dul Iuliu Maniu nr. 220D, sector 6, cod 061126, OP 76, CP174 Bucharest, Romania.
Type of business or sector	Research
Dates	01/10/2022 → 01/02/2024
Occupation or position held	Part Time Senior Researcher at Viodship company
Main activities and responsibilities	- Design of the thermal jacket of the combustion chamber of a LOX/LCH4 subscale rocket engine - Design of the combustion chamber for a 1KN subscale model
Name and address of employer	Voidship SA Ilfov county
Type of business or sector	Research
Dates	15/03/2019 →01/07/2022
Occupation or position held	Part Time Senior Researcher at R&D Launchers and In-Space Advanced Propulsion System Department
Main activities and responsibilities	- Research of the Thermal jacket of the combustion chamber of a LOX/LCH4 rocket engine - Flow discharge of the LOX and LH2 tanks - Thermal loading of the magnetic confinement system of a helicon thruster
Name and address of employer	National Research and Development Institute for Gas Turbines COMOTI., B-dul Iuliu Maniu nr. 220D, sector 6, cod 061126, OP 76, CP174 Bucharest, Romania.
Type of business or sector	Research
Dates	09/01/2017 →
Occupation or position held	Full Professor

Main activities and responsibilities	Teaching courses and seminars - Design of propulsion systems (undergraduate) - Thermodynamics (undergraduate) - Flight Control (undergraduate) - Turbine Engines (undergraduate) - Atmospheric Re-entry aerodynamics (graduate) - Propulsion Systems (graduate) Research activities for several European contracts and national grants.
Name and address of employer	University Politehnica of Bucharest, Fac. of Aerospace Engineering, Chair of Aerospace Sciences "Elie Carafoli" 1, Gheorghe Polizu, 011061 Bucharest (Romania)
Type of business or sector	Academic
Dates	03/01/2013 → 09/01/2017
Occupation or position held	Associate Professor
Main activities and responsibilities	Teaching courses and seminars - Computational Geometry - Thermodynamics - Flight Control - Turbine Engines - Propulsion Systems Research activities for several FP6/ FP7 European contracts and national grants.
Name and address of employer	University Politehnica of Bucharest, Fac. of Aerospace Engineering, Chair of Aerospace Sciences "Elie Carafoli" 1, Gheorghe Polizu, 011061 Bucharest (Romania)
Type of business or sector	Academic
Dates	10/01/2009 – 03/01/2013
Occupation or position held	Lecturer
Name and address of employer	University Politehnica of Bucharest, Fac. of Aerospace Engineering, Chair of Aerospace Sciences "Elie Carafoli" 1, Gheorghe Polizu, 011061 Bucharest (Romania)
Main activities and responsibilities	Teaching courses and seminars - Computational Geometry - Thermodynamics - Flight Control Research activities for several FP6 FP7 European contracts and national grants.
Type of business or sector	Academic
Dates	12/10/2001 - 10/01/2009
Occupation or position held	Lecturer
Main activities and responsibilities	Teaching courses and seminars - Applied Thermodynamics - Computational Geometry - Fundamentals of Refrigeration - Thermal Engines Research activities for FP6 European contracts and other national grants.
Name and address of employer	University Politehnica of Bucharest, Fac. of Mechanical Engineering, Chair of Thermodynamics 313, Splaiul Independentei , 060042 Bucharest (Romania)
Type of business or sector	Academic
Dates	11/20/2000 - 12/10/2001
Occupation or position held	Post-Doc Research Associate
Main activities and responsibilities	Research duties
Name and address of employer	Texas A&M University, Dept. of Aerospace Engineering 77842-3141 College Station, Texas (United States)

Type of business or sector	Academic
Dates	10/01/1995 - 11/20/2000
Occupation or position held	Lecturer
Main activities and responsibilities	Teaching courses and seminars - Applied Thermodynamics - Heat Transfer - Thermal Engines Research duties for PH.D. and other national grants and contracts.
Name and address of employer	University Politehnica of Bucharest, Fac. of Mechanical Engineering, Chair of Thermodynamics 313, Splaiul Independentei , 060042 Bucharest (Romania)
Type of business or sector	Academic
Dates	03/01/1991 - 10/01/1995
Occupation or position held	Teaching Assistant
Main activities and responsibilities	Seminars and workshops - Applied Thermodynamics - Gas Dynamics - Heat Transfer - Thermal Engines Research duties for Ph.D. and various contracts.
Name and address of employer	University Politehnica of Bucharest, Fac. of Mechanical Engineering, Chair of Thermodynamics 313, Splaiul Independentei , 060042 Bucharest (Romania)
Type of business or sector	Academic
Dates	11/15/1989 - 03/01/1991
Occupation or position held	Design engineer
Main activities and responsibilities	Developing numerical codes for various machine parts manufacturing.
Name and address of employer	"23 August" Engine Factory 263, Muncii Blv., 031542 Bucharest (Romania)
Type of business or sector	Engineering
Dates	03/01/1988 - 11/15/1989
Occupation or position held	Teaching Assistant
Main activities and responsibilities	Seminars and workshops - Gas and Steam Turbines - Applied Thermodynamics Research activities for various contracts.
Name and address of employer	University "Dunarea de Jos", Fac. of Mechanical Engineering, Chair of Thermodynamics 111, Str. Domnească, 800201 Galati (Romania)
Type of business or sector	Academic
Dates	09/01/1986 - 03/01/1988
Occupation or position held	Design engineer
Main activities and responsibilities	-Performed thermodynamic design for a 1500 HP engine blower -Attended the test program for development of VIPER 632-41 (Rolls-Royce license) as boost navy gas-turbine
Name and address of employer	National Institute for Thermal Engines, Dept. of Gas-Turbines 226, Iuliu Maniu Blv. , 061126 Bucharest (Romania)
Type of business or sector	Engineering
Dates	09/01/1984 - 09/01/1986
Occupation or position held	Mechanical engineer

Main activities and responsibilities	- Translation and adaption of technical specifications for turboprop engine TV-0100 (Russian license) - Attended the designed of test rig for TV-0100 engine.
Name and address of employer	Turbomecanica, Romania, Dept. of Design and Dept. Test Rig Design 244, Iuliu Maniu Blv., 061126 Bucharest (Romania)
Type of business or sector	Engineering
Education and training	
Dates	10/07/1979 - 10/07/1984
Title of qualification awarded	M.Eng
Principal subjects / occupational skills covered	- Propulsion systems - Gas Dynamics - Fluid Mechanics - Thermodynamics - Numerical Methods
Name and type of organisation providing education and training	Polytechnic Institute of Bucharest (Fac. of Aerospace Engineering) 1, Gheorghe Polizu, 011061 Bucharest (Romania)
Level in national or international classification	8.81/10 (Final exam 10/10) 9th out of 100 graduates
Dates	01/01/1993 - 10/01/1999
Title of qualification awarded	Philosophy Doctor
Principal subjects / occupational skills covered	- Applied Thermodynamics - Irreversible Thermodynamics - Heat Transfer - Thermochemistry
Name and type of organisation providing education and training	University Politehnica of Bucharest 313, Splaiul Independentei , 060042 Bucharest (Romania)
Level in national or international classification	Very good
Dates	10/01/2005 - 07/01/2007
Title of qualification awarded	M.Sc.
Principal subjects / occupational skills covered	- Dynamical Systems - Differential Geometry - Methods of Mathematical Physics - Convex Functions
Name and type of organisation providing education and training	University Politehnica of Bucharest (Fac. of Applied Sciences) 313, Splaiul Independentei , 060042 Bucharest (Romania)
Level in national or international classification	10/10 (1st out of 15)
Personal skills and competences	
Native Language	**Romanian**
Other language(s)	

Self-assessment	Understanding				Speaking				Writing	
European level (*)	Listening		Reading		Spoken interaction		Spoken production			
English	C1	Proficient user	C1	Proficient user	C1	Independent user	C1	Proficient user	C1	Proficient user
French	B1	Independent user	B1	Independent user	A1	Basic User	A1	Basic User	A1	Basic User

	(*) Common European Framework of Reference (CEF) level
Social skills and competences	-working and communicating with students during classes - communicating skills with fellow colleagues - working in faculty research teams - working in international research environments (FP6, FP7 projects), post-doc research (U.S., 2000), TEMPUS fellowship (Delft, 1997) - ability to prepare and present joint research papers for international conferences and scientific journals
Organisational skills and competences	- research grant director (CNCSIS 22-95-05/1997, 22-99-03/1999, 17/502/2006)
Technical skills and competences	- adapting and translating technical documentation from russian to romanian language. - adapting and devising technical plans for russian helicopter engine TV-0100.
Computer skills and competences	- OS : MS Windows, Linux - CFD environments: Ansys, Fluent, CFX, Ansys Workbench - CAD environments: Space Claim - Comp. lang.: Fortran - Math. environments: Matlab, Mathcad, Mathematika, Maple.
Other skills and competences	My research activity is related to: - Applied Thermodynamics - Fluid mechanics and Gas dynamics - Combustion - Heat Transfer - Geometric Thermodynamics
Driving licence(s)	B
Additional information	- Cited in Leading Engineers of the World, International Bigraphical Center, Cambridge, England, 2006. - Air Navigation 2011 Award for outstanding performance as a leader of the academic community, Air Navigation Convention 2011. - Over 60 papers, 300 citations. - Editorial Board Member: American Journal of Mechanical Engineering, Energy Science and Technology, International Journal of Energy Science, Sensors - reviewer (ISI journals): Engineering Applications of Computational Fluid Mechanics, Applied Sciences, Entropy, Materials, Sensors, Physics of Fluids.

Date:
02-07-2026

Lista lucrari

Teza de doctorat: Contributii la optimizarea curgerilor reactive chimic, UPB, 1999.

A1. Activitatea didactică și profesională

1.1 . Carti si capitole in carti de specialitate

1.1.1.1. Carti ca autor edituri internaționale

1) V. Bădescu, **Dragos Isvoranu**, R. Cathcart, R. Schuiling, E. (2010). *Tsunamis and poisonous gases from asteroid impact in Black Sea*. In Neil Veitch, Gordon Jaffray (Eds.), *Tsunamis: Causes, Characteristics and Warnings and Protection*, pp. 1-28, New York: Nova Publishers. ISBN-978-1-61122-570-9 (e-book), ISBN-978-1-60876-360-3, 28 pg. **WOS:000279820400001**
2) V. Bădescu, **Dragos Isvoranu**, R. Cathcart. (2009). *Ecopoiesis and Liquid Water Transportation on Mars*. In V. Badescu (Ed.), *Mars-Prospective Energy and Material Resources*, pp. 661-683, Berlin ; Heidelberg: Springer, ISBN 978-3-642-03628-6, 24 pg. doi: 10.1007/978-3-642-03629-3_26. **WOS:000274866000026**

1.1.1.2. Carti ca autor edituri naționale

1) Alina Bogoi, Sterian Danaila, **Dragos Isvoranu**, *Ecuatiile generale de transport ale dinamicii fluidelor*. (2021), Ed. Monitorul Oficial, 450 pg.
2) **Dragoș Isvoranu** și Sterian Dănăilă, *Aspecte termo-aerodinamice ale curgerilor supersonice/hipersonice*. (2016). Ed. Printech, ISBN 978-606-23-0692-2, 275 pg.
3) **Dragoş Isvoranu**, *Fundamente ale Termodinamicii Tehnice*. (2009). Ed. Printech, ISBN 978-606-521-239-8, 259 pg.
4) M.D. Staicovici and **D. Isvoranu**, *The Marangoni convection: A two point theory (TPT) of mass and heat transfer and Laplace equation approach*. (2013). In T. Prisecaru, M. Marinescu, A. Dobrovicescu and V. Badescu (Eds.), Studies of Applied Thermodynamics (Studii de Termodinamica Aplicata), Politehnica Press, Bucharest, pp. 7-35, ISBN 978-606-515-442-1, 28 pg.
5) A. Dobrovicescu, N. Baran, A. Chisacof, S. Petrescu, E. Vasilescu, **D. Isvoranu**, M. Costea, C. Petre, A. Motorga, *Bazele Termodinamici tehnice-Elemente de Termodinamica Tehnica*, Ed. Politehnica Press, 2009, ISBN 978-606-515-008-9, autor al capitolului "Arderea combustibililor", pp. 280-311, 32 pg. (311 pg.)
6) **Dragos Isvoranu**, *Efficiency of a turbine stage with "in situ" combustion*. (2005). In T. Prisecaru, A. Dobrovicescu and V. Badescu (Eds.), Studies of Applied Thermodynamics (Studii de Termodinamica Aplicata), Politehnica Press, Bucharest, pp. 47-60, ISBN 973-8449-75-8, 13 pg.
7) M. Marinescu, N. Baran, V. Radcenco, A. Dobrovicescu, D. Stanciu, **D. Isvoranu**, R. Danescu, C. Dinu, M. Costea, O. Malancioiu, C. Mladin, O. Craciunescu et. al, *Termodinamica Tehnica*, Ed. Matrix Rom, 1998, ISBN 973-9254-89-6, autor al capitolului, "Instalatii de turbina cu aburi", pp. 539-558, 571-581, 38 pg.
8) N. Baran, P. Raducanu, S. Dimitriu, D. Stanciu, **D. Isvoranu**, N. Boriaru, C. Ionita. (2010). *Bazele Termodinamici tehnice-Termodinamica Tehnica*, Ed. Politehnica Press, pp. 253-273, ISBN 978-606-515-046-1, 21 pg. (329 pag.)

1.2. Materiale didactice/ monografii

1.2.1. Manuale didactice

1) **Dragoş Isvoranu** și Constantin Levenţiu, *Aplicații la teoria arderii în aeromotoare*. (2016). Ed. Printech, ISBN 978-606-23-0691-5, 185 pg.
2) **Dragoş Isvoranu**, *Termotehnică I - note de curs*. (2009). Ed. Printech, ISBN 978-606-521-306-7, 139 pg.

1.2.2. Îndrumar de laborator/aplicatii

1) **Dragoş Isvoranu,** *Aplicații pentru Termodinamică Tehnică*. (2013). Ed. Printech, ISBN 978-606-521-952-6, 241 pg.
2) Colectiv de autori: *Termogazodinamică şi transfer de căldură-Îndrumar de laborator*, Litografia U.P.B., 1996, autor al capitolului “Analiza gazelor de ardere” pp. 217-260, 43 pg.

A2. Activitatea de cercetare

2.1. Articole in extenso in reviste cotate ISI si in proceedings indexate ISI Thomson Reuters, brevete de inventie

1) Alexandru Mereu, **Dragos Isvoranu**. (2025). Numerical Simulation of Flame Propagation in a 1 kN GCH4/GO2 Pintle Injector Rocket Engine, Processes, 13(2), p.428.
2) **Dragoș Isvoranu**, Sterian Dănăilă, Alina Bogoi, Constantin Levenţiu. *(2018). Assessment of Chemical Time Scale for a Turbine Burner,* Transportation Research Procedia, 29, pp. 181-190. **WOS:000454701600016**
3) **Dragoș Isvoranu**, Sterian Dănăilă, Paul Cizmas, Constantin Levenţiu, (2017). *Proper Orthogonal Decomposition Applied to a Turbine Stage with In-Situ Combustion*. In Oral, AY; Oral, ZBB, Springer Proceedings in Energy; 3RD INTERNATIONAL CONGRESS ON ENERGY EFFICIENCY AND ENERGY RELATED MATERIALS (ENEFM2015), ISBN:978-3-319-45677-5; 978-3-319-45676-8, ISSN: 2352-2534, **WOS:000405208700002**
4) Gabriela Ciuprina, Aurel-Sorin Lup, Bogdan Diță, Daniel Ioan, Ștefan Sorohan, **Dragoș Isvoranu**, and Sebastian Kula. (2016). *Mixed Domain Macromodels for RF MEMS Capacitive Switches*. In Andreas Bartel, Markus Clemens, Michael Günther, E. Jan W. der Maten (Eds.), *Scientific Computing in Electrical Engineering*, pp. 31-39, Springer

International Publishing Switzerland. ISBN 978-3-319-30398-7, ISBN 978-3-319-30399-4 (e-book), 8 pg **WOS:000385788900004.**

5) Aurel-Sorin Lup, Gabriela Ciuprina, Ştefan Sorohan, **Dragoş Isvoranu**, George Boldeiu and Alexandra Stefanescu. (2016). *Extraction of Lumped Structural Parameters from Multiphysics Field Simulations for MEMS Switches*, In IEEE proceedings, 2016 INTERNATIONAL SYMPOSIUM ON FUNDAMENTALS OF ELECTRICAL ENGINEERING (ISFEE), JUN 30-JUL 02, 2016, ISBN:978-1-4673-9575-5, **WOS:000392434400046.**
6) Constantin Levenţiu, Bruno Renou, Sterian Dănăilă, **Dragoş Isvoranu**, *Accurate measurements and analysis of the thermal structure of turbulent methane/air premixed flame*. In: Radu Mircea Damian (ed.). Energy Procedia 85, pp 329-338 (2016). **WOS:000377911100042.**
7) **Dragos Isvoranu** and Viorel Badescu, *Hydrodynamics of tsunamis generated by asteroid impact in the Black Sea,* Central European Journal Of Physics, ISSN: 1895-1082, Volume 10, Number 2, pp. 429-446, 2012. **(FI: 1.085), WOS:000302285700016**
8) Viorel Badescu, **Dragos Isvoranu**, *Pneumatic and thermal design procedure and analysis of earth-to-air heat exchangers of registry type*, Applied Energy, ISSN: 0306-2619, Vol. 88-4, pp. 1266-1280, 2011**. (FI: 5.613) WOS:000286707300029.**
9) **Dragos Isvoranu**, Daniel Ioan, Petrisor Parvu, *Kinematics and flow characteristics of a magnetic actuated multi-cilia configuration*, Medical Engineering & Physics, ISSN: 1350-4533, Vol. 33, pp. 868-873, 2011. **(FI: 1.825) WOS:000294396300010**
10) **D. Isvoranu**, V. Badescu, *Peculiarities of tsunamis generated by Asteroid impact or nuclear explosions in the north-west of Black Sea*, Natural Hazards, ISSN 0921-030X, Vol. 58, 1, pp. 45-66, 2011. **(FI: 1.719) WOS:000291696300004**
11) Viorel Badescu, **Dragos Isvoranu**, *Dynamics and Coastal Effects of Tsunamis Generated by Asteroids Impacting the Black Sea*, Pure and Applied Geophysics, ISSN: 0033-4553, Vol. 168 (10) pp. 1813-1834, 2011. **(FI: 1.618) WOS:000295173900018**
12) **Dragos Isvoranu**, Daniel Ioan, Petrisor Parvu, *Numerical simulation of single artificial cilium magnetic driven motion in a semi-infinite domain*, Houille Blanche, ISSN 0018-6368, No. 6, pp. 101-108, 2009. **(FI: 0.287) WOS:000273969900014**
13) Viorel Badescu, **Dragos Isvoranu**, Richard B. Cathcart, *Transatlantic Freshwater Aqueduct*, Water Resources Management, ISSN 1573-1650, Vol. 24, 8, pp. 1645-1675, 2010. **(FI: 2.600) WOS:000277419300009**
14) V. Badescu and **D. Isvoranu**, *Classical statistical thermodynamics approach for the exergy of nuclear radiation*, Europhysics Letters, ISSN 0295-5075, EPL, 80, pp. 1-6, 2007. **(FI: 2.095) WOS:000250409800003**
15) Roelof Schuiling, Richard Cathcart, Viorel Badescu, **Dragos Isvoranu**, Efim Pelinovsky, *Asteroid Impact in the Black Sea. Death by drowning or asphyxiation*?, Natural Hazards, ISSN 0921-030X, Vol. 40, pp. 327-338, 2007. **WOS:000207957000006**
16) **Isvoranu D**., Staicovici M.D., *Marangoni convection basic mechanism explanation using the two-point theory(TPT) of mass and heat transfer and the ammonia/water medium*, International Journal of Heat and Mass Transfer, ISSN: 0017-9310, Vol. 47, no. 17-18, pp. 3769-3782, 2004. **(FI: 2.383) WOS:000222746700015**
17) **Dragos Isvoranu**, Viorel Badescu, *A more realistic assessment of beach effects of 2880 March 16th asteroid impact tsunami*, Proceedings of the 5th IASME/WSEAS International Conference on WATER RESOURCES, HYDRAULICS & HYDROLOGY (WHH '10), Univ. of Cambridge, UK, Feb. 23-25 2010, pp. 221-228, ISSN 1790-5095, ISBN 978-960474-160-1. **WOS:000276778500036**
18) Constantin Udriste, **Dragos Isvoranu**, Vincenzo Ciancio, Viorel Badescu, Florian Ghionea, Ionel Tevy, *Higher-Dimensional Black Hole Geometric Thermodynamics*, Proceedings of the 15th International Conference "Differential Geometry – Dynamical Systems" DGDS-2007, Oct. 5-7, 2007, Bucharest, Romania, pp. 221-231, Geometry Balkan Press, 2008, ISBN (10) 973-8381-14-2, ISSN 1843-2654. **WOS:000261333000025**
19) **Dragos Isvoranu**, Mircea Marinescu, Dorin Stanciu**,** *A thermodynamic approach towards turbulent diffusive reactive flows*, ECOS 2000, University of Twente, Enschede, The Netherlands, 5-7 July 2000, Proceedings of Conference, part I, pp. 313-324, ISBN 9036514665. **WOS:000171764500024**
20) Dorin Stanciu, Mircea Marinescu, **Dragos Isvoranu,** *Entropy generation rate in reacting flows***,** ECOS 2000, University of Twente, Enschede, The Netherlands, 5-7 July 2000, Proceedings of Conference, part I, pp. 333-343, ISBN 9036514665. **WOS:000171764500026**
21) Dorin Stanciu, Mircea Marinescu, **Dragos Isvoranu**, *Second Law Analysis of a Turbulent Flat Plate Boundary Layer,* ECOS 2000, University of Twente, Enschede, The Netherlands, 5-7 July 2000, Proceedings of Conference, part I, pp. 357-366, ISBN 9036514665. **WOS:000171764500028**
22) **Dragos Isvoranu**, Mircea Marinescu, Dorin Stanciu**,** *Isothermal turbulent round jet optimization*, ECOS 2000, University of Twente, Enschede, The Netherlands, 5-7 July 2000, Proceedings of Conference, part IV, pp. 2023-2032, ISBN 9036514665. **WOS:000171764500164**
23) Dorin Stanciu, Mircea Marinescu, **Dragos Isvoranu,** *Optimal Wall' s Temperature Distribution in Internal Forced Convection*, Conference on Research, Design and Construction of Refrigeration and Air Conditioning Equipments in Eastern European Countries, Proceedings of Conference, Bucharest, Sep. 10-13, Bucharest, 1996, pp. 299-307. **WOS:A1996BH97C00032**

24) Dorin Stanciu, Mircea Marinescu, **Dragos Isvoranu**, *Using Optimal Control Theory for Determining Expower*, ECOS'95, Istambul, Turkey, July 11-14, 1995, Proceedings of Conference, pp. 133-138, ISBN 975-7475-07-6. **WOS:000081396900019**
25) Dorin Stanciu, Mircea Marinescu, **Dragos Isvoranu**, *Rolul Parametrilor Franati in Definirea Notiunii de Exergie a Puterii pentru Sistemele Deschise*, Revista de Chimie, ISSN 0034-7752, nr. 12, pp. 1121-1135, 1995. **(FI: 0.810) WOS:A1995TW44200015**

2.2 Articole in reviste si volume ale unor manifestari stiintifice indexate in alte baze de date internationale (lucrări reprezentative)

1) Alexandru Mereu, **Dragos Isvoranu**. (2023). *Joint design and simulation of GOX-GCH4 combustion and cooling in an experimental water-cooled subscale rocket engine*, INCAS BULLETIN, 15(4), pp. 159-167.
2) Sterian Dănăilă, **Dragos Isvoranu**, Constantin Levenţiu, Alina Bogoi. (2019). *A Reduced Order Model based on Large Eddy Simulation of Turbulent Combustion in the Hybrid Rocket Engine*, MATEC Web of Conferences, 304, 07015. https://www.matec-conferences.org/articles/matecconf/pdf/2019/53/matecconf_easn2019_07015.pdf. (**Proceedings indexat SCOPUS**)
3) Sterian Dănăilă, **Dragoş Isvoranu**, Alina Bogoi, Constantin Levenţiu, *Chemical Time Scales Distribution for Scram Jet Operation*, 70th International Astronautical Congress, Washington D.C., United States, 21-25 Oct. 2019, IAC-19-C4.9.4. Volume 2019, ISSN: 00741795 (**Proceedings indexat SCOPUS**)
4) Dragoş Daniel ISVORANU, Petrişor-Valentin PÂRVU, Octavian Grigore. (2019). *A HYBRID PROPULSION SYSTEM FOR UAS*, Scientific Research & Education in the Air Force-AFASES, vol. 2019. (**Revista indexata** Copernicus, EBSCO). **ISSN 2247-3173**. http://www.afahc.ro/afases/volum_afases_2019.pdf
5) Alina Bogoi, Sterian Danaila, Dragos Isvoranu. (2019). *About some relevant aspects regarding WENO type schemes on the shock tube problem*, INCAS Bulletin, 11 (2), pp. 57-68. (**Revista indexata** DOAJ, Index Copernicus™ - Journals Master List, Crossref, ProQuest, SCOPUS), **ISSN 2247–4528. http://bulletin.incas.ro**
6) Alina BOGOI, Sterian DANAILA, Dragos ISVORANU. (2018). *Assessment of three WENO type schemes for nonlinear conservative flux functions*.INCAS Bulletin, 10 (1), pp. 207-218. (**Revista indexata** DOAJ, Index Copernicus™ - Journals Master List, Crossref, ProQuest, SCOPUS), **ISSN 2247–4528. http://bulletin.incas.ro**
7) S. Dănăilă, **D. Isvoranu** A. Bogoi, Constantin Leventiu,**.** (2018). *Numerical investigations on the improvement of burning conditions in the scramjet*, 69th International Astronautical Congress: IAC 2018; Bremen; Germany; 1 October 2018 through 5 October 2018, Volume 2018, ISSN: 00741795 (**Proceedings indexat SCOPUS**) Code 147415.
8) S. Dănăilă, A. Bogoi, **D. Isvoranu.** (2017). *Some Mandatory Benchmark Tests for Stability and Accuracy of High-Order Finite Difference Schemes***,** Applied Mechanics and Materials, Vol. 859, pp. 52-56. **(Revista indexata BDI-Index Copernicus, CSA, Inspec, Google Scholar) ISSN: 1662-7482,** 10.4028/www.scientific.net/AMM.859.52
9) Alina BOGOI, **Dragos ISVORANU**, Sterian DANAILA. (2016). *Assessment of some high-order finite difference schemes on the scalar conservation law with periodical conditions*, INCAS BULLETIN, Volume 8, Issue 4, pp. 77 – 92. **(Revista indexata BDI-Index Copernicus, EBSCO, Google Scholar, ProQuest)** http://dx.doi.org/10.13111/2066-8201.2016.8.4.7
10) **Dragos Isvoranu**, Sterian Danaila, Constantin Leventiu, Florian Vladulescu**,** *Combined POD and Field Analysis of a Turbine Stage with in Situ Reheat*, Applied Mechanics & Materials, Vol. 841, pp. 266-271, (2016). **(Revista indexata BDI-Index Copernicus, EBSCO, Google Scholar).** 10.4028/www.scientific.net/AMM.841.266
11) Sterian Danaila and **Dragos Isvoranu**, *Inverse Thermal Analysis for Re-entry Vehicles*, 66th International Astronautical Congress, Jerusalem, Israel, 12-16 Oct., 2015, in Curran Associates, Inc.: Space the Gateway for Mankind's Future, (2016), ISBN 978-1-5108-1893-4, IAC-15-C2.7.6, Vol. 9/14, pp. 6590-6600. (**Conferinta indexata BDI-Scopus**)
12) S. Danaila, **D. Isvoranu,** C. Leventiu, *POD analysis of the reaction rates in a turbine stage with in situ combustion*, Review of the Air Force Academy, Vol. XIII, No. 3(30), pp. 83-88, (2015). **(Revista indexata BDI-Index Copernicus, EBSCO)** DOI: 10.19062/1842-9238.2015.13.3.14
13) **D. Isvoranu**, S. Danaila, *Preliminary Simulation of the Flow in the Root Canal Using New Irrigation Needle,* Applied Mechanics and Materials, Vol. 772, pp. 621-625, Jul. 2015. **(Revista indexata BDI-Index Copernicus, CSA, Inspec, Google Scholar)** doi:10.4028/www.scientific.net/AMM.772.621
14) S. Danaila, **D. Isvoranu,** C. Leventiu, *Preliminary Simulation of a 3D Turbine Stage with In Situ Combustion*, Applied Mechanics and Materials, Vol. 772, pp. 103-107, Jul. 2015. **(Revista indexata BDI-Index Copernicus, CSA, Inspec, Google Scholar)** doi:10.4028/www.scientific.net/AMM.772.103
15) **Dragos Isvoranu,** Viorel Badescu, *Preliminary Wrf-Arw Model Analysis of Global Solar Irradiation Forecasting*, Mathematical Modelling in Civil Engineering, Vol. 10(1), pp. 1-8, 2014. **(Revista indexata BDI- Scopus, Inspec, Google Scholar, CNCSIS/B+)**
16) **Dragos Isvoranu,** Viorel Badescu, *Comparison between measurements and WRF numerical simulation of global solar irradiation in Romania*, Annals of the West University of Timisoara- Physics Series, Vol. 57, p. 1-12, 2013. **(Revista indexata BDI- Google Scholar, EBSCO)**
17) **Dragos Isvoranu**, Sterian Danaila, Octavian Thor Pleter, *Assessment of the effects of volcanic ash/dust clouds on*

aircraft safety, Global Journal on Advances Pure and Applied Sciences, Vol 1, 2013, pp. 626-631, ISSN 2301-2706. **(Revista indexata BDI-Google Scholar)**

18) **Dragos Isvoranu**, Sterian Danaila, *Non-newtonian 3D ciliary fluid flow in a semi-infinite domain*, 3rd Micro and Nano Flows ConferenceThessaloniki, Greece, 22-24 August 2011, ISBN 978-1-902316-98-7. (**Proceeding indexat BDI - Google Scholar)**
19) **Dragos Isvoranu**, Viorel Badescu, *Asteroid Impacts the Earth: The Tsunami Hazard*, The Journal of Cosmology, Vol 2, pp. 419-439, ISSN 2159-063X, 2009. (**Revista indexata BDI – SCOPUS**)
20) S. Dimitriu, V. Badescu, D. Hera, M. Crutescu, R. Crutescu, L. Drughean, A. Ilie, G. Ivan, F. Iordache, V. Iordache, M. Marinescu, **D. Isvoranu**, M. Cazacu, S. Budea, *Cladirea pasiva energetic- solutie pentru un viitor verde*, Conferinta Nationala de Termotehnica cu participare internationala (CNT 17), Brasov, 2009, pp. 71-78, ISBN 978-598-522-6. (**Proceeding indexat BDI – Google Scholar**)
21) **Dragos Isvoranu** and Viorel Badescu, *Radiation exergy: the case of thermal and nuclear energy*, International Journal of Nuclear Governance, Economy and Ecology, Vol. 2, No. 1, pp. 90-112, ISSN 1742-4186, 2008. (**Revista indexata BDI – Google Scholar)**
22) **Dragos Isvoranu**, *NOx reburn simulation in a double-jet counter-flow flame*, Special issue: Computational Fluid Dynamics simulations in Energy Technologies and Processes. International Journal of Energy Technology and Policy, Vol. 6, Nos. 1/2, pp 5-16, ISSN 1472-8923, 2008. (**Revista indexata BDI – Scopus, Google Scholar**)
23) V Badescu, **D Isvoranu**, D Stanciu, *Deriving the old Curado-Tsallis formalism of non-extensive thermodynamics from Gauss principle*, Analele Universitatii Dunarea de Jos, Fascicula IV, Refrigerating Technique, Internal Combustion Engines, Boilers And Turbines, pp. 25-28. 2008. ISSN 1221-4558, (**Revista indexata BDI- Genamics JournalSeek , Google Scholar**)
24) Constantin Udriste, Viorel Badescu, Vincenzo Ciancio, Florian Ghionea, **Dragos Isvoranu**, Ionel Tevy, *Black Hole Geometric Thermodynamics*, Proceedings of the 4th International Symposium on Mathematics and Numerical Physics, Oct. 6-8, 2006, Bucharest, Romania, pp. 186-194, Geometry Balkan Press, 2007, ISBN (10) 973-8381-14-2. (**Conferinta indexata BDI- SCOPUS**)
25) **Dragos Isvoranu**, Constantin Udriste, *Fluid Flow versus Geometric Dynamics*, Proceedings of the 5th Conference of Balkan Society of Geometers, BSG Proceedings 13, Geometry Balkan Press, ISBN (10) 973-8381-14-2, pp 70-82, Bucharest, 2006. (**Conferinta indexata BDI- SCOPUS**)
26) **Dragos Isvoranu**, Virgil Stanciu, Corneliu Berbente, Viorel Badescu, Parvu Petrisor, *Numerical simulation of pollutant emissions in a turbine-combustor*, 4th Intl. Colloquium "Mathematics in Engineering and Numerical Physics", Oct. 6-8, 2006, Bucharest, Romania, Editura Printech, Bucharest, 2007, pp. 215-218, ISBN 978-973-718-761-1. (**Conferinta indexata BDI- Google Scholar**)
27) **Dragos Isvoranu**, Viorel Badescu, Parvu Petrisor, Corneliu Berbente, Daniel Crunteanu, *Numerical simulation of NOx emmisions in the exhaust gas re-burn process*, 4th Intl. Colloquium "Mathematics in Engineering and Numerical Physics", Oct. 6-8, 2006, Bucharest, Romania, Editura Printech, Bucharest, 2007, pp. 219-222, ISBN 978-973-718-761-1. (**Conferinta indexata BDI- SCOPUS**)
28) Staicovici M.D., **Isvoranu D.D**., *The Marangoni convection: A two point theory of mass and heat transfer and a new Laplace equation approach*, CHT-04 - Advances in Computational Heat Transfer III. Proceedings of the Third International Symposium on board MS Midnatsol, Norwegian Coastal Voyage, 19 - 24 April, 2004, ISSN 961-91393-0-5, pp.215-221. (**Conferinta indexata BDI- SCOPUS**)
29) **Isvoranu D.D**., Cizmas P.G.A**.,** *Numerical simulation of combustion and rotor-stator interaction in turbine stage*, International Journal of Rotating Machinery, ISSN: 1023-621X, Vol. 9, no. 5, pp. 363-3**7**4, 2003. (**Revista indexata BDI- SCOPUS**)
30) Dorin Stanciu, **Dragos Isvoranu**, Mircea Marinescu, Yalcin Gogus**,** *Second Law Analysis of Diffusion Flames*, Int. J. of Thermodynamics (fost Int.J. Applied Thermodynamics), Vol. 4, 1, pp.1-18, ISSN: 2146-1511, 2001. (**Revista indexata BDI- SCOPUS**)
31) Dorin Stanciu, Mircea Marinescu, **Dragos Isvoranu**, *Second Law Analysis of a Turbulent Flat Plate Boundary Layer,* Int. J. of Thermodynamics (fost Int.J. Applied Thermodynamics), Vol. 3, 3, pp.99-104, ISSN: 2146-1511, 2000. (**Revista indexata BDI- SCOPUS**)
32) Dorin Stanciu, Mircea Marinescu, **Dragos Isvoranu**, Elena Vasilescu, *Numerical simulation of flat plate boundary layer irreversibilities with k-eps turbulence models*, Revue Entropie, ISSN 0013-9084, No. 232, 37e Annee, pp 34-43, 2001. (**Revista indexata BDI- Google Scholar**)

2.3 Articole publicate in reviste nationale si volumele unor manifestari stiintifice nationale si internationale neindexate (lucrări reprezentative)

1) **Dragos Isvoranu**, Viorel Badescu, *Computation Of Global Solar Irradiance In Romania By Using WRF. Preliminary Results*. International Physics Conference TIM-12, Abstract book (Eds. M Bunoiu, C. Biris, N. Stefu), p.12, Universitatea de Vest din Timisoara, Noiembrie 27 - 29, 2012.
2) **Dragos Isvoranu**, Viorel Badescu, *Comparison between measurements and numerical assessment of global solar irradiation in Romania*, 5th International Scientific Conference on Energy and Climate Change, Athens, Greece, 11-12 Oct., 2012.
3) **Dragos Isvoranu**, Sterian Danaila, Viorel Badescu, *Dynamics of Tsunamis Generated by Asteroid Impact in the*

Black Sea, IAA PLANETARY DEFENSE CONFERENCE, 9-12 May 2011, Bucharest, Romania.

4) **Dragos Isvoranu**, Daniel Ioan, Sterian Danaila, Petrisor Parvu, *Numerical simulation of oscillating flow over a 3D Magnetic actuated array of cilia*, Proceedings of the 2nd European Conference on Microfluidics - Microfluidics 2010 - Toulouse, December 8-10, 2010, µFLU'10, ISSN 2108-4718, ISBN 978-2-906831-85-8.
5) V. Badescu, **D. Isvoranu**, *On the Equivalence of Jaynes and Gauss Principles under the Framework of old Curado-Tsallis and Tsallis-Mendes-Plastino formalisms of non-extensive thermodynamics*, Proc. of the the 4th International Colloquium of Mathematics in Engineering and Numerical Physics, University Politehnica of Bucharest, 6-8 Oct. 2006, Editura Printech, Bucharest, 2007, pp. 112-115, ISBN 978-973-718-761-1
6) V. Badescu, M. Marinescu, **D. Isvoranu**, *A personal point of view on Curado-Tsallis and Tsallis-Mendes-Plastino formalisms of non-extensive thermodynamics*, Proc. of the the 4-th International Colloquium of Mathematics in Engineering and Numerical Physics, University Politehnica of Bucharest, 6-8 Oct. 2006, Editura Printech, Bucharest, 2007, pp. 116-119, ISBN 978-973-718-761-1.
7) V Badescu, D Isvoranu, D Stanciu, Deriving the old Curado-Tsallis formalism of non-extensive thermodynamics from Gauss principle, Proc. of the 2nd International Conference on Thermal Engine and Environment Engineering (METIME 2007), University "Dunarea de Jos", Galati, Romania, June 7-9 2007, p. 37-40, ISBN 978-973-1724-17-1.
8) **Dragos Isvoranu**, Parvu Petrisor, Virgil Stanciu, Corneliu Berbente, Viorel Badescu, *Numerical Simulation of Turbine 'in-situ' combustion based on multi-step reaction mechanism*, SET2006, 5th Intl. Conference, LCT048, ISBN 88-89884-05-3, pp. 671-676, 30 Aug.-1 Sep., 2006, Vicenza, Italy.
9) **Dragos Isvoranu**, *Efficiency of a turbine stage with 'in-situ' combustion*, ECOS 2003, International Conference on Efficiency, Costs, Optimization, Simulation and Environmental Impact of Energy Systems, Copenhagen, Denmark, June 30 – July 2, 2003, vol. 2, pp. 1009-1016. Niels Houbak, Brian Elmegaard, Bjorn Qvale. Michael Moran, editors, ISBN/ISSN 1404-7098
10) Dorin Stanciu, Mircea Marinescu, **Dragos Isvoranu,** *Minimum Entropy Generation Rate in Internal Forced Convection through a Duct*, FLOWERS'97 Florence, Italy, 1997, pp. 125-132.
11) **Dragos Isvoranu**, Mircea Marinescu, Dorin Stanciu:, *Ascribing Boundary Conditions for Steady Fluid Flow on the Basis of Minimum Entropy Generation Rate*, Energetics and Power Supply Tehnologies, Novi Sad, 24-27 may 1995, Proceedins of Conference, pp. 131-135.
12) Dorin Stanciu, Mircea Marinescu, **Dragos Isvoranu**, *Reconsideration of Steady Fluid Flow Expower Notion Taking into Account the Finite Fluid Flow Exhaust Speed in the Environment*, FLOWERS'94, Florence Italy, 6-8 july 1994, Proceedings of Conference, pp. 967-975, ISBN 978-8886281041
13) Elena Vasilescu, **Dragos Isvoranu**, Vsevolod Radcenco, *Three Sources Machines Optimization Based on External Dissipations*, Proceedings of the Florence World Energy Research Symposium, Florence, Italy, 6-8 July, 1994, pp. 461-469, ISBN 978-8886281041

2.5 Granturi/proiecte castigate prin competitie

2.5.1. Director /responsabil

2.5.1.2 Nationale

1) *Turbina cu gaze utilizand combustia in situ*, contract 286/01.07.2014, Program Parteneriate, PN-II-PT-PCCA-2013-4-1187. (2014-2017) http://uefiscdi.gov.ro/userfiles/file/PARTENERIATE/Competitie%202013/Proiecte%20Finantate/D8_Spatiu.pdf, Responsabil UPB.
2) *Cercetari privind reducerea poluarii chimice a turbomotoarelor prin injectie multietajata de combustibil in turbina*, Grant CNCSIS, Tema 17, Cod 502, 2006, Nr. Intern UPB -ME-16-06-04, http://uefiscdi.gov.ro/UserFiles/File/Competitii%20derulate/REZULTATE_A_2006_NOI.pdf
3) *Modelarea arderilor turbulente*, Grant CNCSU, 22-99-03/1999
4) *Intensificarea proceselor de ardere si reducerea poluarii prin ionizarea chimica suplimentara a flacarilor*, Grant CNCSU, 22-95-05/1997

2.5.2. Membru în echipă

2.5.2.1 Internationale

1) ESA Contract No. 4000146300/24/UK/AL, Cathodeless Electric Propulsion Thruster.
2) Contract No. 4000147133/24/FR/MAT, Preparation of Multi-Mission In-Space Cryogenic Propulsion-(Permathrust).
3) *Design Study of a Cryogenic Stopping Cell for the ELI-NP IGISOL Beam Line- CSCDEMO* nr. 07-ELI, din 01.09.2016. (2016-2018).
4) *Software for thermal and flow fields analysis in the supersonic/hypersonic boundary layers. Verifications and uncertainty qualification*. Contract: ESTEC no.4000109853/13/NL/SC. REF : ESA-C- PR_WP1.1/MPR-01.

5) *Operational Research Project on Hybrid Engine in Europe*-"ORPHEE", proiect colaborativ FP7, domeniul spatial, SPA.2007.2.2.02, Nr. 218830, Comisia Europeana, 2009-2012, Coordonator SNPE Materiaux Energetiques-Franta
6) *Nature inspired micro-fluidic manipulation using artificial cilia-ARTIC*, FP6-2004-NMP-TI-4 STREP, Program FP6. PRAT: Coordonator: Philips Research and Applied Technologies (NL) – 2006-2010.
7) *Numerical simulation of gas turbine reheat using in-situ combustion*, Research Grant, DE-FC26-00NT40913-Department of Energy (U.S.A.), Beneficiar Texas A&M University, Fac. of Aerospace Eng., 2000-2001

2.5.2.2 Nationale

1) NUCLEU Program - PN 23.12.06.02, Cercetări fundamentale avansate asupra sistemelor de lansare și de propulsie spațială disruptive, electrice, chimice și/sau hibride
2) Emerging technologies to counteract the effects induced by the turbulent flows of fluid environments. PN-III-P1-1.2-PCCDI-2017-0868 (ID: 220182506)Planul national, PN III (2013-2020) / PCCDI 2017 1 Ianuarie 2018 -- 1 Ianuarie 2021
3) Platforme UAV (vehicule aeriene fără pilot uman) cu capabilități dedicate și infrastructură suport, pentru aplicații în misiuni de securitate națională", număr intern CAMP 17 03, 2017-2020.
4) *Senzor de temperatura bazat pe structuri de tip SAW pe AlN/Si cu frecventa de rezonanta in domeniul gigahertzilor- SETSAL*, PNII-PT-PCCA-3013-4-0677, contract 15/2014, 2014-2017
5) *Analiza aero-termodinamica inversa pentru curgeri supersonic/hipersonice,* Proiect STAR Agentia Spatiala Romana, contract 51/2012, 2012-2014
6) *Instrumente si metodologii avansate pentru modelarea multifizica si simularea micro comutatoarelor de radio frecventa* (ToMems). Proiect complex, PN-II-PT-PCCA-2011-3**,** 2011-2016.
7) *Prognoza radiatie solare pe teritoriul Romaniei*. Proiect IDEI 2011-2014, PN-II-ID-PCE-2011-3-089.
8) *Cladire administrativa pasiv energetic – CAPE*, Programul INOVARE, Tipul proiectului: CDI - orientate, Categoria proiectului: PDP, Autoritate Contractanta AMCSIT Politehnica, Contractor SC AMVIC SRL, AMCSIT nr 128/28.09.2007, Beneficiar U.P.B., 24 luni 28.09.2007 - 28.09.2009, Nr. Intern UPB ME16-0706.
9) *Contributii la termodinamica ne-extensiva cu aplicatii la sistemele de conversie a energiei*, Grant CNCSIS, Tema 17, Cod 53, 2006.
10) *Intensificarea proceselor de ardere si reducerea poluarii mediului, prin ionizarea chimica suplimentara a flacarilor*, Grant CNCSIS, 2000, Tema 33, cod CNCSIS 4175, Beneficiar U.P.B.
11) *Ireversibilitaţi termodinamice în curgerile turbulente ale gazelor multicomponente*, Grant ANSTI, Tema A19, contract 6028/2000, Beneficiar U.P.B.
12) *Ireversibilitaţi termodinamice în curgerile turbulente ale gazelor monocomponente*, Grant ANSTI, Tema B26, contract 5076/1999, Beneficiar U.P.B.
13) *Studiul ireversibilitatilor vascoase termice si chimice in procesele de ardere ale combustibililor gazosi*, Grant Academia. Romana, Tema GAR 284-1998, contract 129-1998, Beneficiar U.P.B.
14) *Analiza termogazodinamică a mecanismelor de transfer si degradare a energiei, caracteristice Instalaţiilor de Turbine cu Gaze*, Grant CNCSU, Contract 32A/1998, tema 129, cod CNCSU 709.
15) *Studiul ireversibilitatilor vascoase termice in procesele convective de transfer de caldura*, Grant Academia Romana, Tema GAR 307-1997, contract 3008-1997, Beneficiar U.P.B.
16) *Criterii termodinamice pentru optimizarea sistemelor energetice*, Grant CNCSU 1995-1998, Tema 84, Contract 32A/1998, cod CNCSU 710, Beneficiar U.P.B.