Europass Curriculum Vitae

Personal information

First name(s) / Surname(s)	**DĂNĂILĂ, Sterian**
Address(es)	
Telephone(s)	
E-mail	
Nationality	romanian
Date of birth	
Gender	male

Desired employment / Occupational field

Work experience

Dates	2022-present retired, Invited Professor POLITEHNICA University of Bucharest
Dates	1983-2022
Occupation or position held	2008-2022 Head of the Department of Aerospace Sciences, POLITEHNICA University of Bucharest Professor: 2003-prezent, Assistant Professor: 1995-2003, lecturer 1990-1995, assistant 1983-1990.
Main activities and responsibilities	Responsible for disciplines: Aerodynamics, Computational Fluid Dynamics, Methodes Numeriques en Mecanique des Fluides, Finite Elements In Aerospace Engineering, Heat and Mass Transfer; Scientific Research: in Fluid Dynamics, Aerodynamics, Turbulence, Tribology; Visiting Professor: Universite de Poitiers, Franţa, 1992.
Name and address of employer	University Politehnica of Bucharest, Spl Independenţei 313, Bucharest, sec.6.
Type of business or sector	University, Professor
Dates	1981-1983
Occupation or position held	Engineer
Main activities and responsibilities	Technology for BAC 1-11 aircraft
Name and address of employer	Întreprinderea de Avioane Bucureşti, B-dul Ficusului, sect.1, Bucureşti.
Type of business or sector	Aviation Industry, technological design

Education and training

Dates	1991-1992.
Title of qualification awarded	Post-doc stage
Principal subjects/occupational skills covered	Fluid Dynamics, Hydrodynamic Lubrication
Name and type of organisation providing education and training	Université de Poitiers, France

Level in national or international classification	Post-doctoral
Dates	1985-1989
Title of qualification awarded	Doctor in Fluid Dynamics and Aerodynamics
Principal subjects/occupational skills covered	Aerodynamics, Fluid Dynamics, Numerical methods in Fluid Dynamics
Name and type of organisation providing education and training	University Politehnica of Bucharest
Level in national or international classification	PH., D.
Dates	1976-1981
Title of qualification awarded	Engineer
Principal subjects/occupational skills covered	Aerodynamics, Flight Dynamics, Aeroelasticity, Mechanics, Fluid Mechanics, Mathematics, Physics, Chemistry, Aerospace technology
Name and type of organisation providing education and training	University Politehnica Bucharest
Level in national or international classification	Master of sciences

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s) **English, French**

Self-assessment	Understanding		Speaking		Writing
European level (*)	Listening	Reading	Spoken interaction	Spoken production	
French	C2	C2	C2	C2	C1
English	C1	C1	C1	C1	C1

(*) Common European Framework of Reference for Languages

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 (France., 1991-1992),

Organisational skills and competences

Experience in research projects management(director in 16 national projects, scientific director in 2 international projects) experience in organizing activities related to education. Currently the am head of the Aerospace Sciences Department "Elie Carafoli", member of the Board of the Faculty of Aerospace Engineering and member of the Senate of UPB. Teacher coordinator team of students participating in international competition Air Cargo Challenge2009, FFD2011 and Air Cargo Challenge2011.

Technical skills and competences

Engineer in aerospace industry

Computer skills and competences

Specialist in numerical methods, numerical methods in fluid dynamics, programming languages (FORTRAN, C + +), the software scientific calculation (Matcad, Matlab), commercial software CFD (Fluent, CFX), Windows Office, and others (Photoshop, etc..).

Artistic skills and competences

Other skills and competences	: Research area related to Fluid Mechanics, Applied Mathematics, CFD, Modeling and control of turbulent flows. In the frame of these fields, he had contributions in the following topics: – Theoretical and numerical of potential stationary flow over various complex aerodynamic configurations. - Theoretical and numerical simulations of compressible unsteady potential flows around lifting surfaces; – Supersonic and hypersonic flows with detached shock wave; - Numerical methods in fluid dynamics; - Turbulence and turbulence models; - Turbulent combustion;
Driving licence	non
Additional information	- Post-doctoral research grant in Laboratoire de Mécanique des Solides, Université de Poitiers, 1991-1992 (LMS), Franţa. -Visiting professor, Université de Poitiers, Franţa, 1992. Lectures on: Turbulence et écoulements turbulents avec applications en lubrification hydrodynamique, Métodes numériques pour l'intégration des équations de Navier-Stokes - Visiting professor, National University of Aeronautics and Astronautics, Nanjing, China, 2018, . Lectures on: Reentry Aerodynamics - "Henry Coanda" Award of Romanian Academy 1998; - "Hermann Oberth" Award of Academy of Romanian Scientists 2011; - reviewer: Scientific bulletin of UPB, Scientific Council of UPB Library and Printech publishing house, Romanian Academy; national research programs (AEROSPATIAL, SECURITY, CNCSIS, Chinese Journal of Aeronautics;
Annexes	List of papers

Data: 09.10.2025 DĂNĂILĂ Sterian

Lista de lucrari

prof. dr.ing. Sterian Dănăilă

I. Monografii, carti si manuale universitare

1. Danaila S., Berbente C., Metode numerice în dinamica fluidelor, Ed. Academiei Române, Bucharest, 2003, ISBN 937-27-0958-8, 750 pag.
2. V. N. Constantinescu, Danaila S, S. Găletuşe, Dinamica fluidelor in regim turbulent, Ed. Academiei Române, Bucharest, 2008, ISBN 978-976-27-1694-6, 569 pag.
3. Dănăilă S., Modeling Fluid Flow Motion , Chapter I , in Vortex Flows and Applications, Editori: Susan-Resiga R., Bernad S., Muntean S., Eurostampa Publishing (CNCSIS cod 184), Timişoara, Romania, 2008, pp. 1-71, ISBN 978-973-687-659-2.
4. Dănăilă S., Stoia M., Numerical Methods in Fluid Dynamics, Chapter II in Vortex Flows and Applications, Editori: Susan-Resiga R., Bernad S., Muntean S., Eurostampa Publishing (CNCSIS cod 184), Timişoara, Romania, 2008, pp. 73-121, ISBN 978-973-687-659-2.
5. S. Dănăilă, M. Stoia, Introducere in modelarea turbulentei, Ed Politehnica Press, ISBN 978-606-515-764-4, 2017, 380 pag.
6. Bogoi A., Dănăilă S., D. Isvoranu, Ecuațiile generale de transoport ale dinamicii fluidelor, Ed. Monitorul Oficial, ISBN 979-973-0-34559-9, 2021, 563 pag.
7. Danaila, S., si Moraru, L., (2013), Tranzitia laminar-turbulent; note de curs, Editura Printech, ISBN 978-606-521-963-2
8. D. Isvoranu, S. Dănăilă, Aspecte termo-aerodinamice ale curgerilor supersonice/hipersonice, Ed. Printech, ISBN 978-606-23-0692-2, 2016, 275 pag.
9. Dănăilă S., V. N. Constantinescu, Mecanica fluidelor şi elemente de aerodinamic. Îndrumar de laborator, Ed. Printech, Bucureşti, 2004, ISBN 973-652-925-8, 117 pag.
10. Constantinescu V.N., Sârbu A, Danaila S.,Complemente de aerodinamică-regimul transonic, Litografia IPB, 1985, 175 pag.
11. Danaila S. , Concepte, online (pdf) în Platforma Informatică pentru Ingineria Fluidelor PiiF: 36 concepte/522 pag. în A.9. Turbulenta, . Online: http://b.piif.ro/biblioteca/concepte
12. Dănăilă S., Aplicații interactive, online (xls) în Platforma Informatică pentru Ingineria Fluidelor PiiF: 72 aplicatii de dinamica fluidelor, 2013. Online: http://b.piif.ro/biblioteca/aplicatii-2/aplicatii-simple, http://b.piif.ro/biblioteca/aplicatii-2/aplicatii

II. Articole in extenso in reviste cotate ISI si in proceedings indexate ISI Thomson Reuters

1. Lucas V., Dănăilă S., Bonneau O., Frêne J., Roughness Influence on Turbulent Flow through Annular Seals, Journal of Trybology Transactions of the ASME (Impact Factor:0.427/1994 https://www.researchgate.net/journal/0742-4787_Journal_of_Tribology), vol. 116, nr. 2, 1994, pp. 321-329, ISSN: 0742-4787, WOS:A1994NG89400025, https://asmedigitalcollection.asme.org/tribology/article-abstract/116/2/321/419377/Roughness-Influence-on-Turbulent-Flow-Through?redirectedFrom=fulltext
2. Danaila, C. Vadean, S. Danaila, Specified discharge velocity models for numerical simulations of laminar vortex rings, Theoretical and Computational Fluid Dynamics (Impact Factor: 1.511 https://www.researchgate.net/journal/1432-2250_Theoretical_and_Computational_Fluid_Dynamics). 01/2009; 23(5), pp. 317-332, ISSN: 0935-4964, WOS:000271673800001, DOI: 10.1007/s00162-009-0142-5, https://www.researchgate.net/publication/225959577_Specified_discharge_velocity_models_for_numerical_simulations_of_laminar_vortex_rings
3. M. L. Niculescu, S. Dănăilă, Numerical Analysis of the Unsteady Rotor-Stator Interaction in a Low Pressure Centrifugal Compressor by Using Adamczyk and Proper Orthogonal Decompositions, Numarical Analysis and Applied Mathematics, 2010. AIP Conference Proceedings, Volume 1281, pp. 59-62, ISBN:978-0-7354-0834-0,

ISSN: 0094-243X, WOS:000289661500016, DOI: 10.1063/1.3498548, https://aip.scitation.org/doi/10.1063/1.3498548

4. S Dănăilă, L Moraru, On the validity of the classical hydrodynamic lubrication theory applied to squeeze film dampers, IOP Conf. Series: Earth and Environmental Science 12, 2010, ISSN: 1755-1307 WOS:000325657000104, DOI: 10.1088/1755-1315/12/1/012104, https://iopscience.iop.org/article/10.1088/1755-1315/12/1/012104
5. Niculescu M.L., Danaila S, Comparative study of upwind schemes for transonic and supersonic internal flows, AIP Conference Proceedings 1558, 116 (2013); ISBN:978-0-7354-1185-2, ISSN: 0094-243X, WOS:000331472800027, DOI: 10.1063/1.4825434, https://aip.scitation.org/doi/10.1063/1.4825434
6. Ionescu, N, Dănăilă, S., Constantinescu, V.N., Stoica, A., Dinu, C., Vişan, A, -Implementation of the higher education qualifications national framework in aerospace engineering, Proceedings of the 6th International Conference on Management of Technological Changes, pp. 357-360, ISBN:978-960-99486-3-0, WOS:000306940000090.
7. Berbente C., Dănăilă S., Berbente S., Analytic Solutions for Axisymmetric Incompressible Flows with wall Injection and regression, Proceedigs of the Romanian Academy, Series A, 12, Nr.3, pp. 221–229, 2011. ISSN : 1454-9069,(Impact Factor:0.276/2011,https://www.researchgate.net/journal/1454-9069_Proceedings_of_the_Romanian_Academy-Series_A_Mathematics_Physics_Technical_Sciences_Information_Science WOS:000295898200009.
8. C. Levenţiu, B. Renou, S. Dănăilă, D. Isvoranu, Accurate measurements and analysis of the thermal structure of turbulent methane/air premixed flame, Elsevier Energy Procedia, 85, pp. 329 – 338, 2016, doi:10.1016/j.egypro.2015.12.259, WOS:000377911100042, https://www.sciencedirect.com/science/article/pii/S1876610215029240
9. Dragos Isvoranu, Sterian Danaila, Paul Cizmas and Constantin Leventiu., Proper Orthogonal Decomposition Applied to a Turbine Stage with In-Situ Combustion. In Ahmet Yavuz Oral, Bahsi Oral, Banu Zehra (Eds.), 3rd International Congress on Energy Efficiency and Energy Related Materials (ENEFM2015) Proceedings, pp. 11-17, Springer Proceedings in Energy. ISBN 978-3-319-45677-5 (e-book), ISBN-978-1-60876-360-3, ISSN: 2352-2534 8 pg., 2017 (Proceedings indexat BDI, Google Scholar), DOI: 10.1007/978-3-319-45677-5_2, WOS:000405208700002, https://link.springer.com/chapter/10.1007/978-3-319-45677-5_2
10. Isvoranu D , Danaila S; Bogoi A, Leventiu C , Assessment of Chemical Time Scale for a Turbine Burner, Transportation Research Procedia, 29, pp. 181-190, ISSN: 2352-1465, DOI: 10.1016/j.trpro.2018.02.016, Published: 2018, WOS:000454701600016, https://www.sciencedirect.com/science/article/pii/S2352146518300206cotate ISI si in proceedings indexate ISI Thomson Reuters
11. Dănăilă S. , Isvoranu D., Levenţiu C., Bogoi A, A Reduced Order Model based on Large Eddy Simulation of Turbulent Combustion in the Hybrid Rocket Engine, MATEC Web of Conferences, 304, 07015, 2019, https://www.matec-conferences.org/articles/matecconf/pdf/2019/53/matecconf_easn2019_07015.pdf

III. Articole in reviste si volume ale unor manifestari stiintifice indexate in alte baze de date internationale

1. Dănăilă S. , Isvoranu D., Levenţiu C., Bogoi A, A Reduced Order Model based on Large Eddy Simulation of Turbulent Combustion in the Hybrid Rocket Engine, MATEC Web of Conferences, 304, 07015, 2019, https://www.matec-conferences.org/articles/matecconf/pdf/2019/53/matecconf_easn2019_07015.pdf
2. Bogoi A., Danaila S., Isvoranu D., About some relevant aspects regarding WENO type schemes on the shock tube problem, INCAS Bulletin, 11 (2), pp. 57-68, 2019, (Revista indexata DOAJ, Index Copernicus™ - Journals Master List, Crossref, ProQuest, SCOPUS), DOI:10.13111/2066-8201.2019.11.2.5 ISSN 2247–4528. http://bulletin.incas.ro, https://www.researchgate.net/publication/333746327_About_some_relevant_aspects_regarding_WENO_type_schemes_on_the_shock_tube_problem
3. 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, DOI: 10.13111/2066-8201.2018.10.1.18 , http://bulletin.incas.ro,https://www.researchgate.net/publication/323693368_Assessment_of_three_WENO_type_schemes_for_nonlinear_conservative_flux_functions

4. Dănăila S., Isvoranu D., Bogoi A., Levenţiu C., Chemical Time Scales Distribution for Scram Jet Operation, 70th International Astronautical Congress (IAC), Washington D.C., United States, 21-25 October 2019, ISSN: 00741795. https://www.resurchify.com/all_ranking_details_2.php?id=26344
5. 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) http://www.proceedings.com/47918.html, https://www.resurchify.com/all_ranking_details_2.php?id=26344
6. Bunescu I., Danaila S, Pricop V., Dina A, Estimation of Wind Tunnel Corrections Using Potential Models, INCAS Buletin, vol.11, nr. 4, pp. 52-60, 2018, DOI: 10.13111/2066-8201.2019.11.1.4, ISSN 2066-8201, Revista indexata BDI-Index Copernicus, EBSCO, Google Scholar, ProQuest) https://www.researchgate.net/publication/331531994_Estimation_of_Wind_Tunnel_Corrections_Using_Potential_Models
7. Dina A., Danaila S., Pricop V., Bunescu I., Using genetic algorithms to optimize airfoils in incompressible regime, INCAS Buletin, vol.11, nr. 4, pp. 79-90, 2018, DOI: 10.13111/2066-8201.2019.11.1.4, ISSN 2066-8201, Revista indexata BDI-Index Copernicus, EBSCO, Google Scholar, ProQuest) https://www.researchgate.net/publication/331532709_Using_genetic_algorithms_to_optimize_airfoils_in_incompressible_regime
8. S. Dănăilă, A. Bogoi, D. Isvoranu, Some Mandatory Benchmark Tests for Stability and Accuracy of High-Order Finite Difference Schemes, Applied Mechanics and Materials, Vol. 859, pp. 52-56, 2017 Index Copernicus, CSA, Inspec, Google Scholar, DOI:10.4028/www.scientific.net/AMM.859.52 https://www.researchgate.net/publication/311337038_Some_Mandatory_Benchmark_Tests_for_Stability_and_Accuracy_of_High-Order_Finite_Difference_Schemes
9. C. F. Cuciumita, I. Porumbel, S. Dănăilă, Gas Turbine Using In Situ Combustion, Applied Mechanics and Materials, Vol. 859, pp. 20-28, 2016, doi.org/10.4028/www.scientific.net/AMM.859.20, Index Copernicus, CSA, Inspec, Google Scholar, https://www.researchgate.net/publication/311335390_Gas_Turbine_Using_In_Situ_Combustion
10. Danaila S., Isvoranu D., Inverse Thermal Analysis for Reentry 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. http://www.scopus.com/inward/record.url?eid=2-s2.0-84994385630&partnerID=MN8TOARS (Conferinta indexata BDI-Scopus)
11. Bogoi A., Isvoranu D., Danaila S., 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, 2016. (Revista indexata BDI-Index Copernicus, EBSCO, Google Scholar, ProQuest) http://dx.doi.org/10.13111/2066-8201.2016.8.4.7 http://bulletin.incas.ro/files/bogoi__isvoranu__danaila_vol_8_iss_4.pdf
12. Isvoranu D., Danaila S., Leventiu C., Vladulescu F., 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). DOI: 10.4028/www.scientific.net/AMM.841.266 https://www.researchgate.net/publication/304368020_Combined_POD_and_Field_Analysis_of_a_Turbine_Stage_with_In_Situ_Reheat
13. 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, DOI: 10.4028/www.scientific.net/AMM.772.103 , https://www.scientific.net/AMM.841.266

14. 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,DOI:10.4028/www.scientific.net/AMM.772.621.
15. 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 (Index Copernicus, EBSCO), DOI: 10.19062/1842-9238.2015.13.3.14, http://www.afahc.ro/ro/revista/2015_3/DANAILA_ISVORANU_LEVENTIU_2015_3.pdf
16. Danaila S., Chira A., Mathematical and numerical modeling of inverse heat conduction problem, INCAS BULLETIN, Volume 6, Issue 4/ 2014, pp. 23 – 39 ISSN 2066 – 8201, 2014 DOI: 10.13111/2066-8201.2014.6.4.3, http://bulletin.incas.ro/files/danaila__chira__vol_6_iss_4.pdf
17. Dănăilă S., Teleaga Delia, Zavalan Luiza, Finite Volume Particle Method for Incompressible Flows, Applied Mechanics and Materials, vol. 656, pp. 72-81, 2014., ISSN 1660-9336, DOI: 10.4028/www.scientific.net/AMM.656.72 (SCOPUS) https://www.scientific.net/AMM.656.72
18. Leventiu C., Danaila S., On Lean Turbulent Combustion Modeling, INCAS BULLETIN, Volume 6, Issue 2/ 2014, pp. 61 – 73 ISSN 2066 – 8201, DOI: 10.13111/2066-8201.2014.6.2.6 (DOAJ),http://bulletin.incas.ro/files/leventiu__danaila__vol_6__iss_2.pdf
19. Chelaru T.V. , Dănăilă S., Chelaru A. Mathematical Model for Evaluation of the Precision of Guided Flight during Terminal Phase and Automatic Landing for PRIDE Vehicle, 65rd International Astronautical Congress, ISBN: 978-163439986-9, Vol. 10, 2014, pp. 7510-7519, Toronto, Canada, 29 September - 3 October 2014 (SCOPUS))
20. Danaila S., Leventiu C., On the Hybrid Combustion Instability, Applied Mechanics and Materials, vol. 555,, pp. 72-78, 2014, ISSN 1660-9336, DOI: 10.4028/www.scientific.net/AMM.555.72, (SCOPUS), https://www.scientific.net/AMM.555.72
21. Danaila S., Chelaru, TV, Aspects regarding hybrid combustion instability control, , Proceedings of the International Astronautical Congress, IAC Volume 9, 2013, Pages 6989-7000, ISSN: 00741795, ISBN: 978-162993909-4 (SCOPUS)
22. Isvoranu D., Danaila S., Pleter O.T., 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), https://www.academia.edu/35486283/Assessment_of_the_effects_of_volcanic_ash_dust_clouds_on_aircraft_safety
23. Chelaru T.V, Danaila S., Chelaru A., Reaction control system using micro-thrusters for guided, Proceedings of the International Astronautical Congress, IAC, Volume 9, 2013, Pages 7144-7155, ISSN: 00741795 ISBN: 978-162993909-4 (SCOPUS)
24. Isvoranu D., Danaila S., 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) https://www.researchgate.net/publication/276339561_Non-Newtonian_3d_Ciliary_Fluid_Flow_in_a_Semi-Infinite_Domain
25. D.C. Toncu, A. Bogou, V. Stanciu and S Dănăilă, Solving SO2 dispersion from combustion flue gas using plume reflection on the ground for continuous point source model, UPB Scientific Bulletin, Series D: Mechanical Engineering Volume 73, Issue 3, 2011, Pages 71-84, 2011, ISSN 1454-2358, (SCOPUS), https://www.scientificbulletin.upb.ro/rev_docs_arhiva/full66353.pdf
26. M. L. Niculescu, S. Dănăilă, Unsteady Rotor-Stator Interaction in a Low Pressure Centrifugal Compressor, Proceedings of the 3rd WSEAS Int. Conference on Finite differences-Finite Elements-Finite Volumes-Boundary Elements, pp.209-214, 2010, ISSN: 1790-2769, ISBN: 978-960-474-180-9, (SCOPUS),https://www.researchgate.net/publication/262281860_Unsteady_rotor-stator_interaction_in_a_low_pressure_centrifugal_compressor

27. C. Mihailescu, T. Chelaru, S. Dănăilă, C. Berbente, C. Sava, On the accuracy of numerical prediction in transonic-supersonic flow around missiles, UPB, sci. Bul., series D, vol.73, pp.185-195, 2010, ISSN: 14542358 (SCOPUS) https://www.scientificbulletin.upb.ro/rev_docs_arhiva/full7557.pdf
28. Danaila S., Niculescu M.L., Proper orthogonal decomposition analysis for unsteady rotor-stator interaction in a low pressure centrifugal compressor, WSEAS Transactions on Fluid Mechanics, Volume 5, Issue 3, July 2010, pp. 226-235, ISSN: 17905087 (SCOPUS) https://www.researchgate.net/publication/288118382_Proper_orthogonal_decomposition_analysis_for_unsteady_rotor-stator_interaction_in_a_low_pressure_centrifugal_compressor
29. Berbente C., Dănăilă S., On the Stability of Some Vortex Cores, Scient.Bull.of "Politehnica" Univ.of Timisoara,Trans.on Mech.,Tom 53 (67) Fasc.3, ISSN 1224-6077, p 107-118, 2008. (Google Scholar, Special Issue Proceedings of the 4th Workshop on Vortex Dominated Flows, September 12-13, Bucharest, editors A.-M Georgescu, S.-C. Georgescu & S. I. Bernad)
30. Berbente C., Dănăilă S.,Stoia M, A Semi-analytical Method for Wing Aerodynamics, Scient. Bulletin of the "Politehnica" University of Timisoara, Romania, tom 52(66), Fasc.3, pp. 26-34, ISSN 1224-6077, 2007, (Google Scholar, ResearchGate; CNCSIS B+ în 2007,CNCSIS B din 2008, cod 301)
31. Stoia M, Dănăilă S., Berbente C., A Physycal and Theoretical Analysis of Vortex Breakdown on Delta Wings, Scient. Bulletin of the "Politehnica" University of Timisoara, Romania, tom 52(66), Fasc.3, pp. 35-38, ISSN 1224-6077, 2007, (Google Scholar, CNCSIS B+ în 2007,CNCSIS B din 2008, cod 301)
32. Dănăilă S., Berbente C., Constantinescu V., Turbulence models for predictimng heat transfer in boundary layer flows, Scient. Bulletin of the "Politehnica" University of Timisoara, Romania, tom 51(65), Fasc.3, pp. 51-58, ISSN 1224-6077, 2006, (Google Scholar, CNCSIS B în 2006, cod 301)
33. Berbente C., Dănăilă S., Optimal Airfoils With Continous Curvature At Supersonic Speeds, Bulletin of the Transilvania University, Seria B1, tom 13(48), p.17-30., 2006, (EBSCO Publishing DataBase). http://aspeckt.unitbv.ro/jspui/handle/123456789/1402
34. Berbente. C., Mitran, Dănăilă S., Stoia M., The vortex-profile interaction considering porosity effects, Scientific Bulletin of the Politehnica University of Timisoara, Transactions on Mechanics, pp. 152-154, 2005 (Google Scholar) https://www.academia.edu/2847506/THE_VORTEX_PROFILE_INTERACTION_CONSIDERING_POROSITY_EFFECTS
35. Constaninescu V.N., Danaila S., Pressure and flow field calculation in supersonic and hypersonic flow about rounded bodies, Revue roumaine des sciences techniques. Serie de mecanique appliquee, Volume 33, Issue 5, September 1988, Pages 423-437, ISSN: 00354074 (SCOPUS)
36. Danaila S., An improvement of the doublet-point method for unsteady subsonic flow, ROMANIAN J. TECHNICAL SCIENCES: APPLIED MECHANICS, Volume 36, Issue 5-6, 1991, pp. 369-374, (SCOPUS)
37. Berbente C., Danaila S, On the aerodynamic characteristics of a class of airfoils with continuous curvature at subsonic, transonic and supersonic regimes, UPB Scientific Bulletin, Series D: Mechanical Engineering, Volume 69, Issue 1, 2007, Pages 15-27, ISSN: 14542358 (SCOPUS) https://www.scientificbulletin.upb.ro/rev_docs_arhiva/full99677.pdf
38. Niculescu M, Silivestru V., Vizitiu G., Ionescu D., Andrei M, Dănăilă S., Berbente C. Numeical investigation of the flow in vertical-axis wind turbine, European Wind Energy Conference and Exhibition 2008, Volume 5, 2008, Pages 2948-2954, ISBN: 978-161567115-1, (SCOPUS)
39. M. L. Niculescu and S. Dănăilă, An extraction of the dominant rotor-stator interaction modes by the use of POD technique, in a low pressure cebntrifugal compressor, UPB Scientific Bulletin, Series D: Mechanical EngineeringVolume 73, Issue 1, 2011, Pages 139-150, ISSN: 14542358, (SCOPUS) https://www.scientificbulletin.upb.ro/rev_docs_arhiva/full56191.pdf
40. S. Dănăilă, C. Berbente , An Analytic Potential Solution for Incompressible 2D Channel Inviscid Flow with Wall Injection, INCAS Buletin, ISSN 2066 – 8201, vol2, nr.2, pp.20-25, 2010.,DOI 10.13111/2066-8201.2010.2.2.3 (DOAJ)

https://www.researchgate.net/publication/268303356_An_Analytic_Potential_Solution_for_Incompressible_2D_Channel_Inviscid_Flow_with_Wall_Injection

41. Berbente C., Dănăilă S., Berbente S., Analytical solutions for the temperature field in a 2D incompressible inviscid flow through a channel with walls of solid fuel, INCAS Bulletin, Volume: 3, Issue: 4, pp:25-35, ISSN 2066-8201, 2011, DOI: DOI: 10.13111/2066-8201.2011.3.4.3 (DOAJ) https://www.researchgate.net/publication/265812560_Analytical_solutions_for_the_temperature_field_in_a_2D_incompressible_inviscid_flow_through_a_channel_with_walls_of_solid_fuel
42. Danaila S. Niculescu LM., Unsteady effects at the interface between impeller-vaned diffuser in a low pressure centrifugal compressor, INCAS BULLETIN, Volume 5, Issue 1/ 2013, pp. 71 – 86 ISSN 2066 – 8201, DOI: 10.13111/2066-8201.2013.5.1.8 .(DOAJ) https://bulletin.incas.ro/files/danaila_s__niculescu_l_m__full.pdf

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

1. S. Danaila, Wind tunnel from the Faculty of Aerospace Engineering, P. U. Bucharest –Actual Research Topics in Fluid Mechanics in relation to History and Philosopy of Sciences, Ed. Politehnica Press, pp.40-42, ISSN: 2066-5790, 2012.
2. S. Dănăilă, M. L. Niculescu, Unsteady effects at the interface between impeller-vaned diffuser in a low pressure centrifugal, Proceedings of the International Conference of Aerospace Sciences “AEROSPATIAL 2012, ISSN 2067-8614
3. Dragos Isvoranu, Sterian Danaila, Viorel Badescu, Dynamics of Tsunamis Generated by Asteroid Impact in the Black Sea, IAA-WPP-323 - 2011 Planetary Defense Conference - From threat to action, 9-12 May 2011, Bucharest.
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 - Toulouse, December 8-10, 2010, µFLU'10, ISSN 2108-4718, ISBN 978-2-906831-85-8.
5. L. Moraru, T.G. Keith, S. Dănăilă, Aspects regarding the mixed EHL calculation for large arrea contacts, Acta Technica Napocensis, vol.52, pp.307-317, 2009
6. M. Stoia, Dănăilă S., Berbente C. Aerodynamic derivatives calculation using an adjoint method, AEROSPATIAL 2008 CONFERENCE, INCAS, Bucharest, Romania, 1-2 oct.2008, publicata in vol. conferintei ISBN978-973-0-05704-1, 2008
7. Irina Carmen Andrei, Dănăilă S., Berbente C., About Solving 2D Flow in Case of the Axial Compressor Transonic Highly Loaded Cascades by Using the Navier Stokes Equations System and Various Turbulence Models, The 32nd International Conference of the Military Technical Academy “MODERN TECHNOLOGIES IN THE XXIST CENTURY”, Bucharest, November 1-2, 2007, Proceedings of the Symposium available on CD-ROM version, ISBN 973--640-074-3.
8. Berbente C, Dănăilă S, .Constantinescu V.N., Asupra calculului fluxurilor convective pentru curgeri axial-simetrice supersonice, St. Cerc. Mec. Apl., Tom 57, nr. 1-2, 1998.
9. Constantinescu VN, Dănăilă S., Sa’Eid N. H., A new turbulence Model for Predicting Heat Transfer in Boundary Layer Flow, Rev. Roum. Sci. Techn-Méc. Appl., Tome 43 , N. 1 - 2, Bucarest ,1998
10. Danaila S., Stoia M., Asupra integrarii numerice a ecuatiilor Euler preconditionate, Conferinta Internationala TURBO’98, 13-15 iulie 1998, vol.1, pp. 429-436
11. Dănăilă S., Sa’Eid N. H., Constantinescu V. N., Prediction of turbulent thermal boundary layer using variable Prandtl number turbulence model, Rev. Roum. Sci. Techn. - Méc. Appl., tom 42, nr. 3-4, 1997.
12. Dănăilă S., Model de turbulenta k-epsilon pentru stratul limita, St. Cerc. Mec. Apl.,tom. 55, nr.3-4, pp.181-195, 1996.
13. Bourceanu G., Joulain P., Dănăilă S., Locquet V., Identification des attracteurs vers les systèmes évoluent, Academia Româna, Memoriile Sectiilor Ştiintifice, tom XVI, nr.1, pp. 69-105, 1993.

14. Constantinescu V.N., Dănăilă S., Arghir M., Asupra transferului de caldura in curgerile bidimensionale, St. Cerc. Mec. Apl., tom 51, nr.3, pp. 219-229, 1992.
15. Lucas V., Dănăilă S., Bonneau O., Fręne J., Etude de l'Influence de la rugosité sur l'Ecoulement dans un Joint Annulaire en Régime Turbulent, 11-ème Congrès de Mécanique, vol. 5, pp.213-216, Lille, France, 1992.
16. Constantinescu V.N., Dănăilă S., O forma unitara privind utilizarea metodei singularitatilor pentru simularea mişcarilor subsonice şi supersonice, St. Cerc. Mec. Apl., tom 50, nr.3-4, pp. 155-166, 1991.
17. Constantinescu V.N., Sârbu A, Dănăilă S., Simularea aproximativa a mişcarii supersonice in jurul unui avion, St. Cerc. Mec. Apl., tom 43, nr.2, pp. 117-128, 1984

V. Granturi/proiecte castigate prin competitie

Director/Responsabil

1. Director: Software for thermal and flow fields analysis in the supersonic/hypersonic boundary layers. Contract: ESTEC Contract no. 4000109853/13/NL/SC, 2014-2016
2. Director: Turbina cu gaze utilizând combustia in situ (TURIST,)PN-II-PT-PCCA-2013-4-1187- Contract nr. 286/2014-2017
3. Director: Inverse aero-thermodynamic analysis for supersonic/hypersonic flows, Programul de Cercetare – Dezvoltare - Inovare pentru Tehnologie Spatiala;i Cercetare Avansata; – STAR, Agentia Spatiala Romana, contract 51/2012, 2012-2014
4. Director: Metode avansate de analiză şi control in hemodinamică cu aplicaţii la chirurgia vasculara periferica, contract CNMP 82-086/2008, 2008-2011
5. Director: Soluţii avansate de modelare a tranziţiei laminar-turbulent, Contractului de finanţare CNCSIS IDEI_109/2007, 2007-2010
6. Director: Optimizarea aerodinamica a nacelei motoarelor turbopropulsoare in vederea cresterii sigurantei zborului si a reducerii nivelului de poluare - OPATAN, Contract nr. 72-181 din 2008, CNMP Programul 4 Parteneriate in domeniile prioritare, 2008-2011
7. Director: Analiza si controlul instabilitatilor termo-acustice din camera de ardere a motoarelor aeroreactoare,Contract nr. 81-027 din 18.09.2007 , CNMP Programul 4 Parteneriate in domeniile prioritare, 2008-2011
8. Director: Cercetări privind modelarea fenomenului de buffeting, Contract CNCSU/ 2000
9. Director: Interacţiunea vâscos-nevâscos in regim transonic, Contract 85/13.02.1996, perioada: 1996-2000, Program ORIZONT 2000.
10. Director: Sistem de reglarea automata a microclimatului interior al unei clădiri cu luarea in consideraţie a umiditaţii, a reducerii noxelor şi a zgomotului, Contract 814/2000 perioada: 2000-2003, Program RELANSIN
11. Responsabil UPB: Design Study of a Cryogenic Stopping Cell for the ELI-NP IGISOL Beam Line- CSCDEMO, Contract nr. 07-ELI:din 01.09.2016
12. Responsabil : Soluţie avansată pentru reducerea zgomotului produs de motoarele avioanelor de pasageri. Motorul tripluflux, Contract nr. 6/13.10. 2005, Program CEEX , responsabil COMOTI", 2005-2008
13. Responsabil : Metode avansate de calcul, proiectare, analiză si executie a reperelor din aviatie-ventilatorul turbomotorului dubluflux, Contract nr. 5/13.10.2005 Program CEEX , responsabil COMOTI, 2005-2006
14. Responsabil : Racheta meteorologică în trepte RM -20, Contract nr. 58 / 30.10.2002, Program Aerospaţial, Subprogram 5, proiect, responsabil proiect CN ROMARM SA, 2002-2005
15. Responsabil: General mechanical assembly for anti-hail rocket (RAG-82) / Program Relansin 2001
16. Responsabil : Integrarea rachetei MAGIC 2 pe avionul MIG-21 LANCER, Contract nr. 3 / 7.09.2004 cu UM 02512 Z Craiova, proiect din “Planul sectorial de cercetare-dezvoltare pentru tehnică si tehnologii militare pe anul 2004 al MApN;
17. Responsabil : Lovitura reactivă dirijată laser pentru sprijinul intervenţiilor antiteroriste în zone urbane aglomerate – LRDL, Conttract C31R/2005, Program Securitate", 2005-2006.

18. Responsabil : Elaborarea, implementarea şi validarea experimentală pe un model funcţional original de cameră de ardere a unui algoritm de calcul numeric pentru simularea curgerilor turbulente – reactive complexe,Contract nr. 81-024 din 18.09.2007, CNMP Programul 4 Parteneriate in domeniile prioritare, 2007-2009

Membru in echipa de cercetare

1. Operational Research Project on Hybrid Engine in Europe, ORPHEE, FP7, 2009-2012
2. Studies on the Measurement and the Effects of the Volcanic Origin, Beneficiary: EUROCONTROL, 2010
3. Contract 21 /19.12.2012, Programul de Cercetare – Dezvoltare - Inovare pentru Tehnologie Spatiala;i Cercetare Avansata; – STAR, proiect Lansator suborbital de testare, dezvoltare subsisteme neconventilale - SLT, 2012-2014
4. Contract 41 /19.12.2012, Programul STAR, proiect Low Altitude Launching Systems: Analysis and Tests of Atmospheric Flight Phases -LALAFP , 2012-2014
5. Contract 23 /19.12.2012, Programul – STAR, proiect Lansarea dinaminamica procedurile de recuperare de la mari altitudini -DYLARPHA , 2012-2014
6. Dezvoltarea unui pachet de programe pentru cercetări avansate în simularea numerică a curgerilor în aerodinamică, Grant CEEX, AMTRANS, 2004-2007
7. Grant CNCSIS 33,Nr.27688-"Hidrodinamica vartejurilor si aplicatii",UP.Timisoara, 2004-2007

Data: 09.10.2025

DĂNĂILĂ Sterian