

Studii, specializari, titluri

Perioada	01/10/1979 - 01/07/1984
Titlu	inginer
Competente	- Sisteme de propulsie
Institutia	Institutul Politehnic din Bucuresti (Fac. de Aeronave)
Nivel clasificare	8.81/10 (Examen de diploma 10/10)
Perioada	01/01/1993 - 01/10/1999
Titlu	Doctor in Stiinte Termice
Competente	- Termodinamica Aplicata - Termodinamica Ireversibila - Transfer de caldura si masa - Procese de ardere
Institutia	Universitatea Politehnica din Bucuresti
Nivel clasificare	Foarte bine
Perioada	01/10/2005 - 01/07/2007
Titlu	-M.Sc.
Competente	- Sisteme Dinamice - Geometrie Diferentiala - Metode ale Fizicii Matematice - Functii Convexe
Institutia	Universitatea Politehnica din Bucuresti (Fac. de Stiinte Aplicate)
Nivel clasificare	10/10

Experienta profesionala

Perioada	09/01/2017 →
Ocupatie, functie	Profesor
Responsabilitati	- Teaching courses and seminars - Propulsion Systems (graduate) - Design of propulsion systems (undergraduate) - Thermodynamics (undergraduate) - Flight Control (undergraduate) - Turbine Engines (undergraduate) Research activities for several European contracts and national grants.
Angajator	University Politehnica of Bucharest, Fac. of Aerospace Engineering, Chair of Aerospace Sciences "Elie Carafoli" 1, Gheorghe Polizu, 011061 Bucharest (Romania)
Perioada	01/03/2013 → prezent
Ocupatie, functie	Conferentiar
Responsabilitati	Cursuri, seminarii si lucrari de laborator - Geometrie Computationala - Termodinamica - Controlul Zborului - Mecanica Zborului Cercetare pentru diferite proiecte FP6 /FP7, contracte nationale (IDEI), contract pentru institutie europeana.

Angajator	Universitatea Politehnica din Bucuresti, Fac. Inginerie Aerospatiale, Catedra de Stiinte Aerospatiale "Elie Carafoli"
Perioada	01/10/2009 → 01/03/2013
Ocupatie, functie	Sef lucrari
Responsabilitati	Cursuri, seminarii si lucrari de laborator - Geometrie Computationala - Termodinamica - Controlul Zborului - Mecanica Zborului - Programare Paralela - Metode Spectrale Cercetare pentru diferite proiecte FP6 /FP7, contracte nationale (IDEI), contract pentru institutie europeana.
Angajator	Universitatea Politehnica din Bucuresti, Fac. Inginerie Aerospatiale, Catedra de Stiinte Aerospatiale "Elie Carafoli"
Perioada	10/12/2001 - 01/10/2009
Ocupatie, functie	Sef lucrari
Responsabilitati	Cursuri, seminarii si lucrari de laborator - Termotehnica - Geometrie Computationala - Bazele instalatiilor frigorifice - Masini Termice Cercetare pentru diferite proiecte FP6, contracte nationale
Angajator	Universitatea Politehnica din Bucuresti, Fac. de Inginerie Mecanica, Catedra de Termotehnica, Masini Termice si Instalatii Frigorifice
Perioada	20/11/2000 - 10/12/2001
Ocupatie, functie	Post-Doc Research Associate
Responsabilitati	Cercetare
Angajator	Texas A&M University, Dept. of Aerospace Engineering, College Station, Texas (United States)
Perioada	01/10/1995 - 20/11/2000
Ocupatie, functie	Sef lucrari
Responsabilitati	Cursuri, seminarii si lucrari de laborator - Termotehnica - Transfer de caldura - Masini Termice Cercetare pentru doctorat si pentru alte contracte si granturi nationale.
Angajator	Universitatea Politehnica din Bucuresti, Fac. de Inginerie Mecanica, Catedra de Termotehnica, Masini Termice si Instalatii Frigorifice
Perioada	01/03/1991 - 01/10/1995
Ocupatie, functie	Asistent universitar
Responsabilitati	Seminarii si lucrari de laborator - Termotehnica - Dinamica Gazelor - Transfer de caldura - Masini Termice Cercetare pentru doctorat si alte contracte.
Angajator	Universitatea Politehnica din Bucuresti, Fac. de Inginerie Mecanica, Catedra de Termotehnica, Masini Termice si Instalatii Frigorifice
Perioada	15/11/1989 - 01/03/1991
Ocupatie, functie	Inginer proiectant

Responsabilitati	Dezvoltare coduri comanda numerica
Angajator	Uzinele "23 August" Bucuresti
Perioada	01/03/1988 - 15/11/1989
Ocupatie, functie	Asistent universitar
Responsabilitati	Seminarii si lucrari de laborator - Turbine cu aburi si gaze - Termotehnica Cercetare pentru diverse contracte.
Angajator	Universitatea "Dunarea de Jos", Fac. de Mecanica, Catedra de Termotehnica
Perioada	01/09/1986 - 01/03/1988
Ocupatie, functie	Inginer stagiar/proiectant
Responsabilitati	-Proiectare termodinamica pentru turbosuflanta unui motor Diesel de 1500 CP -Participare la programul de teste pentru dezvoltarea motorului VIPER 632-41 (licenta Rolls-Royce) ca motor auxiliar naval
Angajator	Institutul National de Motoare Termice
Perioada	01/09/1984 - 01/09/1986
Ocupatie, functie	Inginer stagiar
Responsabilitati	- Traducere si adaptare documentatie pentru motorul turbopropulsor TV-0100 (licenta URSS) - Participare la proiectarea nabcului de probe pentru motorul TV-0100.
Angajator	Intreprinderea Turbomecanica Bucuresti

Abilitati personale si competente

Limbi straine	Engleza, Franceza
Comunicare si dialog	- abilitate de lucru in echipa in diferite medii de cercetare (proiecte FP6, FP7, cercetare post-doc, burse TEMPUS etc.) - abilitatea de a pregati si prezenta lucrari de cercetare comune la conferinte internationale si in jurnale de specialitate
Competente si abilitati manageriale	- director de grant 1) <i>Intensificarea proceselor de ardere si reducerea poluarii prin ionizarea chimica suplimentara a flacarilor</i> , grant CNCSU 22-95-05/1997, (1.000.000 ROL) 2) <i>Modelarea arderilor turbulente</i> , grant CNCSU 22-99-03/1999, (4.000.000 ROL) a) Dragos Isvoranu , Mircea Marinescu, Dorin Stanciu, <i>A thermodynamic approach towards turbulent diffusive reactive flows</i> , ECOS 2000, University of Twente, Enschede, The Netherlands, 5-7 July 2000, Proceedings of Conference, part I, pp. 313-324, ISBN 9036514665. b) Dorin Stanciu, Mircea Marinescu, Dragos Isvoranu , <i>Entropy generation rate in reacting flows</i> , ECOS 2000, University of Twente, Enschede, The Netherlands, 5-7 July 2000, Proceedings of Conference, part I, pp. 333-343, ISBN 9036514665. c) Dorin Stanciu, Dragos Isvoranu , Mircea Marinescu, Yalcin Gogus, <i>Second Law Analysis of Diffusion Flames</i> , Int.J. Applied Thermodynamics, ISSN 1301-9724, Vol. 4, (No.1), pp.1-18, 2001. d) Dorin Stanciu, Mircea Marinescu, Dragos Isvoranu , <i>Second Law Analysis of a Turbulent Flat Plate Boundary Layer</i> , Int.J. Applied Thermodynamics, ISSN 1301-9724, Vol. 3, (No.3), pp.99-104, 2000. 3) <i>Cercetari privind reducerea poluarii chimice a turbomotoarelor prin injectie multietajata de combustibil in turbina</i> , Grant CNCSIS, Tema 17, Cod 502, 2006, Nr. Intern UPB -ME-16-06-04. (134000 RON) a) Dragos Isvoranu , Parvu Petrisor, Virgil Stanciu, Corneliu Berbente, Viorel Badescu, <i>Numerical Simulation of Turbine 'in-situ' combustion based on multi-step reaction mechanism</i> , SET2006, 5th Intl. Conference, LCT048, ISBN 88-89884-05-3, pp. 671-676, 30 Aug.-1 Sep., 2006, Vicenza, Italy.

- b) **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.
- c) **Dragos Isvoranu**, Viorel Badescu, Parvu Petrisor, Corneliu Berbente, Daniel Crunteanu, *Numerical simulation of NOx emissions 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. 219-220, ISBN 978-973-718-761-1.
- d) **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, DOI: 10.1504/IJETP.2008.017026, ISSN 1472-8923, Vol. 6, Nos. 1/2, pp 5-16, 2008.

4) *Turbina cu gaze utilizand combustia in situ*, contract 286/01.07.2014, Program Parteneriate (154000 RON)

- a) **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).
- b) Constantin Leventiu, Bruno Renou, Sterian Dănilă, **Dragoș 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).
- c) 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.
- d) **Dragos Isvoranu**, Sterian Danaila, Paul Cizmas and Constantin Leventiu. (2017). *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, 8 pg.

Abilitati computationale

- OS : MS Windows, Linux
- CFD: Ansys, Fluent
- CAD : SolidWorks
- Limbaje: Fortran
- Medii de calcul: Matlab, Mathematica, Maple.

Alte competente Cercetari colaterale multidisciplinare:

- Microfluidica
- MEMS
- Termodinamica Geometrica

Am publicat 5 carti de autor, 6 capitole in lucrari de specialitate pe plan national, coautor la 3 capitole in lucrari de specialitate pe plan international.

Am colaborat 21 articole in jurnale si conferinte ISI, alte 29 in jurnale indexate BDI si conferinte internationale.

Am participat in 6 contracte de cercetare internationale si 24 nationale, atat cu mediul academic cat si cu cel economic.

Recunoastere, premii

- Citat in Leading Engineers of the World, International Biographical Center, Cambridge, England, 2006.

- Premiul Air Navigation 2011 Award pentru performante remarcabile ca lider in comunitatea academica, Air Navigation Convention 2011.

- recenzor:

- 1) Engineering Applications of Computational Fluid Mechanics (ISI),
- 2) Computational and Applied Mathematics (ISI)
- 3) American Journal of Mechanical Engineering (BDI)
- 4) American Journal of Fluid Dynamics (BDI)

- editor:

- 1) Energy Science and Technology, International Journal of Energy Science
- 2) International Journal of Energy Science
- 3) American Journal of Mechanical Engineering

Lucrarile mele au fost citate in 52 articole ISI, de 17 ori in reviste din alte BDI, in teze de doctorat si masterat pe plan international si in diverse rapoarte de cercetare.

01.10.2025

Isvoranu Dragoş

L I S T A

lucrărilor științifice în domeniul disciplinelor din postul didactic

A. Teza de doctorat

Contribuții privind optimizarea proceselor de curgere a sistemelor reactive chimic, Univ. Politehnica Bucuresti, 1999, 160 pg.

B. Cărți și capitole în cărți publicate în ultimii 10 ani

1. Alina Bogoi, Sterian Danailă, **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. **Dragoș Isvoranu** și Constantin Levențiu, Aplicații la teoria arderii în aeromotoare. (2016). Ed. Printech, ISBN 978-606-23-0691-5, 185 pg.

C. Lucrări indexate ISI/BDI publicate în ultimii 10 ani

ISI/volume conferințe

- 1) **Dragoș Isvoranu**, Sterian Dănăilă, Alina Bogoi, Constantin Levențiu. (2018). *Assessment of Chemical Time Scale for a Turbine Burner*, Transportation Research Procedia, 29, pp. 181-190.
- 2) **Dragoș Isvoranu**, Sterian Dănăilă, Paul Cizmas, Constantin Levențiu, (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.
- 3) 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.
- 4) Aurel-Sorin Lup, Gabriela Ciuprina, Ștefan Sorohan, **Dragoș 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.
- 5) Constantin Levențiu, Bruno Renou, Sterian Dănăilă, **Dragoș 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).

-- Reviste BDI

1. A. Mereu, D. Isvoranu, Joint design and simulation of GOX-GCH₄ combustion and cooling in an experimental water-cooled subscale rocket engine, (2023). INCAS BULLETIN 15 (4), 159-167
2. Dragoș Daniel ISVORANU, Petrișor-Valentin PÂRVU, Octavian Grigore. (2019). *A HYBRID PROPULSION SYSTEM FOR UAS*, Scientific Research & Education in the Air Force-AFASES, vol. 2019.
3. 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.
4. 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.
5. 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.
6. **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).
7. 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).
8. **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.
9. 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.

Conferinte BDI

1. Sterian Dănăilă, **Dragos Isvoranu**, Constantin Leventiu, 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.
2. Sterian Dănăilă, **Dragos Isvoranu**, Alina Bogoi, Constantin Leventiu, *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
3. 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.
4. 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.

D. Lucrări publicate în ultimii 10 anii în reviste și volume de conferințe cu referenți (neindexate)

- Reviste

- Selecție cu maximum 20 lucrări în volume de conferințe

E. Brevete obținute în întreaga activitate
1.

01.10.2025

Isvoranu Dragoș