

PERSONAL INFORMATION

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Date of birth

| Nationality Romanian

WORK EXPERIENCE

2007/2016–current

Lecturer/Associate Professor**National University of Science and Technology POLITEHNICA Bucharest**

Faculty of Electronics, Telecommunications and Information Technology

- Teaching undergraduate and graduate courses of Information Theory, Remote Sensing Image Processing, Exploration of Heterogeneous Data, Computational Intelligence.
- Supervising students' tasks, projects, and graduate theses.
- Conducting advanced research based on information theory concepts for remote sensing data processing, satellite time series analysis, focusing on applications in security, risk assessment, content-based retrieval, data visualization, and environmental monitoring.

ACADEMIC AND INSTITUTIONAL INVOLVEMENT

2024-present

Member of the University Senate – NUST POLITEHNICA Bucharest

2020-2024

Faculty Council Member – Faculty of Electronics, Telecommunications and Information Technology

September 2004 – current

Coordinator**GEOspatial and Smart SENSors for Environmental Applications Lab**

Campus Research Institute

- Defining thematic directions and integrating advanced technologies like AI, IoT, GIS, UAVs and satellite imagery while promoting interdisciplinary research for environmental applications.
- Developing the research strategy focused on automated and predictive methods for spatial data analysis to enhance risk anticipation capabilities and optimize environmental processes.
- Managing and supervising a diverse team, including senior researchers, postdoctoral fellows, and PhD students
- Facilitating the transition from advanced research to practical solutions in fields such as agriculture, biodiversity, urban planning, and natural hazard management.
- Building partnerships to transfer knowledge into applicable solutions.
- Enhancing the international visibility of the laboratory.

2002–current

Senior Researcher**CEOSpaceTech – Research Centre for Spatial Information**

- Managing and leading teams for European and national projects focused on Earth Observation data processing.
- Identifying and reviewing projects' requirements to ensure alignment with algorithmic objectives
- Coordinating the development of project reports and deliverables.
- Contributing to the dissemination of impactful research results through publication in top journals and participation in global forums.

EDUCATION AND TRAINING

2011 Postdoctoral Research Fellowship ISCED 6

German Aerospace Centre - DLR

Topic: Synthetic Aperture Radar Image analysis for disaster management.

2002–2006 Ph.D. in Electrical Engineering ISCED 6

Politehnica University of Bucharest

Cum Laude. Thesis: *Knowledge-based image understanding. Applications in Earth Observation Images Classification.* Focused on remote sensing image formation, signal processing, and statistical models for EO data analysis.

1997–2002 B.Sc. in Electrical Engineering ISCED 6

Politehnica University of Bucharest, Faculty of Electrical Engineering

Economic Engineering in Electrical and Power Engineering, GPA: 9.57 / 10

PERSONAL SKILLS

Mother tongue Romanian

Other languages

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C2	C2
French	B1	B1	A2	A2

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
[Common European Framework of Reference for Languages](#)

Communication and Interpersonal skills

- Compassionate, patient, and empathetic with a caring and inclusive approach to teamwork.
- Effective listener, adept at understanding and valuing others' viewpoints.
- Loyal and supportive, creating meaningful connections with colleagues and stakeholders.
- While working in collaborative settings — from interdisciplinary research teams to multi-stakeholder projects — I promote open, respectful communication and constructive dialogue.

Technical Skills

- Python (NumPy, Pandas, scikit-learn), MATLAB, R
- Jupyter Notebooks, Google Colab
- ENVI, QGIS, ESA SNAP, Google Earth Engine, EO Browser
- Google Colab, Google Drive, Git, GitHub
- Advanced LaTeX (Overleaf), BibTeX, MS Word, Zotero, Mendeley
- Microsoft Office Suite (Excel, Word, PowerPoint), Teams, Outlook

Organizational Skills

- Strong ability to lead and support teams with loyalty, diplomacy, and sincerity.
- Experienced in project management, ensuring the timely delivery of objectives within budget constraints.
- Skilled at facilitating constructive conflict resolution while maintaining team cohesion and mutual respect.
- Focused on developing creative solutions and promoting collaborative decision-making.

Personal strengths and interests

- Intuitive and solution-oriented, especially in crisis contexts.
- Consistent, trustworthy, and dependable in both personal and professional settings.
- Passionate about theater as a medium of artistic expression, which inspires creativity and enhances communication skills.
- Enjoys exploring nature and outdoor activities, which provide a balance to professional endeavors and fuel innovative thinking.

Driving licence B

ACADEMIC AND RESEARCH ACHIEVEMENTS

Coordinator of Research Projects

- [1] AI4RISK, *A fusion and management platform for multi-source data collections, exploitable by artificial intelligence models for risk situation estimation and predictive analysis*, PN-IV-P6-6.3-SOL-2024-2-0251, 2024–2026
- [2] S4UG, *Space for Urban Green Feasibility Study*, European Space Agency, 2022–2023
- [3] CENTURION – *Copernicus Datacube/AI Datacube Services for Society*, EU Horizon 2020, 2021–2024
- [4] DRAGON 5, *Large-Scale Spatial-Temporal Analysis for Dense Satellite Image Series with Deep Learning*, funded by European Space Agency (ESA) jointly with the National Remote Sensing Center of China -NRSCC, 2020–2014
- [5] SPACEND, *Endeavour SpaceHub*, H2020-SPACE-2018-2020/H2020-SPACE-2019, Grant 870480, 2019-2021
- [6] PN-III-P3-3.6-H2020-2020-0062 - *The Award for Participation in Horizon 2020 - Space Endeavour*, ctr 21/2021- ian- sept 2021
- [7] eVADE, *Interactive Visual Analysis Tool for Earth Observation Data*, ESA/AO/1-8545/16/NL/CBi Permanent Open Call for Outline Proposals under the Romanian Industry Incentive Scheme, 2017-2019
- [8] ROCEO, *The Romanian Cluster for Earth Observation*, ROSA STAR 3 Proiecte Strategice, ctr.109/07.11.2016
- [9] VATEO, *Tool for visual data mining and analytical visual exploration of satellite images of the Earth's surface*, PNDCI II Partnerships, ctr. 300/2014, 2014-2017
- [10] LEOSITS, *Long-term exploitation of satellite image time series - Extracting classes for scene dynamics* STAR - ROSA, ctr. 52/19.11.2012 Derulare, 2012-2015
- [11] GEODIM, *Platform for GeoInformation in Support of Disaster Management*, PNDCI II Partnerships ctr.202/ 04.07.2012, 2012-2014

Member in Research Projects

- [1] DTEClimate Competence Center for Climate Change Digital Twin for Earth forecasts and societal redressment, PNRR – ctr. nr. 760008/30.12.2023, 2022-2025
- [2] OGOR YIELD Maize yield data for Romania using Sentinel-2, ESA Kickstart, 2020–2021
- [3] OGOR Service history reports for arable fields, European Commission, Copernicus Accelerator Open Call, 2019–2020
- [4] SPERO, Space technologies for disaster and crisis management, UEFISCDI PNIII-SOLUȚII, 2017–2020
- [5] UPB4H,POLITEHNICA Support Center for Horizon Activities, Contract No. 250/11.05.2020, MySMIS 108792, 2020-2023
- [6] DASTool, Multispectral Data Analysis Toolbox for SNAP – ESA's SentiNel Application Platform, ESA, 2018-2020
- [7] RISE - Integrated platform for land/water monitoring based on remote and in situ measurements ROSA, STAR – C3, 2017-2019
- [8] URMA, Multi-layer Geohazards information system concept for urban areas, ESA, ITT, 2015-2017
- [9] OSIRIDE, Open source image retrieval - Integration of Developed Tools , ESA, GSTP, 2015-2017
- [10] DAMATS, Data Mining for Analysis and Exploitation of Next Generation of Time Series, ESA, GSTP, 2015-2017
- [11] SPACETECH, Competence Centre for Smart Sensors and Big Data Technology for Space Applications, STAR C2 - Research, Development, and Innovation Program - Space Technology and Advanced Research - Centers of Competence in Space Technologies, 2014-2016
- [12] CONCEDE, Content Based Query Concept for Exploration and Discovery of Information in Earth Observation and Medical Libraries , STAR - ROSA ctr.28/19.11.2012, 2012-2014
- [13] FP-6 STREAM Technology to support sustainable humanitarian crisis management, Contract No. I-10-05-02, 2005-2008

Selected publications

- [1] I. Calota, D. Faur and M. Datcu, "Dimensionality Reduction of Deep Learning for Earth Observation: Smaller, Faster, Simpler," in IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol. 16, pp. 4484-4498, 2023, (Q1), Impact factor 4.7, WOS:001010424300007
- [2] I. C. Neagoe, D. Faur, C. Vaduva and M. Datcu, "Band Reconstruction Using a Modified UNet for Sentinel-2 Images," in IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol. 16, pp. 6739-6757, 2023, (Q1), Impact factor 4.7, WOS:001040113100006
- [3] V. Vasilescu, M. Datcu and D. Faur, "Sentinel-2 60-m Band Super-Resolution Using Hybrid CNN-GPR Model," in IEEE Geoscience and Remote Sensing Letters, vol. 20, pp. 1-5, 2023, Art no. 5001905, (Q2) Impact factor 2023- 1, 4 WOS:001041986700005
- [4] V. Vasilescu, M. Datcu and D. Faur, "A CNN-Based Sentinel-2 Image Super-Resolution Method Using Multiobjective Training," in IEEE Transactions on Geoscience and Remote Sensing, vol. 61, pp. 1-14, 2023, WOS:000960567300005
- [5] M. Datcu, D. Faur, E. Mamut, I. Nedelcu, C. Ionescu and L. Miron, "Digital Twin Earth for Climate Change Adaptation: An AI based Federated System," IGARSS 2023 - 2023 IEEE International Geoscience and Remote Sensing Symposium, Pasadena, CA, USA, 2023, pp. 1392-1395, WOS:001098971601172
- [6] Daniela F., A. Griparis A, Stoica A, Mougnaud P, Datcu M. An Interactive Visual Analytics Tool for Big Earth Observation Data Content Estimation. In IGARSS 2019, IEEE International Geoscience and Remote Sensing Symposium 2019 Jul 28 (pp. 9518-9521). IEEE, WOS:000519270608172
- [7] A. Griparis, D. Faur and M. Datcu, "Quantitative Evaluation of the Feature Space Transformation Methods Used for Applications of Visual Semantic Clustering of EO Images," in IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol. 10, no. 6, pp. 2902-2909, June 2017, WOS:000406419400045
- [8] A. Griparis, D. Faur and M. Datcu, "Dimensionality Reduction for Visual Data Mining of Earth Observation Archives," in IEEE Geoscience and Remote Sensing Letters, vol. 13, no. 11, pp. 1701-1705, Nov. 2016. WOS:000386255600023, Print ISSN: 1545-598X Electronic ISSN: 1558-0571, Impact factor 2.095.
- [9] Dumitru, C.O.; Shiyong Cui; Faur, D.; Datcu, M., "Data Analytics for Rapid Mapping: Case Study of a Flooding Event in Germany and the Tsunami in Japan Using Very High Resolution SAR Images," Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of , vol.8, no.1, pp.114,129, Jan. 2015, WOS:000349550400012,
- [10] Faur, D.; Gavat, I.; Datcu, M., "Salient Remote Sensing Image Segmentation Based on Rate-Distortion Measure," Geoscience and Remote Sensing Letters, IEEE , vol.6, no.4, pp.855,859, Oct. 2009, WOS:000270761500050

Books

- [1] Daniela Faur - Teoria informatiei: de la incertitudine la structura, editura Matrix- Rom, ISBN 978-606-25-0976-7, 220 pages, 2025
- [2] I. Gavat, D. Faur - Grundlagen der Nachrichtentechnik, Editura Printech (Cod CNCSIS 54), ISBN 978-606-230581-9, 250 pages, 2016
- [3] B. Pantelimon, C., Iliescu, D., Faur – Mesurs electriques et transducteurs, Editura Matrix–Rom, ISBN 973-755-045-5, 320 pages, 2006
- [4] D. Faur, C. Pătrașcu, A. Popescu, C. Dănișor Teoria transmisiunii informatiei. Aplicatii, Editura Printech, ISBN 978-606-230594-9, 150 pages, 2016
- [5] B. Pantelimon, C., Iliescu, D., Faur – Mesurs electriques et transducteurs. Travaux de laboratoire. Editura Printech, ISBN 973-718-155-7, 170 pages, 2004