



## Curriculum Vitae

### Overview

Particulars	Date of birth	1 [REDACTED]
	Nationality	Romanian and German
Current activity		Professor University POLITEHNICA of Bucharest – UPB Visiting Professor $\Phi$ -Lab, European Space Agency (ESA)
University Degrees		Dipl.-Ing. and Doctor Engineer in Electronics, Polytechnic Institute of Bucharest, Romania Habilitation in Computer Science, University Louis Pasteur, Strasbourg, France
Experience	Management	Director of Research Center at UPB Team Leader at DLR Coordinator of the Competence Center DLR-CNES Project Management
	Expertise	Electronics and Telecommunications, Computer Science, Signal Processing, Theory of Information Transmission, statistics, Machine Learning, Artificial Intelligence, Data Science, Radar and SAR systems, EO multi-mission systems architecture design and technology, Big Data Mining and Analytics, Quantum algorithms
	Additional Activities	Member of ESA's: IPC, PB-EO (representing Romania), and Big Data from Space Working Group; Directing Ph.D. and M.S. theses; IEEE GRSS Distinguished Lecturer; Journals co-editor; Reviewer of science & engineering institutions, programs, projects and articles
	Summary of publications	Theses: 2 (Ph.D. and habilitation) Articles in peer reviewed journals: 166 in preparation 3 Articles in conference proceedings: more than 400 Books: 3, chapters 21, books under work 1 Other articles: more than 100 Invited conferences, key notes, tutorials: 182 H-Index: Google Scholar 43
	Languages	English      fluent French        fluent German        fluent Spanish        fluent Romanian     mother tongue

### Working Experience

1990 – present	Professor, Faculty of Electronics, Telecommunications and Information Technology	University POLITEHNICA of Bucharest UPB, Romania
1993 – 2023	The Senior Scientist of the Remote Sensing Technology Institute – IMF and Team Leader Data Intelligence and Knowledge Discovery (presently PhD director)	German Aerospace Center - DLR, Germany
2020 – 2021	Delegate, DLR-ONERA Joint Virtual Center for AI in Aerospace	French Aerospace Lab ONERA Paris, France
2018 – 2020	<i>Chaire d'excellence internationale Blaise Pascal</i> on EO Data Science	CNAM, Paris, France
2011 – 2019	Head, Immersive Visual Information Mining TUM-DLR Joint Lab	Munich Aerospace Faculty Munich, Germany
2011 – present	Director, Research Center for Spatial Information	UPB Bucharest, Romania
2005 – 2013	Professor, CNES/DLR Chair for Information Image Understanding for Earth Observation and Coordinator of CNES/DLR/ <i>Télécom</i> Competence Center	Paris Institute of Technology <i>Télécom</i> Paris, France
1992 – 2004	Invited Professor, Dept. Image Science, Institute for Communication Technology	Swiss Federal Institute of Technology ETH Zurich, Switzerland
1990 – 1992	Director, Research Centre for Space <i>Teleinformatics</i>	UPB Bucharest, Romania
1981 – 1990	Assistant/Associate Professor, Faculty of Electronics and Telecommunications	UPB Bucharest, Romania
1978 – 1981	Scientist	Electrical Research Institute – ICPE, Bucharest, Romania

### Education

1999	Habilitation in Computer Science	University <i>Louis Pasteur</i> Strasbourg, France
1986	Doctor Engineer in Electronics	Polytechnic Institute of Bucharest, Romania
1978	Dipl.-Ing. in Electronics and Telecommunications (first from 350 students)	Polytechnic Institute of Bucharest, Romania

## Projects

2023-2027	EuroQCS-France, EUROHPC-2022-CEI-QC-01, Co-investigator
2023-2025	Competence Center for Climate Change Digital Twin for Earth forecasts and societal redressment: DTEClimate, in the frame of Romania National Recovery and Resilience Plan, Project Manager and PI
2023-2025	ESAWAAI - Explainable SAR measurements for Wind Assessment with Artificial Intelligence, Co-investigator
2023-2024	ARTISTE, ESA, Co-investigator
2022-2024	SARWAVE, ESA, Co-investigator
2021-2022	BULPP: Bulk Processing Via Parallel Computing, ESA, Co-investigator
2021-2024	QT STRAT: National Strategy for Quantum Communications, Romanian Mistry of Education, Co-investigator
2022-2024	QUANTEC: Implementation of the National Reference Center for Quantum Communications, Romanian Mistry of Education, Co-investigator
2021-2024	Aerial Data Fusion and Remote Sensing System for Emergency Situations, Romanian Mistry of Education, Co-investigator
2021-2024	BDAGeoINT: Actionable Intelligence from Big Geospatial Data, Romanian Mistry of Education, Co-investigator
2021-2025	DRAGON 5: Large-Scale Spatial-Temporal Analysis for Dense Satellite Image Series with Deep Learning, ESA-NASCC, PI
2021-2023	CENTURION: Copernicus DataCube/ AI DataCube Services for Society, Industry and new Market Generation H2020, Co-investigator
2021-2023	xAI: Explainable Deep Learning for Earth Observation, Exploratory Research Project, PCE-2020, Project Manager and PI
2019-2023	MENELAOS_NT, European Training Network (ETN) on Multimodal Environmental Exploration Systems – Novel Technologies, H2020-MSCA-ITN-2019, UPB Co-investigator
2019-2021	ExtremeEarth: From Copernicus Big Data to Extreme Earth Analytics, H2020, DLR Co-investigator
2019-2022	AI4EU: A European AI On Demand Platform and Ecosystem, H2020, DLR Project Manager and Co-investigator
2018-2021	CANDELA: Copernicus Access Platform Intermediate Layers Small Scale Demonstrator, H2020, DLR Project Manager and Co-investigator
2017-2020	Computational Technologies: Feasibility Studies of Quantum Enabled Annealing Algorithms for Estimating Terrestrial Carbon Fluxes from OCO-2 and the LIS Model, NASA Advanced Information Systems Technology Program, Co-investigator
2017-2022	Automated Scientific Discovery, Information und Data Science, HGF Helmholtz-Gemeinschaft, DLR Project Manager and Co-investigator
2015-2018	BigSkyEarth - Big Data Era in Sky and Earth Observation, COST action, Co-investigator
2015-2018	C-TEP - Costal Environment Thematic Exploitation Platforms, ESA, DLR Project Manager and Co-investigator
2015-2018	ECOPOTENTIAL - improving future ecosystem benefits through earth observations, H2020, DLR Project Manager and Co-investigator
2013- 2017	SpaceTech - Competence Centre for Smart Sensors and Big Data Technology for Space Applications, Romanian Space Agency (ROSA) grant, Project Manager
2013- 2016	BIO-SAR - Terrestrial P-band synthetic aperture radar for biomass mapping, Romanian Space Agency (ROSA) grant, Project Manager
2012 -2016	GRADIS - Ground-based RADAR for Very Precise Displacement Measurements, Romanian Ministry of National Education grant, Project Manager

- 2012 -2016 GEODIM - Platform for Geo-Information in Support of Disaster Management, Romanian Ministry of National Education grant, Co-investigator.
- 2012 -2016 DGI-SAR - Space borne Multiple Aperture Interferometry and Sequential Patterns Extraction Techniques for Accurate Directional Ground and Infrastructure Stability Measurements, Romanian Ministry of National Education grant, Co-investigator.
- 2012 - 2016 TOMOSAR - Enhancing 4-dimensional Synthetic Aperture Radar Measurements, Romanian Ministry of National Education grant, Project Manager
- 2012 - 2015 THz Imaging - Compressive THz Imaging and Hadamard Spectroscopy for Space Applications, Romanian Space Agency (ROSA) grant, Co-investigator
- 2012 - 2015 BISTATIC PSI - Bistatic SAR Demonstrator for PS Interferometry using a Fixed-Receiver Configuration, Romanian Space Agency (ROSA) grant, Co-investigator
- 2012-2015 DCA-WSN - Distributed Coding Algorithms for Energy Saving in Wireless Sensor Networks Applications, Romanian Space Agency (ROSA) grant, Co-investigator
- 2012- 2015 CONCEDE - Content Based Query Concept for Exploration and Discovery of Information in Earth Observation and Medical Libraries, Romanian Space Agency (ROSA) grant, Co-investigator
- 2012 - 2015 LEO-SITS - Long term data exploitation for Satellite Image Time Series - Extraction of Classes for Scene Dynamics, Romanian Space Agency (ROSA) grant, Co-investigator
- 2011 – 2017 EOLib - Earth Observation Librarian, ESA, Principal Scientist
- 2010 – 2013 TELEIOS - Virtual Observatory Infrastructure for Earth Observation Data, EC-FP7, DLR Project Manager
- 2010 – 2012 OBSERVE - Strengthening and development of Earth Observation activities for the environment in the Balkan area, EC-FP7, DLR Project Manager
- 2009 – 2011 KEO - Demonstrator with Models for Land Use Management KLAUS, ESA, Co-investigator, DLR Project Manager
- 2009 – 2010 KIM - Extensions and Installations, ESA, Co-investigator, DLR Project manager
- 2008 – 2011 RoKEO - Romanian Knowledge Centered Earth Observation, (Romanian Space Agency - ROSA and ESA PECS) - Principal Scientist and Project Manager
- 2008 – 2011 TargetSAR- Intelligent applications for SAR Systems in the field of electronic research (Romanian Ministry of Education and Research), Principal Scientist and Project Manager
- 2007 – 2009 IIM-ITS - Information Mining in Satellite image Time Series, Co-investigator, DLR Project Manager
- 2007 – 2009 Primitive descriptors for indexing high resolution satellite images, Principal Scientist
- 2007 – 2010 GeoINF - Geoinformation Search Engine Prototype, (Romanian Ministry of Education and Research) - Principal Scientist and Project Manager
- 2007 – 2010 RoSAR - New applications of Synthetic Aperture Radar SAR data, (Romanian Ministry of Education and Research), Principal Scientist and Project Manager
- 2007 – 2010 SIGUR - Satellite Based Emergency Response Services, (Romanian Ministry of Education and Research), Principal Scientist and Project Manager
- 2006 – 2010 SEOKIM - Expert system for natural risk management, (Romanian Ministry of Education and Research), Principal Scientist and Project Manager
- 2005 – 2010 Information Extraction and Image Understanding for Earth Observation, (German Aerospace Center- DLR and French Space Agency-CNES), Principal Scientist and Project Manager
- 2005 – 2009 PIMS - Partner Information Mining System, ESA, Principal Scientist and Project Manager
- 2005 – 2009 KEO, Knowledge Centered Earth Observation, ESA, Principal Scientist and DLR Project Manager
- 2005 – 2006 SatEXPLORE - Methods and Pilot system for Risk Management based on EO data, Romanian Space Agency (ROSA) grant, Principal Scientist
- 2004 – 2008 STREAM - Technology to Support Sustainable Humanitarian Crisis Management, EC-FP-6, Co-investigator

- 2003 – 2005 KIMV - Knowledge Driven Information Mining Validation, ESA, Principal Scientist and Project Manager
- 2002 – 2005 KES - Knowledge Enabled Services, ESA, Principal Scientist, DLR Project Manager
- 2002 – 2005 PRESENSE - algorithms and system for high resolution remote sensing image analysis for monitoring gas pipelines, EC-FP5, Co-investigator
- 2002 – 2005 SMART - algorithms and system for high resolution airborne image analysis for detection of mine fields, EC-FP5, Co-investigator
- 2001 – 2005 Image Information Mining and Scene Understanding for Satellite Images, (German Aerospace Center- DLR and French Space Agency-CNES) - Principal Scientist and Project Manager
- 2001 – 2002 KIM - Knowledge Driven Information Mining, ESA, Principal Scientist and Project Manager
- 2001 – 2004 Knowledge Discovery & Data Mining Based on Hierarchical Segmentation of Images, Intelligent data Understanding IDU, NASA, Co-investigator
- 2001 – 2004 Virtual-Planet - integration of image analysis and synthesis for enhanced virtual reality, EC-FP5, Co-investigator and DLR Project Manager.
- 2000 – 2002 SRTM - Shuttle Radar Topography Mission, Algorithms development for InSAR filtering, phase unwrapping and SAR image registration, DLR and JPL-NASA, Co-investigator
- 1998 – 2001 Model-Based Remote Sensing Image Analysis for Snow Segmentation in Mountainous Areas, (Swiss National Funds for Scientific Research – FNS) - Principal Scientist
- 1996 – 2000 Advanced Query and Retrieval Techniques for Remote Sensing Image Databases, (Swiss Federal Institute of Technology - ETH Zurich) - Principal Scientist
- 1996 – 2000 Security Relevant Earth Observation, DLR, Principal Scientist
- 1995 – 1997 Remote Sensing Scene Understanding by Model-Based Interpretation Techniques, (Swiss National Funds for Scientific Research - FNS) - Principal Scientist
- 1994 – 2005 Algorithms for Information Extraction and Scene Understanding for high resolution Synthetic Aperture Radar SAR and interferometric SAR sensors. Multi-sensor data and information fusion, DLR, Principal Scientist and Coordinator
- 1994 – 1996 Analysis of the Remotely Sensed Data Using 3D Signal Processing Techniques, (Swiss National Funds for Scientific Research - FNS) - Principal Scientist
- 1993 – 1995 Integrated image compression and sensor calibration for the MARS'96 high resolution stereo camera, DLR, Principal Scientist
- 1993 – 1994 Contributions to the Settlement of Remote Sensing Activities at the Center for Space Teleinformatics (CTS), University Politehnica Bucharest, Swiss National Funds for Scientific Research (FNS) - Principal Scientist
- 1993 – 1994 The 3D Analysis of Multivariate Images in the Transformed Space, (Swiss National Funds for Scientific Research - FNS) - Principal Scientist
- 1993 – 1995 Multiprocessors-multidisc information storage systems, (Swiss National Funds for Scientific Research - FNS) - Principal Scientist
- 1988 – 1991 Algorithms and system for mechanical vibration identification using Electronic Speckle Interferometry ESPI, (Electric Research Institute Bucharest), Principal Scientist and Project Manager
- 1988 – 1989 Software for ecographic image processing, (*Colentina* Hospital, Bucharest), Principal Scientist and Project Manager
- 1987 – 1988 Hardware and software for infrared image acquisition, (Computer Factory Bucharest) - Principal Scientist and Project Manager
- 1986 – 1988 Image processing and pattern recognition algorithms and system for robot vision, (Mechanic R&D Institute Bucharest - Principal Scientist and Project Manager
- 1984 – 1986 Automatic digital image analysis system SAADI, (Computer Factory and Electric Research Institute Bucharest) - Principal Scientist and Project Manager

1981 – 1985 Image processing system for microscope analysis, (Electric Research Institute Bucharest)  
- Principal Scientist and Project Manager

#### Invited Professor Positions

2020-present  $\Phi$ -Lab, European Space Agency (ESA)  
2022 Wuhan University, EIS-WHU Summer School International 2022-Online Course, China  
2017 Chinese Academy of Science, Shenyang Institute of Automation, China  
2014 University of Trento, Italy  
2008 – 2010 Dept. Signal and Communication Theory, University of Alcala, Spain  
2008 – 2010 Dept. Computer Science, University Tor Vergata, Rome, Italy  
2007 Dept. Signal, Systems and Radio-communication, University *Politehnica* Madrid, Spain  
2003 – 2007 Dept. Geo-informatics, *Universidad Pontificia de Salamanca, campus de Madrid*, Spain  
2003 – 2007 Dept. Bio-informatics, University of Camerino, Italy  
2003 Center for Sensor Systems - ZESS, University of Siegen, Germany  
2000 – 2002 Dept. Compute Science, University Louis Pasteur, Strasbourg, France  
2000 – 2002 International Space University - ISU, Strasbourg, France  
1994 Swiss Center for Scientific Computing - CSCS, Manno, Switzerland  
1991 – 1992 Faculty of Mathematics, University of Oviedo, Spain

#### Teaching summary

- Theory of Information Transmission
  - Decision and Estimation Theory
  - Data communication
  
- Image Information Mining
  - Image Analysis
  - Data Mining and KDD
  
- Remote Sensing Technology
  - Geo-information Theory and Engineering
  - RADAR systems and SAR processing and applications
  
- Artificial Intelligence
  - Artificial Intelligence for Earth Observation
  - Deep Learning and applications in Earth Observation

#### Directing Ph.D. and M.S. theses summary

**Directing 63 Ph.D. Theses** defended at the Swiss Federal Institute of Technology ETH Zurich (Switzerland), University of Siegen (Germany), ParisTech Telecom Paris (France), Technical University Berlin (Germany), Technical University Munich (Germany), Beijing Institute of Technology (China), China Academy of Science (CAS), Technical Military Academy Bucharest (Romania), University POLITEHNICA of Bucharest (Romania)

The **thematic** of the Ph.D. are in the fields of data science, information theory, statistical modeling, Bayesian inference, machine learning, quantum algorithms, information mining and image understanding and deep learning with applications to information extraction and

understanding of high resolution Synthetic Aperture Radar SAR and optical Earth Observation data.

### **Directing 93 M.S. Theses**

In the fields of Data Mining, theory and algorithms for image analysis, pattern recognition, computer graphics, visualization, image compression, coherent imaging, circuits and systems for real time image and video processing, microprocessor systems for data acquisition.

### **Publications summary**

- Theses: 2 (Ph.D. and habilitation)
- Articles in peer reviewed journals: published 166 in press 3
- Articles in conference proceedings with peer review: more than 400
- Books: published 3, chapters published 21, books under work 1
- Other articles in conference proceedings or presentations: more than 100
- Invited conferences, key notes, tutorials: 182
- H-Index: Google Scholar 43

### **Honors and awards**

2022	<i>IEEE GRSS David Landgrebe Award</i> in recognition of outstanding contributions to Earth Observation analysis using innovative concepts for big data analysis, image mining, machine learning, smart sensors, and quantum resources
2018	<i>Ad Astra Award</i> for Excellence in Science
2018-2022	IEEE Geoscience and Remote Sensing <i>Distinguished Lecturer for AI in Earth Observation</i> .
2017	<i>Blaise Pascal International Chair of Excellence</i> for recognition in the field of Data Science in Earth Observation, with the <i>Centre d'Etudes et de Recherche en Informatique (CEDRIC)</i> at the <i>Conservatoire National des Arts et Métiers (CNAM)</i> in Paris.
2013	IEEE Fellow, Computer, Signal Processing and Geoscience and Remote Sensing Societies ( <i>for contributions to information mining of high resolution synthetic aperture radar and optical earth observation images</i> )
2010	DigitalGlobe <i>8 bands</i> competition Prize
2008	<i>National Order of Merit with the rank of Knight</i> , for outstanding international research results, awarded by the President of Romania
2006	<i>Best Paper Award</i> , IEEE Geoscience and Remote Sensing Society Prize
2006	<i>IEEE Italian chapter prize Gold student paper</i>
2000	<i>DLR Seniorwissenschaftler (Senior Scientist)</i> for activities in Information Theory, Image Analysis, Image Information Mining
2000	<i>DLR diploma of merit</i> for the activities in the fields of Synthetic Aperture Radar (SAR) and SAR Interferometry in the project Shuttle Radar Topography Mission (X-SAR/SRTM)
1987	<i>Romanian Academy Prize Traian Vuia</i> awarded for the development of SAADI image analysis system and activity in image processing
1977/78	Best student <i>Republican Fellowship</i>
1975	<i>Award from the National Students Contest in Theoretical Physics</i> .

### Selected Memberships and Functions

From 2022	Member of the NATO Science for Peace and Security (SPS) Programme's 'Independent Scientific Evaluation Group' (ISEG)
From 2020	Panel member, National Council for Attestation of University Degrees, Diplomas and Certificates (CNATDCU)
From 2021	Associate Editor IEEE GRSL and IEEE JSTARS
2021-2023	Guest Editor Special Issue on "Quantum resources for Earth Observation", IEEE JSTARS
2020-2021	Guest Editor "Explainable AI4EO Training and Benchmarks: data sets methodologies and tools" A GRSL special stream
2019-2020	Guest Editor, MDPI Remote Sensing Special Issue "Content-Based Remote Sensing Image Retrieval"
2019	Co-organizer Workshop „Quantum Algorithms“ Nov. 18, Cyber Defense Institute, <i>Bundeswehr</i> University Munich
2018	Guest Editor, Special Issue: Information Processing for Unmanned Aerial Vehicles (UAVs) in Surveying, Mapping, and Navigation, Geo-spatial Information Science
2015	Guest Editor, Management and Analytics of Remotely Sensed Big Data, SPIE
From 2014	Co-organizer of the ESA Big Data From Space BiDS conference
From 2013	Member of the ESA's Big Data from Space BiDS Working Group
From 2012	Member of the council of the Doctoral School, Faculty of Electronics, Telecommunications and Information Technology, UPB
2011- 2017	Member of ESA's IPC, PB-EO and DOSTAG (representing Romania)
From 2009	International Editorial Board Member, International Journal of Image and Data Fusion, Taylor & Francis
From 2009	Organizer and Co-chair of the joint GEOSS Workshop and Summer School on Innovative Data Mining Techniques in Support of Global Earth Observations
2008 - 2012	Member of the NATO Science for Peace & Security Panel
2008 -2010	Guest Editor, IEEE Geoscience and Remote Sensing Letters, Special Issue on Image Information Mining: Pursuing Automation of Geospatial Intelligence for Environment and Security
2006 - 2007	Guest Editor, IEEE Transactions on Geoscience and Remote Sensing, Special Section on Image Information Mining for Earth Observation Data
2004	Chair and organizer of the special session on Understanding high resolution satellite images, at ACIVS 2004 Advanced Concepts for Intelligent Vision Systems Aug. 31-Sept. 3, 2004, Brussels, Belgium.
2003-2013	Member of the ESA's Image Information Mining Coordination Group IIMCG
From 2003	Member of the IEEE Data Archiving Working Group
From 2003	Member of the Scientific Council of the International Postgraduate Program IPP, ZESS - Zentrum für Sensorsysteme, University of Siegen, Germany
2002	Organizer and chair of the 1 <sup>st</sup> Image Information Mining Workshop, Zurich 19.09.02
From 2002	Chair and organizer of the conference: Theory and Applications of Image Information Mining, ESA-SatCen-JRC, with the support of IEEE GRS society
2000 - 2009	Organizer and chair of the yearly DLR-CNES (CCT) Workshop on information extraction from high resolution SAR and optical EO images
From 1998	On yearly base, Organizer and Chair or Co-chair of IGARSS special sessions on information extraction from high resolution SAR images, and Image Information Mining



From 1998	Reviewer of national/international projects or Institutions in fields related to SAR and EO (Belgium, Israel, Italy, Romania, Spain)
1998 – 2006	Participant at the NATO SET/TG.14 working group Advanced Millimeterwave Techniques for Ground Target Acquisition
From 1997	On yearly base Chair or Co-chair of IGARSS sessions on SAR, Image analysis, Compression, or related topics
1996 – 1998	Member of the CEOS Working Group on Calibration and Validation - SAR Subgroup
1995 – 1998	Member of the ISPRS working group for SAR image interpretation
From 1993	Reader and jury member for Ph.D. and Habilitation theses at several Universities in Europe (France, Germany, Italy, Romania, Slovenia, Spain), an average of 2 theses/year
From 1993	Reviewer of international journals (IEEE Tr. on Geoscience and Remote Sensing, IEEE Tr. on Image Processing, IEEE Tr. on Pattern Analysis and Machine Intelligence, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Geoscience and Remote Sensing Letters, IEEE Tr. on Neural Networks, Pattern Recognition Letters, International Journal of Remote Sensing, IET, etc.)
1993 – 2000	Member of the ESA Working Group on Data Compression
1990	Diplomatic representative of Romania at the United Nations Committee on the Peaceful Uses of Outer Space, COPOUS - New York
1986 – 1991	Representative of the Faculty of Electronics and Telecommunications to the University Senate, Polytechnic Institute Bucharest, Romania
1984 – 1991	Member of the Professorate Council, Faculty of Electronics and Telecommunications, Polytechnic Institute Bucharest, Roman

### Invited lectures and tutorials

1. AI for Earth Observation 30 Jan. 2023, Digital University Kerala Seminar, IEEE GRSS Distinguished Lecture
2. Quantum Computing for Earth Observation, 28/29 Jan. 2023, MIGARS 2023 Hyderabad, Keynote
3. Physics Informed Artificial Intelligence and Quantum Machine Learning for Earth Observation, 70th University Anniversary of China University of Geoscience (Wuhan), Nov. 12, 2022, invited lecture (8080 attendees)
4. Artificial Intelligence and Quantum Computing for EO: Towards the Digital Twin Earth, Aug 19, 2022, University of Missouri, invited lecture
5. Physics Guided and Quantum Artificial Intelligence for Earth Observation: towards the Digital Twin Earth, IGARSS 2022, 17 July, Kuala Lumpur, full day tutorial
6. AI for Earth Observation, National University of Singapore NUS, 26 July, invited lecture
7. Quantum computing for Earth Observation, Nanyang Technological University - NTU Singapore, 27 July 2022, invited lecture
8. Advanced signal processing and AI for SAR, Nanyang Technological University - NTU Singapore, 27 July 2022, invited lecture
9. Earth Observation Data Science: particularities and challenges, Indian Society of Remote Sensing (ISRS), Hyderabad Chapter, June 23, 2022, virtual
10. Earth Observation Data Science: particularities and challenges, Indian Society of Remote Sensing (ISRS), Hyderabad Chapter, June 23, 2022, virtual

11. Quantum computing - Results and Perspectives in Earth Observation, SONDRRA 5<sup>th</sup> Workshop, June 15, 2022, Avignon, France
12. Artificial Intelligence for Digital Twin Earth, SONDRRA 5<sup>th</sup> Workshop, June 15, 2022, Avignon, France
13. Physics Guided AI: Hybrid paradigms and Quantum Machine Learning for EO, IEEE GRSS Chapter jointly with Computer Society and SPSS Chapter of Gujarat Section "Winter School on Advances in Deep Learning for Multimedia signal Processing", March 5, 2022, virtual
14. Earth Observation Big Data Intelligence: theory and practice of deep learning and big data mining, Deep Learning in Earth Science Workshop 2022, State key laboratory of remote sensing science, Chinese Academy of Sciences, Beijing, January 8, 2022, virtual
15. AI4EO: from physics guided paradigms to quantum machine learning InGARSS 2021, December 9, 2021, virtual
16. AI4EO: from physics guided paradigms to quantum machine learning, Hunan University, IEEE GRSS Distinguished Lecture, IEEE GRSS Changsha Chapter, November 18, 2021, virtual
17. Artificial Intelligence for Earth Observation, IEEE GRSS Distinguished Lecture, Front Range Geoscience and Remote Sensing Society of the IEEE, October 21, 2021, virtual
18. Earth Observation Data Intelligence and Knowledge, Discovery, IEEE GRSS Distinguished Lecture, GRSS Kolkata Chapter in collaboration with GRSS Bombay Chapter, September 25, 2021, virtual
19. Machine Learning meets Computational Imaging: Artificial Intelligence for Earth Observation, 2021 IEEE International Conference on Image Processing ICIP, September 19, 2021, Anchorage, Alaska, virtual
20. Remote-sensing: Data mining for assessing environmental impacts, Deltas & Wetlands" DDNI Scientific Event Community, 28-th edition, Deltas & Wetlands DDNI International Symposium, Tulcea, September 13 - 18, 2021
21. Artificial Intelligence for Earth Observation, IEEE GRSS Distinguished Lecture, IEEE Geoscience and Remote Sensing Society ACT and NSW Chapter, Canberra, Australia, 17 August 2021, virtual
22. Artificial Intelligence for Earth Observation, IEEE GRSS Distinguished Lecture, IEEE CIS/GRSS JT. CHAPTER HYDERABAD, 31 July 2021
23. Big Data from Space, panel and key note, International Space University ISU, Alumni Conference, 30 July 2021 virtual
24. Artificial Intelligence for Earth Observation, IEEE GRSS Distinguished Lecture, 2021 IEEE Geoscience and Remote Sensing Society Summer School (GR4S) on Modeling in Microwave and Optical Remote Sensing Beijing Normal University (China), 20th July 2021 (9705 identified participants)
25. Explainable AI for Earth Observation, Open Science Innovation in PhD programme through Earth Observation: toward next career skills development InnEO Summer School, 19 July 2021, Brasov, Romania
26. From Big EO Data to Digital Twins: Hybrid AI and Quantum based Paradigms, tutorial IGRSS 2021, 10 and 11 July, 2021, (virtual)
27. Explainable Deep Learning: Paradigms for Earth Observation. XXIVth ISPRS Congress, 8 July 2021, virtual
28. Computer Vision and beyond: Pattern Recognition for Satellite Images, IEEE Conference on Computer Vision and Pattern Recognition CVPR 2021, (with Yuliya Tarabalka and Devis Tuia), 19th June, 2021 (Virtual)

29. AI4SAR: An Overview, ONERA - Fort de Palaiseau - 91120 Palaiseau, Confv@rence Jitsi, June 8, 2021
30. From HPC to Quantum paradigms in Earth Observation, Summer School High-Performance and Disruptive Computing in Remote Sensing (HDCRS) Working Group- HDCRS IEEE Geoscience and Remote Sensing Society (GRSS), Earth Science Informatics (ESI) Technical Committee, 1<sup>st</sup> June, 2021, (virtual)
31. Physics aware explainable AI for Earth Observation, 17.12.2020 CNAM, Paris (virtual)
32. Earth Observation Big Data Intelligence: Theory and Practice of Deep Learning and Big Data Mining, tutorial, IGARSS 2020, 26 Sept., (with Feng Xu, Akira Hirose), (virtual)
33. Quantum Machine Learning: Earth Observation Challenges, International Workshop on: "Quantum computing and Quantum engineering", 21 Sept, 2020, Dardanos,Çanakkale Turkey (virtual)
34. Earth Observation Data Science and Beyond, in the frame of Blaise Pascal International Chair Febr. 18, 2020, CNAM, Paris
35. Satellite Image Time Series, 31.01.2020, National Institute of Geographic and Forest Information, (IGN), Paris (in the frame of Blaise Pascal International Chair)
36. Earth Observation Big Data Challenges: the AI change of paradigm, AI4EU Café on Jan 29th, 2020 Live Webinar
37. Explainable Deep Learning: Paradigms for Earth Observation, Jan. 28th, 2020, IEEE GRSS Live Webinar Series, IEEE.tv Live
38. Compression Based Pattern Recognition: Data Content Communication Channels, in the frame of Blaise Pascal International Chair, 23<sup>rd</sup> Jan. 2020, Paris, France.
39. AI & Earth Observation, AI4OAC: workshop on AI for Ocean, Atmosphere and Climate Dynamics 20<sup>th</sup> Jan 2020 ,Brest, France
40. Satellite Image Time Series Analysis, in the frame of Blaise Pascal International Chair, 19 Nov 2019, Paris, France.
41. EO Big Data Mining: AI paradigms, tools and applications. *Neue Perspektiven der Erdbeobachtung* Symposium, 13th Nov. 2019, Cologne, Germany. (with Dr. Corneliu Octavian Dumitru)
42. Space technology: the change of paradigm, The semi-centenary of the Romanian research in micro-nano electronics and prospects for the evolution of the field, Romanian Academy, 19th Sept. 2019, Bucharest, Romania.
43. EO Spatio-Temporal Patterns Extraction, Key note, MULTITEMP19, Conference, 6 August 2019, Shanghai, China
44. AI4SAR: science and technology, Key note, BIGASRDAT19 Conference, 5 August 2019, China Academy of Science CAS, Beijing, China
45. Earth Observation Big Data Intelligence: theory and practice of deep learning and big data mining, tutorial, IGARSS 2019, 28nd July 2019, Yokohama, Japan (with Akira Hirose and Feng Xu)
46. AI4EO, IIT Bombay Diamond Jubilee lecture series, IEEE GRSS DL, February 27, 2019, India
47. Artificial Intelligence for Very High Resolution Earth Observation: Environment Monitoring, Sorbonne Université, April 5th, 2019, Paris, France (in the frame of Blaise Pascal International Chair)
48. Artificial Intelligence Training and Benchmarking for Earth Observation: Data Sets and Procedures CNAM, 29 Nov., 2018, Paris, France (in the frame of Blaise Pascal International Chair)

49. Big SAR Data Science: Physics based Machine Learning and Artificial Intelligence, IET Radar, 16<sup>th</sup> Oct. 2018, Nanjing, China
50. Earth Observation Data Intelligence and Knowledge Discovery, Beijing Institute of Technology BIT, 15<sup>th</sup> Oct. 2018, Beijing
51. Artificial Intelligence for Earth Observation, Conference of China Academy for Space Technology CAST, 11<sup>th</sup> Oct. 2018, Beijing, China
52. Machine Learning meets Computational Imaging: Big Data Analytics for Earth Observation, IEEE International Conference on Image Processing ICIP2018, 7<sup>th</sup> Oct. 2018, Athena, Greece.
53. Quantum Machine Learning: Earth Observation Challenges, DLR Workshop on Quantum Computing for Applications in Science and Industry, 2<sup>nd</sup> Oct. 2018m Köln, Germany
54. Earth Observation Big Data Intelligence: the paradigm shift, Advanced Concepts for Intelligent Vision Systems Acivs 2018, 25<sup>th</sup> Sept. Poitiers, France
55. Earth Observation Big Data Intelligence: theory and practice of deep learning and big data mining, tutorial, IGARSS 2018, 22nd July 2018, Valencia, Spain (with Feng Xu)
56. The Earth Observation Sensory Gap: from Bayesian Inference to Deep Learning, TerraData Workshop: ESIEE, 25<sup>th</sup> June, 2018, Marne la Vallée, France (in the frame of Blaise Pascal International Chair)
57. Deep Learning for Earth Observation, Joint ONERA – CNAM Workshop, 5<sup>th</sup> April, 2018, ONERA Palaiseau, Paris, France (in the frame of Blaise Pascal International Chair)
58. AI4SAR: Artificial Intelligence for Synthetic Aperture Radar, Centrale-Supélec, 4th May, 2018, Paris, France (in the frame of Blaise Pascal International Chair)
59. Earth Observation Data Science: particularities and challenges, 9th March, 2018, CNAM, Paris, France (in the frame of Blaise Pascal International Chair)
60. Big SAR Data, Key note, BIGASRDAT17 Conference, 13 Nov 2017, China Academy of Science CAS, Beijing, China
61. Advanced SAR data understanding, invited lecture, 14 Nov. 2017, Beijing Institute of Technology, Beijing, China
62. Advancing EO Data Science, invited lecture, 15 Nov. 2017 China Academy of Space Technology CAST, Beijing, China
63. Data Science: Progress and Perspectives, Key Note, 29 Nov. 2017, Big Data from Space Conference, Toulouse, France
64. Earth Observation Big Data: The Data Science paradigm shift, tutorial, IGARSS 2017, July 23, Fort Worth, Texas, USA.
65. Big Data from Space, Invited lecture, 3rd China High Resolution Earth Observation Conference, November 25, 2016, Shanghai Jiao Tong University, Shanghai, China.
66. Big Data Analytics for Earth Observation, October 10-14, invited lectures, Big Data from Space: algorithms and methods, Wuhan University, China.
67. Image Understanding and Information Mining for Very High Resolution Earth Observation, tutorial, ICIP 2016, September 25, Phoenix, Arizona, USA.
68. Big Data Analytics for Earth Observation, invited lecture, September 20, 2016, Center for Hybrid Multicore Productivity Research (CHMPR), University of Maryland, Baltimore County (UMBC), Baltimore, USA.
69. Big Data Mining for Earth Observation: a paradigm shift, invited lecture, September 19, 2016, NASA, GSFC, Greenbelt, USA.

70. Big Data Analytics: Algorithms, Methods and Tools for Earth Observation, tutorial, IGARSS 2016, July 10, Beijing, China.
71. Big data science for Earth observation - large scale visual analytics and knowledge discovery, invited Helmholtz Open Science, June 14&20, 2016, Webinar.
72. Mining Sensor Data, Big Data from Space BiDS 2016, keynote, March 16, Santa Cruz de Tenerife, Spain.
73. Data analytics, invited lectures, BigSkyEarth Training School, German Aerospace Center DLR, April 4-9, 2016, Oberpfaffenhofen, Germany.
74. SAR image analysis and understanding, postgraduate lectures, Embrapa Agricultural Informatics and Unicamp, 18-22 Jan. 2016, Campinas, Brazil.
75. DLR Activities in Image Information Mining: Results and Perspectives, Image Information Mining Conference (IIM) 2015, 29-20 Oct 2015, Bucharest, Romania.
76. SAR Information Extraction in the Era of Big Data, IET International Radar Conference, 14-16 Oct 2015, Hangzhou, China.
77. Copernicus: how big data will foster innovative ideas in the area of environment and society, fourth edition of the East-European Copernicus conference, 1-2 October, Bucharest.
78. Mining Big EO Data, Big Data in Secure Societies - 1st Workshop, 01 Sep 2015, Brussels, Belgium.
79. Big Data from Earth Observation: analytics, mining, semantics, tutorial, IGARSS 2015, 26 July, 2015, Milan, Italy.
80. Invited series of lectures on Image Mining algorithms and applications, Embrapa Agricultural Informatics, Campinas, Universidade de São Paulo, and Universidade Federal de São Carlos São Carlos 22-23 April, 2015, Brazil.
81. Information Mining for Satellite Image Time Series: Methods and Perspectives, 17th Brazilian Remote Sensing Symposium (SBSR), 25-29 Apr 2015, Joao Pessoa, PB, Brazil.
82. Lecture on SAR, China Academy of Space Technology CAST, 8-10 Dec 2014, Beijing, China
83. Mining Earth Observation Big Data: methods and applications, tutorial, IGARSS 2014, 12 July 2014, Quebec, Canada.
84. Smart Sensors Against Big Data: David and Goliath of Technology, ARSI14 & KEO14, 1-2 Oct. 2014, ESA/ESTEC, Noordwijk, The Netherlands.
85. Big Data Challenge: Mining Heterogeneous Data, Copernicus Big Data Workshop, 13-14 Mar 2014, Brussels, Belgium.
86. Advanced Pattern Recognition, lectures at the Doctoral School on Information and Communication Technology, 16-20 June 2014, University of Trento.
87. Big Data: Methods and Technology for Content Access, Big Data from Space, 5-6 June 2013, ESA/ESRIN, Frascati, Italy.
88. Earth Observation Data Mining: Spatio-temporal Patterns Discovery in Heterogeneous Data, tutorial, IGARSS 2013, 21 June 2013, Melbourne, Australia.
89. Image information mining, IGARSS Summer School, RMIT University, 18 July, 2013, Melbourne, Australia.
90. Image Information Mining: Fast Learning Methods, Chinese Academy of Sciences, Aeronautics, Space and Transport, Seminar 10 Apr. 2013, Beijing, China.
91. Perspectives of SAR Imaging, Seminar, Beijing Institute of Technology, 10. Apr. 2013, China.
92. Methods and Algorithms for Understanding of High Resolution SAR Images: Towards a SARINT Concept, IET International Radar Conference 2013, Tutorial, 12. Apr. 2013, Xian, China.

93. The Big Data Challenge: Handling Large Volumes of Earth Observation Data, tutorial, Copernicus Conference, 21-22 May 2013, Bucharest, Romania.
94. TerraSAR-X Big Data: The DLR Solutions for Data Mining, 5th TerraSAR-X / 4th TanDEM-X Science Team Meeting, 10-14 June 2013, Oberpfaffenhofen, Germany.
95. Image Information Mining - Methods and Applications for Exploration of Earth Observation data, tutorial, IGARSS 2012, 22 July 2012, Munich, Germany.
96. Monitoring with SAR, invited lecture, GEOSS Summer School: Advancing Earth Observation Data Understanding for Crisis Management and Emergency Response, August 29 - September 4, 2011, Neptun, Roumania.
97. Image Information Mining – Methods and Applications Related to Earth Observation Data, tutorial, IGARSS 2011, 24 July 2011, Vancouver, Canada. (presented by Gottfried Schwarz)
98. From Shannon Communication Theory to Semantic Coding: Concepts for Image Information Mining, Research Focal Point Scientific Computing, 7 February 2011, University of Innsbruck.
99. Understanding and Interpretation of High Resolution SAR Images, tutorial, IGARSS 2010, 25 July 2010, Honolulu, Hawaii (with Klaus Seidel).
100. Media Semantic Content Extraction: The Perspectives - semantics and data-mining, University of Oviedo and Agrupación Empresarial Innovadora del Conocimiento de Asturias A.I.E., 4 June, 2010, Oviedo, Spain.
101. Sensors as Communication Channels: Information Theoretical Modeling, Optimization, Design, tutorial, IEEE SENSORS 2009 Conference, 25 October 2009, New Zealand (with Prof. Inge Gavvat)
102. Space-based Earth Observation and Applications, invited lecture, Romanian Conference on Space Applications, September 9-10, 2009, Palace of the Parliament, Bucharest, Romania.
103. New perspectives for satellite image data analysis, tutorial, 1st International Conference of Space Technology, ICST 2009, 24 August, 2009, Thessaloniki, Greece.
104. Understanding and Interpretation of High Resolution SAR Images, full day tutorial, IGARSS 2009, 12 July, 2009, Cape Town, South Africa (jointly with Klaus Seidel)
105. Presentation of the research at the CNES-DLR competence center, Workshop of the PhD-Track program “Multimedia, Distributed and Pervasive Secure Systems” 12 Dec. 2008, the German-French University, University Passau, Germany. (jointly with Gottfried Schwarz).
106. Understanding and Interpretation of High Resolution SAR Images, one day tutorial, IEEE RADARCON, 2009, 8 May, Pasadena, CA, USA.
107. From Shannon Communication Theory to Semantic Coding: Concepts for Image Information Mining, March 19, 2009, invited seminar, Informatics Institute, University of Missouri, USA.
108. Practical InSAR Lectures. ROSA Seminar, December 2-5, 2008, Bucharest, Romania.
109. Compression based indexing of image content. November 11, 2008, ETH Zurich, BIWI Seminar, Zürich, Switzerland.
110. Satellite Image Information Extraction and Understanding: Semantic and Contextual Understanding. October 23, 2008, Journée 23 Octobre / Conseil Scientifique, Paris, France.
111. Trends in Earth Observation. Workshop on Romanian R&D Strategy, 17 Sept. 2008, Bucharest, Romania.
112. The Scientific Activities of the CNES/DLR/Télécom Competence Center on Information Extraction and Image Understanding for Earth Observation, August 28, 2008, JRC Seminar, Ispra, Italy.
113. Image Information Mining - The High Resolution Era, July 15, 2008, NASA GSFC Seminar, Greenbelt, Maryland. USA.

114. Semantic Content Extraction from High Resolution EO Images, July 6, 2008, IGARSS 2008 Tutorial, Boston, Mass., USA.
115. Advances in Machine Learning: Application to High Resolution EO Image Understanding. Invited Lectures, June 16-20 Madrid, 2008, Spain
116. High Resolution Earth Observation Image Understanding. May 9-12, 2008, Invited Lectures, Alcala de Henares (Madrid), Spain
117. KIM for security applications, 14 December, 2007, EADS, Paris, France.
118. The GEMS and related security projects, Military Technical Academy, 23 October 2007, Sibiu, Romania.
119. Lectures on SAR and applications, Romanian Space Agency, 24-29 August 2007, Bucharest, Romania.
120. Information extraction and content analysis of high resolution EO images: Information Mining and Scene Understanding, (one day tutorial), IGARSS 2006, 22 July 2007, Barcelona, Spain (jointly with Klaus Seidel).
121. Scientific Rationale and Foundations of the Competence Center and Scientific Perspectives, The First Symposium of the CNES/DLR/ENST Competence Center on Information Extraction and Image Understanding for Earth Observation, 18 June, 2007, Paris, France.
122. Sistemas de Información Geográfica, presente y futuro, Jornadas de postgrado e investigación en ingeniería informática, - JPI3, 2 March, 2007, Facultad de informática. Universidad Pontificia de Salamanca Campus de Madrid, Spain.
123. Utilización de las imágenes de satélite para aplicaciones en Seguridad y Defensa, Fundación Circulo de Tecnologías para la Defensa y la Seguridad, April 24, 2007, University Politechnica Madrid, Spain.
124. Image Semantic Coding, NASA Information Science and Technology Colloquium Series, GSFC, 27 Sept., 2006, Goddard, USA. (jointly with Klaus Seidel)
125. Image Information Mining: The Semantic Gap, Seminar of Washington/Northern Virginia Chapter of IEEE/GRSS, Sept. 28, 2006, George Mason University Fairfax Campus, USA. (jointly with Klaus Seidel)
126. Information Extraction and Content Analysis of High Resolution EO Images, (one day tutorial), July 30th, 2006, IGARSS'06, Denver, USA.
127. Image Information Mining for NOAA, MODIS and MERIS data, Aug. 7, 2006, National Snow and Ice Data Center CIRES, UCB University of Colorado Boulder, USA.
128. Information Theory Based Inference in the Bayesian Context: Applications for Semantic Image Coding, (tutorial), 26th International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering, July 8, 2006, CNRS, Paris, France.
129. The application of Information Transmission Theory in EO image information extraction and New perspectives of Information Theory and Inference in Image Understanding and Semantic Coding, CNES seminar on Image processing based on Information Theory, July 5th, 2006, CNES, Toulouse, France.
130. Information Theory based Inference: application to image mining and semantic coding, Jan. 30, 2006, Harriot - Watt University, Edinburg UK.
131. Information-Theory Based Inference and Applications for Data Massives, (tutorial) 25<sup>th</sup> International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering, Aug 7, 2005, San José State University, San José CA USA.

132. Information extraction from high resolution EO images: Information Mining and Scene Understanding, (one day tutorial). July 24, 2005, IGARSS'05, Seoul, Korea.
133. Image Information Mining, 21 June, 2005, CNES Seminar, Toulouse, France.
134. SAR Signature Estimation and Learning for Target Recognition, NATO SET-096, Millimeterwave Advanced Target Recognition and Identification Experiment (MATRIX 2005), NATO School Oberammergau, 9 May, 2005, Germany.
135. Human aware image understanding and information communication, BIWI Seminar, Knowledge-Based Image Interpretation, 28 April 2005, Swiss Federal Institute of Technology - ETH Zurich, Switzerland.
136. Bayesian methods for image information retrieval, 4 April 2005, European Patent Office, Munchen, Germany.
137. Image Information Mining, European Knowledge Discovery Network of Excellence KdNET Symposium, 3 June 2004, Bonn, Germany.
138. Applications of Image Information Mining, (one day tutorial) MacDonald Dettwiler and Associates Ltd., 31 Oct. 2003, Richmond, Canada.
139. Hierarchical analysis of high resolution SAR for Scene Understanding, NATO SET069 meeting WG Advanced Millimeterwave Techniques for Ground Target Acquisition, 19 Nov. 2003, DLR Oberpfaffenhofen, Germany.
140. Image Information Mining and Scene Understanding: Approaches for Image Content Exploration and Knowledge Discovery in Large Image Data Volumes, 19 July, 2003, (one day tutorial) IGARSS03, Toulouse, France.
141. KIM: Knowledge driven Image Information Mining, Seminar on Image Mining activities at CNRS/GdR, Information, Signal, Images et ViSion, 7 July, 2003, Paris, France.
142. A semantic perspective of scale-resolution scene understanding, Centre de Competance Technique Traitement du Signal et des Images, Atelier: Methodes de fusion multiresolution pour la synthese d'images, 16-17 December, 2002, CNES, Toulouse, France.
143. Image Information Mining: historical overview/ KIM - Knowledge Driven Information Mining/ Image Information Mining - DLR projects and perspectives, ESA-EUSC 2002: Joint seminar on Knowledge driven Information Management in Earth Observation data, December 5 - 6, 2002, ESRIN, Frascati, Italy.
144. Knowledge Driven Image Information Mining, BIWI Seminar, Knowledge-Based Image Interpretation, 28 November, 2002, Swiss Federal Institute of Technology - ETH Zurich.
145. Image Information Mining: theoretical perspectives, Invited talk at ACIVS 2002, Advanced Concepts for Intelligent Vision Systems, 9 September 2002, Ghent, Belgium.
146. Estimation of Bayesian hierarchical models, 19 August, 2002, University of Siegen, Germany.
147. Information Mining: Discovery and understanding of the Earth Observation data content, Wege aus dem Daten-Chaos: Moderne Techniken zur Nutzung wissenschaftlicher Daten, 16 Mai 2002, DLR & SISTEC, Köln, Germany.
148. Information Mining: a Bayesian approach for image content indexing and knowledge discovery in large image archives, The Models for Unified Multimedia Information Retrieval-MOUMIR EC network meeting, Trinity College, 14 March 2002, Dublin, Ireland.
149. Image information mining: Advanced methods for exploration and interpretation of remote sensing images (one day tutorial) 8 July 2001, IGARSS01, Sydney, Australia.



150. ClassFuse: New Bayesian learning and data grouping method with applications to image information content exploration, 12 March 2001, INRIA - Sophia Antipolis, France.
151. Image Information Mining, Short Course (3 hours + discussions), "Data Mining" meeting Alcatel/CNES/DLR, Alcatel Space Industries, 10 November 2000, Toulouse, France.
152. Information Mining in Remote Sensing Image Archives, Workshop on Automated Imagery Data Mining Tools, NASA's Goddard Space Flight Center Greenbelt, 20 October 2000, MD 20771 USA (also organizer of the workshop).
153. Information Mining Concept for ATR and SAR Scene Understanding, NATO SET/TG.14 WG Advanced Millimeterwave Techniques for Ground Target Acquisition, Thematic Day: German Activities related to ATR, 26 Sept. 2000, DLR Oberpfaffenhofen, Germany.
154. Information extraction and mining information in SAR data, SAR expert meeting Alcatel/CNES/DLR, 20-21 June 2000, Alcatel Space Industries, Toulouse, France.
155. Advanced communication concepts for information retrieval from heterogeneous data archives (tutorial), 27th SPEEDUP Workshop: Scientific Data Management and Understanding in Computational Science, 17 March 2000, Cadro-Lugano, Switzerland.
156. Synthetic Aperture Radar Interferometry: a classical signal processing approach, 25 November 1999, Swiss Federal Institute of Technology - ETH Zürich, Switzerland.
157. Image Communication: New Features of a Satellite Data Ground Segment, 1 June 1999, JRC, Ispra, Italy.
158. Image Information Mining, 4 April 1999, JRC, Ispra, Italy.
159. Bayesian methods for information retrieval from remote sensing data (tutorial 3 hours), 27 June 1999, IGARSS'99, Hamburg, Germany.
160. Bayesian hierarchic modeling and image information retrieval, February 1999, LSIIT ENSP Strasbourg, France.
161. Content Based Information Retrieval from Large Remote Sensing Databases, 25 January 1999, DLR Colloquium, Oberpfaffenhofen, Germany.
162. Bayesian inference for queries in large image archives, 11-16 July 1998, series of lectures with discussions and round tables at: NEC Research USA, NASA - JPL Pasadena, NASA - Goddard Flight Space Center, IBM Almaden and IBM Watson, USA.
163. Scene understanding from SAR images (tutorial), ISPRS Workshop WG III/6, 29 January 1998, Aerospatiales, Cannes, France.
164. Fusion of multiscale information (tutorial), 28 January 1998, EARSeL Workshop, Fusion of Earth Data'98, Sophia Antipolis, France.
165. Model-Based Methods for Remote Sensing Data Management, 25 April 1997, Round Table, DLR, Oberpfaffenhofen, Germany.
166. InSAR Topographic Mapping - a Bayesian Approach, 23 April 1997, European Geophysical Society XXII, General Assembly Vienna, Austria.
167. Wavelets: Potential Applications in Remote Sensing, 22 October 1996, Workshop on "Wavelets", Daimler-Benz Aerospace AG, Ulm, Germany.
168. Wavelet based compression of multi-dimensional signals, 2-3 October 1996, Round Table on Data Compression Techniques for Space Applications, European Space Agency ESA/ESTEC, Noordwijk, The Netherlands.
169. Scene Understanding: A Bayesian Approach, 15-17 May 1996, Massachusetts Institute of Technology – MIT, Cambridge, MA, USA.

170. Scene Understanding from Images: A Bayesian Approach, April 1996, Swiss Federal Institute of Technology - ETH Zürich, Switzerland.
171. Management and Interpretation of Remotely Sensed Data, 15 November 1993, European Space Agency ESA/ESTEC, Noordwijk, The Netherlands.
172. System and Memory Architectures for Parallel Image Processing, March 1993, Ecole Polytechnique Federale de Lausanne - EPFL, Switzerland.
173. Image formation and synthesis, Short Course (4 hours), 4 February 1993, SPIE International Symposium on Electronic Imaging: Science&Technology, San Jose CA, USA.
174. Application of Fractals in Geoinformation Processing, January 1993, Groupement Scientifique pour Teledetection Spatiale, Universite Louis Pasteur de Strasbourg, France.
175. Advances in Visualisation Techniques in Remote Sensing, February 1992, Hunter College, City University of New York, USA.
176. Image Formation and Synthesis, 28 February 1992, Center for Image Processing and Integrated Computing seminar, University of California, Davis, CA, USA.
177. Modelling Coherent Light Image Formation, 25 November 1991, Colloquium on Electronics and Communications, Swiss Federal Institute of Technology - ETH Zürich, Switzerland.
178. Trends in Image Processing Systems Architectures and Algorithms (intensive course, 20 hours), 21-23 October 1991, Universidad Politecnica de Valencia, Spain.
179. Aspects in DFT Applications in Signal Processing (intensive course, 20 hours), June 1991, Automatics Control and Systems Dpt., Polytechnic Institute of Gijon, Spain.
180. Speckle Images: Digital Simulation and Processing, May 1991, Ecole Polytechnique Federale de Lausanne - EPFL, Switzerland.
181. Computer Networks and Sattelite Communications, April 1991, Iasi, Romania.
182. Cellular Automata, July 1989, Dynamic Systems Conference, Odorhei, Romania.

## List of Publications

### Publications summary

- Theses: 2 (Ph.D. and habilitation)
- Articles in peer reviewed journals: published 155 in press 3
- Articles in conference proceedings with peer review: more than 400
- Books: published 3, chapters published 20, books under work 1
- Other articles in conference proceedings or presentations: more than 100
- Invited conferences, key notes, tutorials: 180
- H-Index: Google Scholar 41
- Publications available on [www.elib.dlr.de](http://www.elib.dlr.de) and Google Scholar

### 1. Habilitation Thesis

*Information theoretical aspects and semantic representations in advanced communication systems*, University Louis Pasteur, Strasbourg, France, 1999

## 2. Doctor Engineer Thesis

*Contributions to the development of efficient methods for high complexity signal analysis*, Polytechnic Institute of Bucharest, Romania, 1986

## 3. Books

1. M. Datcu, Statistical methods in image analysis, Valahia University Press, 2019, ISBN: 978-606 - 603-205-6 (in Romanian)
2. M. Datcu, Introduction in SAR interferometry (Lecture Notes), Valahia University Press, 2019, ISBN: 978-606-603-204-9 (in Romanian)
3. M. Datcu, "Number Theory Applications in Information Processing", Polytechnic Institute Press, Bucharest; graduate and post graduate course in fast algorithms, 1988 (in Romanian).

## 4. Book chapters

1. R. Mohammadi Asiyabi, M. Datcu, A. Anghel, H. Nies, "Semantic Information Discovery and Complex-Valued Deep Architectures for SAR Data Processing", *ATHENA Research Book, Volume 1 Editors: József Györkös (University of Maribor), Ron Blonder (Weizmann Institute of Science), Anne Friederike Delouis (University of Orléans), Jana Javornik (University of Leeds), Konstantinos Petridis (Hellenic Mediterranean University), University of Maribor University Press, 2022*
2. C.-O. Dumitru, M. Datcu, *Semantic Analysis of Satellite Image Time Series*. In: Change Detection and Image Time Series Analysis Wiley Encyclopedia of Sciences, 2 (3), ISTE, pp 1-21, 2021 (in press).
3. C. Vaduva, M. Iapaolo, M. Datcu, A Scientific Perspective on Big Data in Earth Observation, in Principles of Data Science, Springer, 2020
4. M. Datcu, G. Schwarz, C.-O. Dumitru, Corneliu Octavian, Deep Learning Training and Benchmarks for Earth Observation Images: Data Sets, Features, and Procedures. In: Artificial Neural Networks In-Tech, 2020
5. C.-O. Dumitru, G. Schwarz, F. Castel, J. Lorenzo, M. Datcu, Artificial Intelligence Data Science Methodology for Earth Observation, in Advanced Analytics and Artificial Intelligence Applications, InTech Publishing, London, UK, September 2019, pp. 75-97, DOI: <http://dx.doi.org/10.5772/intechopen.86886>
6. C.-O. Dumitru, G. Schwarz, M. Datcu, H. Hummel, C. Hummel, Analysis of Coastal Areas Using SAR Images: A Case Study of the Dutch Wadden Sea Region. In: Topics in Radar Signal Processing, InTech Publishing, pp. 115-136. 2018, ISSN 978-953-51-5836-3

7. C. Vaduva, F. A. Georgescu, M. Datcu, "Dictionary-Based Compact Data Representation for Very High Resolution Earth Observation Image Classification", in: *Advanced Concepts for Intelligent Vision Systems: 16th International Conference, ACIVS 2015, Catania, Italy, October 26-29, 2015*. Proceedings, pp 816—825, Springer Berlin Heidelberg , doi:10.1007/978-3-319-25903-1\_70
8. C. Nikolaou, K. Kyzirakos, K. Bereta, K. Dogani, S. Giannakopoulou, P. Smeros, G. Garbis, M. Koubarakis, D. Espinoza-Molina, C. Dumitru, G. Schwarz, M. Datcu, "Big, Linked and Open Data: Applications in the German Aerospace Center." In: *The Semantic Web: ESWC 2014 Satellite Events: ESWC 2014 Satellite Events*, Anissaras, Crete, Greece, May 25-29, 2014, Revised Selected Papers, pp. 444-449, Springer Berlin Heidelberg ,doi: 10.1007/978-3-319-11955-7\_64, URL:[users.uoa.gr/~psmeros/publications/2014/eswc2014.pdf](http://users.uoa.gr/~psmeros/publications/2014/eswc2014.pdf)
9. M. Babaee, M. Datcu, G. Rigoll, 2013, "Immersive Interactive Information Mining with Application to Earth Observation Data Retrieval" in: *Availability, Reliability, and Security in Information Systems and HCI: IFIP WG 8.4, 8.9, TC 5 International Cross-Domain Conference, CD-ARES 2013, Regensburg, Germany, September 2-6, 2013*. Proceedings, pp. 376-386, Springer Berlin Heidelberg, doi: 10.1007/978-3-642-40511-2\_27, URL: [elib.dlr.de/88825/1/springer\\_HCI-KDD.pdf](http://elib.dlr.de/88825/1/springer_HCI-KDD.pdf)
10. M. Koubarakis, M. Sioutis, G. Garbis, M. Karpathiotakis, K. Kyzirakos, C. Nikolaou, K. Bereta, S. Vassos, C. O. Dumitru, D. Espinoza-Molina, K. Molch, G. Schwarz, M. Datcu, 2012, "Building Virtual Earth Observatories Using Ontologies, Linked Geospatial Data and Knowledge Discovery Algorithms", in: *On the Move to Meaningful Internet Systems: OTM 2012: Confederated International Conferences: CoopIS, DOA-SVI, and ODBASE 2012*, Rome, Italy, September 10-14, 2012. Proceedings, Part II , pp. 932-949, Springer Berlin Heidelberg ,doi: 10.1007/978-3-642-33615-7\_34, URL: [strabon.di.uoa.gr/files/odbase2012.pdf](http://strabon.di.uoa.gr/files/odbase2012.pdf)
11. M. Koubarakis, M. Karpathiotakis, K. Kyzirakos, C. Nikolaou, S. Vassos, G. Garbis, M. Sioutis, K. Bereta, S. Manegold, M. Kersten, M. Ivanova, H. Pirk, Y. Zhang, C. Kontoes, I. Papoutsis, T. Herekakis, D. Mihail, M. Datcu, G. Schwarz, O. Dumitru, D. Molina, K. Molch, U. Giammatteo, M. Sagona, S. Perelli, E. Klien, T. Reitz, R. Gregor, 2012, "Building Virtual Earth Observatories Using Ontologies and Linked Geospatial Data", *Web Reasoning and Rule Systems: 6th International Conference, RR 2012, Vienna, Austria, September 10-12, 2012. Proceedings*, pp. 229-233, Springer Berlin Heidelberg ,doi: 10.1007/978-3-642-33203-6\_21, URL: <http://www.earthobservatory.eu/publications/RR2012.pdf>
12. I.M. Gomez Munoz, M. Datcu, "Image Information Mining Systems", in *Geoscience and Remote Sensing New Achievements*, Pasquale Imperatore and Daniele Riccio (Ed), ISBN 978-953-7619-97-8, InTech, doi: 10.5772/9101, URL: <http://cdn.intechopen.com/pdfs-wm/10392.pdf>
13. C. Vaduva, D. Faur, A.A. Popescu, I. Gavati, M. Datcu, „Semantic map generation from satellite images for humanitarian scenarios applications”, in *Advanced Concepts for Intelligent Vision Systems: 10th International Conference, ACIVS 2008, Juan-les-Pins, France, October 20-24, 2008*. Proceedings, pp. 808-817, Springer Berlin Heidelberg, doi: 10.1007/978-3-540-88458-3\_73
14. D. Faur, I. Gavati, M. Datcu, 2006, "Mutual Information Based Measure for Image Content Characterization", in *Current Topics in Artificial Intelligence: 11th Conference of the Spanish Association for Artificial Intelligence, CAEPIA 2005, Santiago de Compostela, Spain, November*

- 16-18, 2005, Revised Selected Papers, pp. 342-349, Springer Berlin Heidelberg, doi: 10.1007/11881216\_36
15. C. Iancu, I. Gavat, M. Datcu, "Image Disorder Characterization Based on Rate Distortion", in *Current Topics in Artificial Intelligence: 11th Conference of the Spanish Association for Artificial Intelligence*, CAEPIA 2005, Santiago de Compostela, Spain, November 16-18, 2005, Revised Selected Papers, pp. 261-268, Springer Berlin Heidelberg, doi : 10.1007/11881216\_28
  16. M. Datcu, K. Seidel, "An Innovative Concept for Image Information Mining" in *Mining Multimedia and Complex Data: KDD Workshop MDM/KDD 2002. PAKDD Workshop KDMCD 2002*. Revised Papers, pp. 84 – 99, Springer Berlin Heidelberg, doi: 10.1007/978-3-540-39666-6\_6
  17. M. Ciucu, P. Heas, M. Datcu, J.C. Tilton, "Scale Space Exploration for Mining Image Information Content", in *Mining Multimedia and Complex Data: KDD Workshop MDM/KDD 2002. PAKDD Workshop KDMCD 2002*. Revised Papers, pp. 118 – 133, Springer Berlin Heidelberg, doi: 10.1007/978-3-540-39666-6\_8, URL: [www.fluid.irisa.fr/publis/2003\\_Ciucu.pdf](http://www.fluid.irisa.fr/publis/2003_Ciucu.pdf)
  18. M. Datcu, G. Schwarz "The Application of Forward Modelling as a Data Analysis Tool, in Information Processing for Remote Sensing", Ed. C.H. Chen, World Scientific Publishing Company Pte Ltd, pp. 51-65, 10 (2000): 9789812815705\_0003
  19. H. Rehrauer, M. Datcu, "Selecting scales for texture models", in *Texture Analysis in Machine Vision*, Ed.: M.K. Pietikäinen, *Series in machine perception and artificial intelligence*, World Scientific 2000, Vol. 40, pp. 19-30, URL: [https://www.vision.ee.ethz.ch/publications/papers/proceedings/eth\\_biwi\\_00175.ps.gz](https://www.vision.ee.ethz.ch/publications/papers/proceedings/eth_biwi_00175.ps.gz)
  20. M. Datcu, K. Seidel, G. Schwarz, "Elaboration of advanced tools for information retrieval and the design of a new generation of remote sensing ground segment systems", in: I. Kanelloupolos, editor, *Machine Vision in Remote Sensing*, pp. 199-212, Springer Berlin Heidelberg
  21. M. Datcu, "Address Space Increase for Microcomputers", chapter; graduate students design directories; Polytechnic Institute Press, Bucharest, 1988 (book chapter, in Romanian)

#### 4. Journal articles with peer review

1. Zhouyan Qiu, J. Martínez-Sánchez, P. Arias, M. Datcu, "A novel low-cost multi-sensor solution for pavement distress segmentation and characterization at night", *International Journal of Applied Earth Observation and Geoinformation*, Elsevier, Vol. 120, pp. 1-13, 2023
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*, 2023, Early access

3. C. Karmakar, C. O. Dumitru, N. Hughes and M. Datcu, "A Visualization Framework for Unsupervised Analysis of Latent Structures in SAR Image Time Series," in *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 16, pp. 5355-5373, 2023
4. M. Coca and M. Datcu, "FPGA Accelerator for Meta-Recognition Anomaly Detection: Case of Burned Area Detection," in *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 16, pp. 5247-5259, 2023
5. N. -C. Ristea, A. Anghel, M. Datcu and B. Chapron, "Guided Unsupervised Learning by Subaperture Decomposition for Ocean SAR Image Retrieval," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 61, pp. 1-11, 2023
6. 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
7. R. Mohammadi Asiyabi, M. Datcu, A. Anghel and H. Nies, "Complex-Valued End-to-End Deep Network With Coherency Preservation for Complex-Valued SAR Data Reconstruction and Classification," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 61, pp. 1-17, 2023
8. M. Datcu, Z. Huang, A. Anghel, J. Zhao and R. Cacoveanu, "Explainable, Physics-Aware, Trustworthy Artificial Intelligence: A paradigm shift for synthetic aperture radar," in *IEEE Geoscience and Remote Sensing Magazine*, vol. 11, no. 1, pp. 8-25, March 2023
9. 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
10. O. Ghizatlou, M. H. Conde and M. Datcu, "Query by Example in Remote Sensing Image Archive Using Enhanced Deep Support Vector Data Description," in *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 16, pp. 1197-1210, 2023
11. M. Muzeau, C. Ren, S. Angelliaume, M. Datcu and J. -P. Ovarlez, "Self-Supervised Learning Based Anomaly Detection in Synthetic Aperture Radar Imaging," in *IEEE Open Journal of Signal Processing*, vol. 3, pp. 440-449, 2022
12. M. A. Iqbal, A. Anghel and M. Datcu, "Coastline Extraction From SAR Data Using Doppler Centroid Images," in *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, 2022
13. M. Coca, I. Coca Neagoe and M. Datcu, "Hybrid DNN-Dirichlet Anomaly Detection and Ranking: Case of Burned Areas Discovery," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1-16, 2022

14. U. Chaudhuri, R. Bose, B. Banerjee, A. Bhattacharya and M. Datcu, "Zero-Shot Cross-Modal Retrieval for Remote Sensing Images With Minimal Supervision," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1-15, 2022
15. Zhongling Huang, Xiwen Yao, Ying Liu, Corneliu Octavian Dumitru, Mihai Datcu, Junwei Han, Physically explainable CNN for SAR image classification, *SPRS Journal of Photogrammetry and Remote Sensing*, Volume 190, August 2022, Pages 25-37
16. G. Cavallaro *et al.*, 2022, "High-Performance and Disruptive Computing in Remote Sensing: HDCRS-A New Working Group of the GRSS Earth Science Informatics Technical Committee," in *IEEE Geoscience and Remote Sensing Magazine* (early access)
17. F. Rosu, A. Anghel, S. Ciochină, R. Cacoveanu and M. Datcu, "Near-Range Multipath Mitigation Methodology for Multistatic SAR Applications Using Matched-Adaptive Filters," in *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 15, pp. 3204-3214, 2022
18. C. Karmakar and M. Datcu, "A Framework for Interactive Visual Interpretation of Remote Sensing Data," in *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, 2022
19. R. M. Asiyabi and M. Datcu, "Earth Observation Semantic Data Mining: Latent Dirichlet Allocation-Based Approach," in *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 15, pp. 2607-2620, 2022
20. S. Otgonbaatar and M. Datcu, "Natural Embedding of the Stokes Parameters of Polarimetric Synthetic Aperture Radar Images in a Gate-Based Quantum Computer," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1-8, 2022
21. S. Otgonbaatar and M. Datcu, (2022) "Classification of Remote Sensing Images With Parameterized Quantum Gates," in *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, 2022
22. U. Chaudhuri, B. Banerjee, A. Bhattacharya and M. Datcu, (2022) "Attention-Driven Graph Convolution Network for Remote Sensing Image Retrieval," in *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, 2022
23. A. Focsa, A. Anghel and M. Datcu, (2022) "A Compressive-Sensing Approach for Opportunistic Bistatic SAR Imaging Enhancement by Harnessing Sparse Multiaperture Data," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1-14, 2022
24. U. Chaudhuri, B. Banerjee, A. Bhattacharya and M. Datcu, "Attention-Driven Graph Convolution Network for Remote Sensing Image Retrieval," in *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, 2022

25. S. Otgonbaatar and M. Datcu, "Natural Embedding of the Stokes Parameters of Polarimetric Synthetic Aperture Radar Images in a Gate-Based Quantum Computer," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1-8, 2022
26. S. Otgonbaatar and M. Datcu, "Classification of Remote Sensing Images With Parameterized Quantum Gates," in *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, 2022
27. I. Coca Neagoe, M. Coca, C. Vaduva and M. Datcu, (2022) "Cross-Bands Information Transfer to Offset Ambiguities and Atmospheric Phenomena for Multispectral Data Visualization," in *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 14, pp. 11297-11310, 2022
28. A. Focsa, A. Anghel and M. Datcu, "A Compressive-Sensing Approach for Opportunistic Bistatic SAR Imaging Enhancement by Harnessing Sparse Multiaperture Data," in *IEEE Transactions on Geoscience and Remote Sensing*, vol. 60, pp. 1-14, 2022
29. S. Otgonbaatar and M. Datcu, (2021) "A Quantum Annealer for Subset Feature Selection and the Classification of Hyperspectral Images," in *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 14, pp. 7057-7065, 2021, doi: 10.1109/JSTARS.2021.3095377.
30. S. Otgonbaatar and M. Datcu, (2021), Assembly of a Coreset of Earth Observation Images on a Small Quantum Computer. *Electronics* 2021, 10, 2482.
31. U. Chaudhuri, S. Dey, M. Datcu, B. Banerjee, Biplab, A. Bhattacharya, (2021) [Interband Retrieval and Classification Using the Multilabeled Sentinel-2 BigEarthNet Archive](#). *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 14, Seiten 9884-9898.
32. Ding, J.; Xue, N.; Xia, G.-S.; Yang, W.; Ying Y.; Belongie, S.; Luo, J.; Datcu, M.; Pelillo, M.; Zhang, L. (2021) [Object Detection in Aerial Images: A Large-Scale Benchmark and Challenges](#). *IEEE Transactions on Pattern Analysis and Machine Intelligence* vol. 44, no. 11, pp. 7778-7796, 1 Nov. 2022
33. N. Liao, M. Datcu, Z. Zhang, W. Guo, J. Zhao and W. Yu, (2021), "Analyzing the Separability of SAR Classification Dataset in Open Set Conditions," in *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, doi: 10.1109/JSTARS.2021.3100342.
34. Dumitru, C.- O.; Schwarz, G.; Datcu, M.; 2021, Semantic Labelling of Globally Distributed Urban and Non-Urban Satellite Images Using High Resolution SAR Data. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 14, pp. 6009-6068, 2021



35. A. Focsa, A. Anghel, M. Datcu and S. -A. Toma, "Mixed Compressive Sensing Back-Projection for SAR Focusing on Geocoded Grid," in *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 14, pp. 4298-4309, 2021
36. U. Chaudhuri, B. Banerjee, A. Bhattacharya and M. Datcu, "A Zero-Shot Sketch-Based Intermodal Object Retrieval Scheme for Remote Sensing Images," in *IEEE Geoscience and Remote Sensing Letters*, vol. 19, pp. 1-5, 2022
37. Karmakar, C.; Dumitru, C.O.; Schwarz, G.; Datcu, M.; 2021, Feature-free Explainable Data Mining in SAR Images Using Latent Dirichlet Allocation, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 14, pp. 676-689
38. Huang, Z.; Datcu, M.; Zongxu P., Qiu, X.; Lei, B., (2021), *HDEC-TFA: An Unsupervised Learning Approach for Discovering Physical Scattering Properties of Single-Polarized SAR Image*, *IEEE Transactions on Geoscience and Remote Sensing*, vol. 59, no. 4, pp. 3054-3071, 2021
39. Chaudhuri, U.; Banerjee, B.; Bhattacharya, A.; Datcu, M. , 2020, CrossATNet - a novel cross-attention based framework for sketch-based image retrieval. *Image and Vision Computing*, 104, Elsevier.
40. Datcu, M.; Moigne, Jacqueline Le.; Loekken, S.; Soille, P.; Xia, G.-S. 2020, Special Issue on Big Data From Space. *IEEE Transactions on Big Data*, 6 (3), Seiten 427-429.
41. Xu, F.; Hu, C.; Li, J.; Plaza, A.; Datcu, M.; Special focus on deep learning in remote sensing image processing-Editorial, *Science China, Information Sciences*, 63(2020)
42. Chaudhuri, U.; Banerjee, B., Bhattacharya, A.; Datcu, M.; CMIR-NET: A deep learning based model for cross-modal retrieval in remote sensing, *Pattern Recognition Letters*, 131(2020), 456-462.
43. Huang, Z.; Datcu, M.; Zongxu Pan, Z.; Lei, B.; Deep SAR-Net: Learning objects from signals, *ISPRS Journal of Photogrammetry and Remote Sensing*, 161 (2020), 179–193.
44. Zhao, J.; Zhang, Z.; Yao, W.; Datcu, M.; Xiong, H; Yu, W.; OpenSARUrban: A Sentinel-1 SAR Image Dataset for Urban Interpretation, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 13, pp. 187-203, 2020
45. Grivei, A.-C.; Coca, I.; Georgescu, F.-A.; Gripsaris, A.; Vaduva, C.; Multispectral Data Analysis for Semantic Assessment—A SNAP Framework for Sentinel-2 Use Case Scenarios, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 13, pp. 4429-4442, 2020
46. Huang, Z.; Dumitru, C.-O.; Pan, Z.; Lei, B.; Datcu, M.: Classification of Large-Scale High-Resolution SAR Images With Deep Transfer Learning *IEEE Geoscience and Remote Sensing Letters*, vol. 18, no. 1, pp. 107-111, 2021.

47. Tong, X.-Y.; Xia, G.-S.; Hu, F.; Zhong, Y.; Datcu, M.; Liangpei Zhang Exploiting Deep Features for Remote Sensing Image Retrieval: A Systematic Investigation, *IEEE Transactions on Big Data* 2019, vol. 6, no. 3, pp. 507-521, 1 Sept. 2020
48. Anghel, A.; Cacoveanu, R.; Moldovan, A.-S.; Rommen, B.; Datcu, M.; COBIS: Opportunistic C-Band Bistatic SAR Differential Interferometry, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 2019, vol. 12, nr. 10, pp. 3980-3998.
49. Zhao, J., Datcu, M., Zhang Z., Xiong H., Yu W., Contrastive-Regulated CNN in the Complex Domain: A Method to Learn Physical Scattering Signatures From Flexible PolSAR Images, *IEEE Transactions on Geoscience and Remote Sensing*, 2019, vol. 57, no. 12, pp. 10116-10134.
50. Radoi, A, Datcu, M.: Multilabel Annotation of Multispectral Remote Sensing Images using Error-Correcting Output Codes and Most Ambiguous Examples, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 12, no. 7, pp. 2121-2134, 2019
51. Anghel, A., Tudose, M., Cacoveanu, R., Datcu, M., Nico, G., Masci, O., Ao, D., Weiming T., Hu,, C., Ding, Z., Nies, H., Loffeld, O., Atencia, D., Huamán, S., G., Medella, A., Moreira, J., Compact Ground-Based Interferometric Synthetic Aperture Radar: Short-range structural monitoring, *IEEE Signal Processing Magazine*, July 2019, pp. 42- 52, 2019
52. Coca, M., Anghel, A., Datcu, M., Unbiased Seamless SAR Image Change Detection Based on Normalized Compression Distance, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 12, no. 7, pp. 2188-2196, 2019
53. Dumitru, C.- O.; Schwarz, G.; Datcu, M.; Earth Observation Semantics and Data Analytics for Coastal Environmental Areas, *International Journal on Advances in Software*, vol. 11 no. 3-4, 2019, IARIA ISSN 1942-2628
54. Li, Y.; Ao, D.; Dumitru, C.-O.; Cheng, H.; Datcu, M.; Super-resolution of geosynchronous synthetic aperture radar images using dialectical GANs, *Science China Information Sciences*, pp. 1-3. Science Press, 2019, DOI: 10.1007/s11432-018-9668-6 ISBN 1674-733X ISSN 1674-733X
55. Liu, C.; Li, H.-C.; Fu, K.; Datcu, M.; Emery, W.; Bayesian Estimation of Generalized Gamma Mixture Model Based on Variational EM Algorithm, *Pattern Recognition*, vol. 87, pp. 269-284, 2019, Elsevier, DOI: 10.1016/j.patcog.2018.10.025 ISSN 0031-3203, URL: <https://www.sciencedirect.com/science/article/abs/pii/S0031320318303789>
56. Tudose, M.L.; Anghel, A.; Cacoveanu, R.; Datcu, M.; Pulse Radar with Field-Programmable Gate Array Range Compression for Real Time Displacement and Vibration Monitoring, *Sensors*, vol. 19, no. 1, pp. 2-16, 2019, Multidisciplinary Digital Publishing Institute (MDPI), <https://doi.org/10.3390/s19010082>, URL: <https://www.mdpi.com/1424-8220/19/1/82>
57. Dănișor, C.; Fornaro,; Pauciuolo, A.; Reale, D.; Datcu, M.; Super-Resolution Multi-Look Detection in SAR Tomography, *Remote Sensing*, vol. 10, no. 12, pp. 2-21, 2018, Multidisciplinary Digital Publishing Institute (MDPI), doi:10.3390/rs10121894, URL: <https://www.mdpi.com/2072-4292/10/12/1894>

58. Ao, D.; Dumitru, C.-O.; Schwarz, G.; Datcu, M.; Dialectical GAN for SAR Image Translation: From Sentinel-1 to TerraSAR-X, *Remote Sensing*, vol. 10, no. 10, pp. 1-24, Multidisciplinary Digital Publishing Institute (MDPI), 2018, DOI: [doi.org/10.3390/rs10101597](https://doi.org/10.3390/rs10101597) ISSN 2072-4292, URL: <https://www.mdpi.com/2072-4292/10/10/1597>
59. Meger, N.; Rigotti, C.; Pothier, C.; Nguyen, T.; Lodge, F.; Gueguen, L.; Andreoli, R.; Doin, M.-P.; Datcu, M.; Ranking evolution maps for Satellite Image Time Series exploration: application to crustal deformation and environmental monitoring, *Data Mining and Knowledge Discovery*, pp. 1-37, 2018, Springer, DOI: 10.1007/s10618-018-0591-9 ISSN 1384-5810, URL: <https://link.springer.com/article/10.1007/s10618-018-0591-9>
60. Ao, D.; Datcu, M.; Schwarz, G.; Hu, C.; Moving Ship Velocity Estimation Using TanDEM-X Data Based on Subaperture Decomposition, *IEEE Geoscience and Remote Sensing Letters*, 2018, vol: 15, no. 10, pp. 1560-1564.
61. Vaduva, C.; Danisor, C.; Datcu, M.; Joint SAR Image Time Series and PSInSAR Data Analytics: An LDA Based Approach, *Remote Sensing*, vol. 10, no. 9, pp. 1-22, 2018, Multidisciplinary Digital Publishing Institute (MDPI). ISSN 2072-4292, URL: <https://www.mdpi.com/2072-4292/10/9/1436>
62. Bahmanyar, R.; Espinoza-Molina, D.; Datcu, M.; Multisensor Earth Observation Image Classification Based on a Multimodal Latent Dirichlet Allocation Model, *IEEE Geoscience and Remote Sensing Letters*, vol. 15, issue 3, pp. 459-63, 2018. URL: <https://ieeexplore.ieee.org/abstract/document/8278834>
63. Dumitru, C.O; Schwarz, G.; Datcu, M.; SAR Image Land Cover Datasets for Classification Benchmarking of Temporal Changes, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 11, no. 5, pp. 1571-92, 2018, IEEE ISSN 1939-1404, URL: <https://ieeexplore.ieee.org/abstract/document/8303669>
64. Vaduva, C.; Georgescu, F.A.; Datcu, M.; Understanding Heterogeneous EO Datasets: A Framework for Semantic Representations, *IEEE Access*, vol. 6, pp. 11184-11202, 2018, IEEE, DOI: [v10.1109/ACCESS.2018.2801032](https://doi.org/10.1109/ACCESS.2018.2801032) ISBN 2169-3536 (ISSN) ISSN 2169-3536, URL: <https://ieeexplore.ieee.org/abstract/document/8278215>
65. Ao, D.; Datcu, M.; Schwarz, G.; Hu, C.; Moving Ship Velocity Estimation Using TanDEM-X Data Based on Subaperture Decomposition, *IEEE Geoscience and Remote Sensing Letters*, vol. 15 no. 10, pp. 1560-1564. 2018, IEEE , DOI: 10.1109/LGRS.2018.2846399 ISSN 1545-598X, URL: <https://ieeexplore.ieee.org/abstract/document/8399506>
66. Coltuc, D.; Datcu, M.; Coltuc, D.; On the Use of Normalized Compression Distances for Image Similarity Detection, *Entropy*, vol. 20, no. 2, pp. 1-15, 2018, Multidisciplinary Digital Publishing Institute (MDPI), ISSN 1099-4300, URL: <https://www.mdpi.com/1099-4300/20/2/99>
67. Marmanis, D.; Schindler, K.; Wegner, J.D.; Galliani, S.; Datcu, M.; Stilla, U.; Classification with an edge: improving semantic image segmentation with boundary detection, *ISPRS Journal of Photogrammetry and Remote Sensing*, no. 135, pp. 158-172, 2018, Elsevier. DOI: [doi.org/10.1016/j.isprsjprs.2017.11.009](https://doi.org/10.1016/j.isprsjprs.2017.11.009) ISSN 0924-2716, URL: <https://arxiv.org/pdf/1612.01337.pdf>

68. Tudose, M.; Anghel, A.; Cacoveanu, R.; Datcu, M., On the beat signal synchronisation of interferometric FMCW radars, *IET Radar, Sonar & Navigation*, vol. 11, no. 8, pp. 1181 - 1187, 2017, DOI: 10.1049/iet-rsn.2016.0544, <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=7987858>
69. Griparis, A.; Faur, D.; Datcu, M., Quantitative Evaluation of the Feature Space Transformation Methods Used for Applications of Visual Semantic Clustering of EO Images, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 10, no. 6, pp. 2902 - 2909, 2017, DOI: 10.1109/JSTARS.2017.2681202, URL: <https://ieeexplore.ieee.org/document/7938605>
70. Murillo Montes de Oca, A. ; Bahmanyar, R.; Nistor, N.; Datcu, M., Earth Observation Image Semantic Bias: A Collaborative User Annotation Approach, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 10, no. 6, pp. 2462 - 2477, 2017, DOI: 10.1109/JSTARS.2017.2697003, URL: <https://ieeexplore.ieee.org/abstract/document/7926346>
71. Alonso, K.; Espinoza-Molina, D.; Datcu, M., Multilayer Architecture for Heterogeneous Geospatial Data Analytics: Querying and Understanding EO Archives, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 10, no.3, pp.791 - 801, 2017, <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=7927387>DOI: 10.1109/JSTARS.2017.2649040, URL: <http://ieeexplore.ieee.org/document/7843650/>
72. Tănase, R.; Bahmanyar, R.; Schwarz, G.; Datcu, M., Discovery of Semantic Relationships in PolSAR Images Using Latent Dirichlet Allocation, *IEEE Geoscience and Remote Sensing Letters*, vol. 14, no. 2, pp. 237 - 241, 2017, DOI: 10.1109/LGRS.2016.2636663, URL: <http://ieeexplore.ieee.org/document/7797191/>
73. Georgescu, F.-A.; Vaduva, C.; Raducanu, D.; Datcu, M., New MPEG-7 Scalable Color Descriptor Based on Polar Coordinates for Multispectral Earth Observation Image Analysis, *IEEE Geoscience and Remote Sensing Letters*, vol. 14, no. 7, pp. 987 - 991, 2017, DOI: 10.1109/LGRS.2017.2656822, URL: <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=7927387>
74. Alonso, K.; Espinoza-Molina, D.; Datcu, M., Mining Multitemporal In Situ Heterogeneous Monitoring Information for the Assurance of Recorded Land Cover Changes, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 10, no. 3, pp. 877 - 887, 2017 DOI: 10.1109/JSTARS.2016.2599225, URL: <http://ieeexplore.ieee.org/document/7563869/>
75. Cui, S.; Schwarz, G.; Datcu, M., A Benchmark Evaluation of Similarity Measures for Multitemporal SAR Image Change Detection, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 9, no. 3, pp. 1101 - 1118, 2016, DOI: 10.1109/JSTARS.2015.2486038, URL: <http://ieeexplore.ieee.org/document/7302528/>
76. Griparis, A.; Faur, D.; Datcu, M., Dimensionality Reduction for Visual Data Mining of Earth Observation Archives, *IEEE Geoscience and Remote Sensing Letters*, vol. 13, no. 11, pp. 1701 - 1705, 2016, DOI: 10.1109/LGRS.2016.2604919, URL: <http://ieeexplore.ieee.org/document/7571094/>

77. Yao, W.; Dumitru, C.-O.; Loffeld, O.; Datcu, M, Semi-supervised Hierarchical Clustering for Semantic SAR Image Annotation, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol.:9, no. 5, pp. 1993 - 2008, 2016, DOI: 10.1109/JSTARS.2016.2537548, URL: <http://ieeexplore.ieee.org/document/7452558/>
78. Espinoza-Molina, D.; Datcu, M., The Earth-Observation Epitome: A New Interactive Value-Added Product, *IEEE Geoscience and Remote Sensing Letters*, vol. 13, no. 10, pp. 1438 - 1442, 2016, DOI: 10.1109/LGRS.2016.2590739, URL: <http://ieeexplore.ieee.org/document/7529066/>
79. Georgescu, F.-A.; Vaduva, C.; Raducanu, D.; Datcu, M, Feature Extraction for Patch-Based Classification of Multispectral Earth Observation Images, *IEEE Geoscience and Remote Sensing Letters*, vol. 13, no. 6, pp. 865 - 869, 2016, DOI: 10.1109/LGRS.2016.2551359, URL: <http://ieeexplore.ieee.org/document/7458845/>
80. Yao, W.; Loffeld, O.; Datcu, M, Application and Evaluation of a Hierarchical Patch Clustering Method for Remote Sensing Images, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 9, no. 6, pp. 2279 - 2289, 2016, DOI: 10.1109/JSTARS.2016.2536143, URL: <http://ieeexplore.ieee.org/document/7447697/>
81. Babae, M.; Yu, X.; Rigoll, G.; Datcu, M., Immersive Interactive SAR Image Representation Using Non-negative Matrix Factorization, in *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 9, no. 7, pp. 2844 - 2853, 2016, DOI: 10.1109/JSTARS.2015.2511449, URL: <http://ieeexplore.ieee.org/document/7426732/>
82. Dumitru, C. O.; Schwarz, G.; Datcu, M., Land Cover Semantic Annotation Derived from High-Resolution SAR Images, in *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 9, no. 6, pp. 2215 - 2232, 2016, DOI: 10.1109/JSTARS.2016.2549557, URL: <http://ieeexplore.ieee.org/document/7464254/>
83. Marmanis, D.; Datcu, M.; Esch, T.; Stilla, U., "Deep Learning Earth Observation Classification Using ImageNet Pretrained Networks," in *Geoscience and Remote Sensing Letters, IEEE*, vol.13, no.1, pp.105-109, Jan. 2016, doi: 10.1109/LGRS.2015.2499239, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7342907&isnumber=7366621>
84. Babae, M.; Tsoukalas, S.; Rigoll, G.; Datcu, M., "Immersive visualization of visual data using nonnegative matrix factorization." in *Neurocomputing*, vol.173, pp. 245-255, 2016, doi: 10.1016/j.neucom.2015.03.121
85. Babae, M.; Tsoukalas, S.; Babae, M.; Rigoll, G.; Datcu, M., "Discriminative Nonnegative Matrix Factorization for dimensionality reduction," in *Neurocomputing*, vol. 173, pp. 212-223, 2016, doi: 10.1016/j.neucom.2014.12.124
86. Cui, S.; Schwarz, G.; Datcu, M., "Remote Sensing Image Classification: No Features, No Clustering," in *Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of*, vol.8, no.11, pp.5158-5170, Nov. 2015, doi: 10.1109/JSTARS.2015.2495267, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7331241&isnumber=7384408>
87. Babae, M.; Tsoukalas, S.; Rigoll, G.; Datcu, M., "Visualization-Based Active Learning for the Annotation of SAR Images," in *Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of*, vol.8, no.10, pp.4687-4698, Oct. 2015, doi: 10.1109/JSTARS.2015.2388496, URL:

- <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7018915&isnumber=7377134>
88. Bahmanyar, R.; Murillo Montes de Oca, A.; Datcu, M., "The Semantic Gap: An Exploration of User and Computer Perspectives in Earth Observation Images," in *Geoscience and Remote Sensing Letters, IEEE*, vol.12, no.10, pp.2046-2050, Oct. 2015, doi: 10.1109/LGRS.2015.2444666, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7138566&isnumber=7182438>
  89. Alonso, K.; Datcu, M., "Accelerated Probabilistic Learning Concept for Mining Heterogeneous Earth Observation Images," in *Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of*, vol.8, no.7, pp.3356-3371, July 2015 doi: 10.1109/JSTARS.2015.2435491, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7122869&isnumber=7192754>
  90. Radoi, A.; Datcu, M., "Automatic Change Analysis in Satellite Images Using Binary Descriptors and Lloyd–Max Quantization," in *Geoscience and Remote Sensing Letters, IEEE*, vol.12, no.6, pp.1223-1227, June 2015, doi: 10.1109/LGRS.2015.2389144, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7029646&isnumber=7055405>
  91. Bahmanyar, R.; Shiyong Cui; Datcu, M., "A Comparative Study of Bag-of-Words and Bag-of-Topics Models of EO Image Patches," in *Geoscience and Remote Sensing Letters, IEEE*, vol.12, no.6, pp.1357-1361, June 2015, doi: 10.1109/LGRS.2015.2402391, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7050352&isnumber=7055405>
  92. Cagatay, N.D.; Datcu, M., "FrFT-Based Scene Classification of Phase-Gradient InSAR Images and Effective Baseline Dependence," in *Geoscience and Remote Sensing Letters, IEEE*, vol.12, no.5, pp.1131-1135, May 2015, doi: 10.1109/LGRS.2014.2385771, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7024118&isnumber=7031985>
  93. Dumitru, C.O.; Shiyong Cui; Schwarz, G.; Datcu, M., "Information Content of Very-High-Resolution SAR Images: Semantics, Geospatial Context, and Ontologies," in *Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of*, vol.8, no.4, pp.1635-1650, April 2015, doi: 10.1109/JSTARS.2014.2363595, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6960829&isnumber=7112230>
  94. Espinoza-Molina, D.; Nikolaou, C.; Dumitru, C.O.; Bereta, K.; Koubarakis, M.; Schwarz, G.; Datcu, M., "Very-High-Resolution SAR Images and Linked Open Data Analytics Based on Ontologies," in *Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of*, vol.8, no.4, pp.1696-1708, April 2015, doi: 10.1109/JSTARS.2014.2371138, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6981927&isnumber=7112230>
  95. Dumitru, C.O.; Shiyong Cui; Schwarz, G.; Datcu, M., "Information Content of Very-High-Resolution SAR Images: Semantics, Geospatial Context, and Ontologies," in *Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of*, vol.8, no.4, pp.1635-1650, April 2015 doi: 10.1109/JSTARS.2014.2363595, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6960829&isnumber=7112230>

96. 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," in *Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of*, vol.8, no.1, pp.114-129, Jan. 2015, doi: 10.1109/JSTARS.2014.2320777, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6819782&isnumber=7033071>
97. Zhang, L.; Du, Q.; Datcu, M., "Special Section Guest Editorial: Management and Analytics of Remotely Sensed Big Data", in *Applied Remote Sensing, Journal of*, vol.9, no.1, 2015, doi: 10.1117/1.JRS.9.097201
98. Shiyong Cui; Schwarz, G.; Datcu, M., "A Comparative Study of Statistical Models for Multilook SAR Images," in *Geoscience and Remote Sensing Letters, IEEE*, vol.11, no.10, pp.1752-1756, Oct. 2014, doi: 10.1109/LGRS.2014.2307952, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6785953&isnumber=6814328>
99. Gleich, D.; Datcu, M., "Despeckling and Information Extraction From SLC SAR Images," in *Geoscience and Remote Sensing, IEEE Transactions on*, vol.52, no.8, pp.4633-4649, Aug. 2014, doi: 10.1109/TGRS.2013.2283157, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6646267&isnumber=6750065>
100. Blanchart, P.; Ferecatu, M.; Shiyong Cui; Datcu, M., "Pattern Retrieval in Large Image Databases Using Multiscale Coarse-to-Fine Cascaded Active Learning," in *Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of*, vol.7, no.4, pp.1127-1141, April 2014, doi: 10.1109/JSTARS.2014.2302333, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6736057&isnumber=6803891>
101. Shiyong Cui; Dumitru, C.O.; Datcu, M., "Semantic annotation in earth observation based on active learning," *Image and Data Fusion, International Journal of*, vol.5, no.2, pp. 152-174, 2014, doi: 10.1080/19479832.2013.858778
102. Cerra, D.; Datcu, M.; Reinartz, P., "Authorship analysis based on data compression," *Pattern Recognition Letters*, vol.42, no.1, pp. 79-84, 2014, doi: 10.1016/j.patrec.2014.01.019 <http://arxiv.org/pdf/1402.3405.pdf>
103. Singh, J.; Datcu, M., "SAR Image Categorization With Log Cumulants of the Fractional Fourier Transform Coefficients," in *Geoscience and Remote Sensing, IEEE Transactions on*, vol.51, no.12, pp.5273-5282, Dec. 2013, doi: 10.1109/TGRS.2012.2230892, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6423280&isnumber=6661404>
104. Espinoza-Molina, D.; Datcu, M., "Earth-Observation Image Retrieval Based on Content, Semantics, and Metadata," in *Geoscience and Remote Sensing, IEEE Transactions on*, vol.51, no.11, pp.5145-5159, Nov. 2013, doi: 10.1109/TGRS.2013.2262232, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6525405&isnumber=6646288>
105. Shiyong Cui; Dumitru, C.O.; Datcu, M., "Ratio-Detector-Based Feature Extraction for Very High Resolution SAR Image Patch Indexing," in *Geoscience and Remote Sensing Letters, IEEE*, vol.10, no.5, pp.1175-1179, Sept. 2013, doi: 10.1109/LGRS.2012.2235406, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6450044&isnumber=6531644>



106. Dumitru, C.O.; Datcu, M., "Information Content of Very High Resolution SAR Images: Study of Feature Extraction and Imaging Parameters," in *Geoscience and Remote Sensing, IEEE Transactions on* , vol.51, no.8, pp.4591-4610, Aug. 2013, doi: 10.1109/TGRS.2013.2265413, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6553429&isnumber=6565380>
107. Vaduva, C.; Gavati, I.; Datcu, M., "Latent Dirichlet Allocation for Spatial Analysis of Satellite Images," in *Geoscience and Remote Sensing, IEEE Transactions on* , vol.51, no.5, pp.2770-2786, May 2013, doi: 10.1109/TGRS.2012.2219314, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6353569&isnumber=6504776>
108. Vaduva, C.; Costachioiu, T.; Patrascu, C.; Gavati, I.; Lazarescu, V.; Datcu, M., "A Latent Analysis of Earth Surface Dynamic Evolution Using Change Map Time Series," in *Geoscience and Remote Sensing, IEEE Transactions on* , vol.51, no.4, pp.2105-2118, April 2013, doi: 10.1109/TGRS.2012.2219316, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6357329&isnumber=6484138>
109. Cerra, D.; Datcu, M., "Expanding the algorithmic information theory frame for applications to earth observation," *Entropy*, vol.15, no.1, pp. 407-415, 2013, doi: 10.3390/e15010407, URL:  
[www.mdpi.com/1099-4300/15/1/407/pdf](http://www.mdpi.com/1099-4300/15/1/407/pdf)
110. Veganzones, M.A.; Datcu, M.; Graña, M., "Further results on dissimilarity spaces for hyperspectral images RF-CBIR," *Pattern Recognition Letters*, vol.34, no.14, pp. 1659-1668, 2013, doi: 10.1016/j.patrec.2013.05.025, URL:  
<https://hal.archives-ouvertes.fr/hal-00840863/document>
111. Shiyong Cui; Datcu, M., "Statistical Wavelet Subband Modeling for Multi-Temporal SAR Change Detection," in *Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of* , vol.5, no.4, pp.1095-1109, Aug. 2012, doi: 10.1109/JSTARS.2012.2200655, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6221963&isnumber=6246679>
112. Espinoza Molina, D.; Gleich, D.; Datcu, M., "Evaluation of Bayesian Despeckling and Texture Extraction Methods Based on Gauss–Markov and Auto-Binomial Gibbs Random Fields: Application to TerraSAR-X Data," in *Geoscience and Remote Sensing, IEEE Transactions on* , vol.50, no.5, pp.2001-2025, May 2012, doi: 10.1109/TGRS.2011.2169679, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6065749&isnumber=6186874>
113. Singh, J.; Datcu, M., "SAR Target Analysis Based on Multiple-Sublook Decomposition: A Visual Exploration Approach," in *Geoscience and Remote Sensing Letters, IEEE* , vol.9, no.2, pp.247-251, March 2012, doi: 10.1109/LGRS.2011.2164051, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6029965&isnumber=6145197>
114. Bratananu, D.; Nedelcu, I.; Datcu, M., "Interactive Spectral Band Discovery for Exploratory Visual Analysis of Satellite Images," in *Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of* , vol.5, no.1, pp.207-224, Feb. 2012, doi: 10.1109/JSTARS.2011.2169772, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6072276&isnumber=6157671>



115. Popescu, A.A.; Gavati, I.; Datcu, M., "Contextual Descriptors for Scene Classes in Very High Resolution SAR Images," in *Geoscience and Remote Sensing Letters, IEEE*, vol.9, no.1, pp.80-84, Jan. 2012, doi: 10.1109/LGRS.2011.2160838, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5975198&isnumber=6109854>
116. Cerra, D.; Datcu, M., "A fast compression-based similarity measure with applications to content-based image retrieval," *Visual Communication and Image Representation, Journal of*, vol.23, no.2, pp. 293-302, 2012, doi: 10.1016/j.jvcir.2011.10.009, URL:  
<http://arxiv.org/ftp/arxiv/papers/1210/1210.0758.pdf>
117. Dumitru, C. O.; Datcu, M.; "Information content of very high resolution SAR images: Study of dependency of SAR image structure descriptors with incidence angle," *Advances in Telecommunications, International Journal on*, vol.5, no.3-4, pp.239-251, 2012, doi: 10.1.1.303.5808, URL:  
[https://www.thinkmind.org/download.php?articleid=tele\\_v5\\_n34\\_2012\\_12](https://www.thinkmind.org/download.php?articleid=tele_v5_n34_2012_12)
118. Bratananu, D.; Nedelcu, I.; Datcu, M., "Bridging the Semantic Gap for Satellite Image Annotation and Automatic Mapping Applications," in *Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of*, vol.4, no.1, pp.193-204, March 2011 doi: 10.1109/JSTARS.2010.2081349, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5625924&isnumber=5737815>
119. Cerra, D.; Datcu, M., "Algorithmic relative complexity," *Entropy*, vol.13, no.4, pp.902-914, 2011, doi: 10.3390/e13040902, URL:  
[www.mdpi.com/1099-4300/13/4/902/pdf](http://www.mdpi.com/1099-4300/13/4/902/pdf)
120. Blanchart, P.; Datcu, M., "A Semi-Supervised Algorithm for Auto-Annotation and Unknown Structures Discovery in Satellite Image Databases," in *Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of*, vol.3, no.4, pp.698-717, Dec. 2010 doi: 10.1109/JSTARS.2010.2058794, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5545467&isnumber=5658191>
121. Chaabouni-Chouayakh, H.; Datcu, M., "Backscattering and Statistical Information Fusion for Urban Area Mapping Using TerraSAR-X Data," in *Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of*, vol.3, no.4, pp.718-730, Dec. 2010 doi: 10.1109/JSTARS.2010.2059695, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5565377&isnumber=5658191>
122. Muñoz-Ferreras, J.M.; Pérez-Martínez, F.; Datcu, M., "Generalisation of inverse synthetic aperture radar autofocusing methods based on the minimisation of the Renyi entropy," in *Radar, Sonar & Navigation, IET*, vol.4, no.4, pp.586-594, August 2010 doi: 10.1049/iet-rsn.2009.0027, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5514428&isnumber=5514418>
123. Datcu, M.; King, R.L.; D'Elia, S., "Introduction to the Special Issue on Image Information Mining: Pursuing Automation of Geospatial Intelligence for Environment and Security," in *Geoscience*

- and Remote Sensing Letters, IEEE*, vol.7, no.1, pp.3-6, Jan. 2010  
doi: 10.1109/LGRS.2009.2034822, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5338009&isnumber=5379155>
124. Cerra, D.; Mallet, A.; Gueguen, L.; Datcu, M., "Algorithmic Information Theory-Based Analysis of Earth Observation Images: An Assessment," in *Geoscience and Remote Sensing Letters, IEEE*, vol.7, no.1, pp.8-12, Jan. 2010, doi: 10.1109/LGRS.2009.2020349, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5061613&isnumber=5379155>
125. Munoz, I.M.G.; Datcu, M., "System Design Considerations for Image Information Mining in Large Archives," in *Geoscience and Remote Sensing Letters, IEEE*, vol.7, no.1, pp.13-17, Jan. 2010, doi: 10.1109/LGRS.2009.2028439, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5256247&isnumber=5379155>
126. Lienou, M.; Maitre, H.; Datcu, M., "Semantic Annotation of Satellite Images Using Latent Dirichlet Allocation," in *Geoscience and Remote Sensing Letters, IEEE*, vol.7, no.1, pp.28-32, Jan. 2010, doi: 10.1109/LGRS.2009.2023536, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5184874&isnumber=5379155>
127. Soccorsi, M.; Gleich, D.; Datcu, M., "Huber–Markov Model for Complex SAR Image Restoration," in *Geoscience and Remote Sensing Letters, IEEE*, vol.7, no.1, pp.63-67, Jan. 2010, doi: 10.1109/LGRS.2009.2024011, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5169986&isnumber=5379155>
128. Gleich, D.; Kseneman, M.; Datcu, M., "Despeckling of TerraSAR-X Data Using Second-Generation Wavelets," in *Geoscience and Remote Sensing Letters, IEEE*, vol.7, no.1, pp.68-72, Jan. 2010, doi: 10.1109/LGRS.2009.2020610, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5061876&isnumber=5379155>
129. Espinoza Molina, D.; Gleich, D.; Datcu, M., "Gibbs Random Field Models for Model-Based Despeckling of SAR Images," in *Geoscience and Remote Sensing Letters, IEEE*, vol.7, no.1, pp.73-77, Jan. 2010, doi: 10.1109/LGRS.2009.2020698, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5071276&isnumber=5379155>
130. Chaabouni-Chouayakh, H.; Datcu, M., "Coarse-to-Fine Approach for Urban Area Interpretation Using TerraSAR-X Data," in *Geoscience and Remote Sensing Letters, IEEE*, vol.7, no.1, pp.78-82, Jan. 2010, doi: 10.1109/LGRS.2009.2020070, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5071277&isnumber=5379155>
131. Birjandi, P.; Datcu, M., "Multiscale and Dimensionality Behavior of ICA Components for Satellite Image Indexing," in *Geoscience and Remote Sensing Letters, IEEE*, vol.7, no.1, pp.103-107, Jan. 2010, doi: 10.1109/LGRS.2009.2020922, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5089468&isnumber=5379155>
132. Cerra, D.; Datcu, M., "A multiresolution approach for texture classification in high resolution satellite imagery," *Remote Sensing, Italian Journal of*, vol.42, no.1, pp.13-24, 2010, doi: 10.5721/ItJRS20104212, URL:  
<http://www.aitjournal.com/articleView.aspx?ID=122>

133. Chaabouni-Chouayakh, H.; Datcu, M., "High resolution SAR image description by combining the PCA and the azimuth sub-band decompositions," *Transactions of Systems, Signals & Devices*, an International Journal, Issues on Communication & Signal Processing, vol.4, no.3, pp. 1-20, 2010 , URL:  
[http://elib.dlr.de/66068/1/ssdtrans\\_chaabouni.pdf](http://elib.dlr.de/66068/1/ssdtrans_chaabouni.pdf)
134. Cerra, D.; Datcu, M., "Compression-based hierarchical clustering of SAR images," *Remote Sensing Letters*, vol.1, no.3, pp. 141-147, 2010, doi: 10.1080/01431161003694822
135. Faur, D.; Gavati, I.; Datcu, M., "Salient Remote Sensing Image Segmentation Based on Rate-Distortion Measure," in *Geoscience and Remote Sensing Letters, IEEE* , vol.6, no.4, pp.855-859, Oct. 2009, doi: 10.1109/LGRS.2009.2026915, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5208338&isnumber=5278412>
136. Gleich, D.; Datcu, M., "Wavelet-Based SAR Image Despeckling and Information Extraction, Using Particle Filter," in *Image Processing, IEEE Transactions on* , vol.18, no.10, pp.2167-2184, Oct. 2009, doi: 10.1109/TIP.2009.2023729, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4967875&isnumber=5234065>
137. C. Cucu-Dumitrecu, M. Datcu, F. Serban, M. Buican, 2009, "Data Mining using PRDC Technique", *Romanian Astronomical Journal*, Vol. 19, No. 1, p. 63-79.
138. Mallet, A.; Datcu, M., "Rate Distortion Based Detection of Artifacts in Earth Observation Images," in *Geoscience and Remote Sensing Letters, IEEE* , vol.5, no.3, pp.354-358, July 2008, doi: 10.1109/LGRS.2008.915938, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4567433&isnumber=4567424>
139. G. Palubinskis, M. Datcu, 2008, "Information fusion approach for the data classification: an example for ERS-1/2 InSAR data" *International Journal of Remote Sensing*, Taylor & Francis, Vol. 29, No. 16, pp. 4689 - 4703.
140. Gueguen, L.; Datcu, M., "A Similarity Metric for Retrieval of Compressed Objects: Application for Mining Satellite Image Time Series," in *Knowledge and Data Engineering, IEEE Transactions on* , vol.20, no.4, pp.562-575, April 2008, doi: 10.1109/TKDE.2007.190718, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4384483&isnumber=4458221>
141. Gleich, D.; Datcu, M., "Wavelet-Based Despeckling of SAR Images Using Gauss–Markov Random Fields," in *Geoscience and Remote Sensing, IEEE Transactions on* , vol.45, no.12, pp.4127-4143, Dec. 2007, doi: 10.1109/TGRS.2007.906093, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4378554&isnumber=4378550>
142. Datcu, M.; D'Elia, S.; King, R.L.; Bruzzone, L., "Introduction to the Special Section on Image Information Mining for Earth Observation Data," in *Geoscience and Remote Sensing, IEEE Transactions on* , vol.45, no.4, pp.795-798, April 2007 doi: 10.1109/TGRS.2007.894401, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4137850&isnumber=4137841>

143. Gueguen, L.; Datcu, M., "Image Time-Series Data Mining Based on the Information-Bottleneck Principle," in *Geoscience and Remote Sensing, IEEE Transactions on* , vol.45, no.4, pp.827-838, April 2007, doi: 10.1109/TGRS.2006.890557, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4137857&isnumber=4137841>
144. Gleich, D.; Datcu, M., "Gauss-Markov model for wavelet-based SAR image despeckling," *Signal Processing Letters, IEEE*, vol.13, no.6, pp. 365-368, 2006, doi: 10.1109/LSP.2006.871712, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=1632069>
145. Daschiel, H.; Datcu, M., "Design and evaluation of human-machine communication for image information mining," in *Multimedia, IEEE Transactions on* , vol.7, no.6, pp.1036-1046, Dec. 2005, doi: 10.1109/TMM.2005.858383, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1542081&isnumber=32935>
146. Maire, C.; Datcu, M., "Earth observation image and DEM information aggregation for realistic 3-D visualization of natural landscapes," in *Geoscience and Remote Sensing, IEEE Transactions on* , vol.43, no.11, pp.2676-2683, Nov. 2005, doi: 10.1109/TGRS.2005.857322, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1522628&isnumber=32566>
147. Heas, P.; Datcu, M., "Modeling trajectory of dynamic clusters in image time-series for spatio-temporal reasoning," in *Geoscience and Remote Sensing, IEEE Transactions on* , vol.43, no.7, pp.1635-1647, July 2005, doi: 10.1109/TGRS.2005.847791, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1459028&isnumber=31405>
148. Datcu, M.; Seidel, Klaus, "Human-centered concepts for exploration and understanding of Earth observation images," in *Geoscience and Remote Sensing, IEEE Transactions on* , vol.43, no.3, pp.601-609, March 2005, doi: 10.1109/TGRS.2005.843253, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1396332&isnumber=30375>
149. Daschiel, H.; Datcu, M., "Information mining in remote sensing image archives: system evaluation," in *Geoscience and Remote Sensing, IEEE Transactions on* , vol.43, no.1, pp.188-199, Jan. 2005, doi: 10.1109/TGRS.2004.838374, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1381634&isnumber=30123>
150. Daschiel, H.; Datcu, M., "Image information mining system evaluation using information-theoretic measures," *Applied Signal Processing, Eurasip Journal on* , vol.2005, no.14, pp.2153-2163, 2005, doi: 10.1155/ASP.2005.2153, URL: [www.asp.eurasipjournals.com/content/pdf/1687-6180-2005-941483.pdf](http://www.asp.eurasipjournals.com/content/pdf/1687-6180-2005-941483.pdf)
151. Quartulli, M.; Datcu, M., "Stochastic geometrical modeling for built-up area understanding from a single SAR intensity image with meter resolution," in *Geoscience and Remote Sensing, IEEE Transactions on* , vol.42, no.9, pp.1996-2003, Sept. 2004, doi: 10.1109/TGRS.2004.833391, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1333184&isnumber=29436>
152. Datcu, M.; Daschiel, H.; Pelizzari, A.; Quartulli, M.; Galoppo, A.; Colapicchioni, A.; Pastori, M.; Seidel, Klaus; Marchetti, P.G.; D'Elia, S., "Information mining in remote sensing image archives:

- system concepts," in *Geoscience and Remote Sensing, IEEE Transactions on*, vol.41, no.12, pp.2923-2936, Dec. 2003, doi: 10.1109/TGRS.2003.817197, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1260629&isnumber=28171>
153. Quartulli, M.; Datcu, M., "Information fusion for scene understanding from interferometric SAR data in urban environments," in *Geoscience and Remote Sensing, IEEE Transactions on*, vol.41, no.9, pp.1976-1985, Sept. 2003, doi: 10.1109/TGRS.2003.814630, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1232211&isnumber=27602>
154. Datcu, M.; Seidel, K., "Image information mining-Exploration of Earth Observation archives," *Geographica Helvetica*, vol.58, no.2, pp.154-168, 2003, URL:  
[www.geogr-helv.net/58/154/2003/gh-58-154-2003.pdf](http://www.geogr-helv.net/58/154/2003/gh-58-154-2003.pdf)
155. Tupin, F.; Houshmand, B.; Datcu, M., "Road detection in dense urban areas using SAR imagery and the usefulness of multiple views," in *Geoscience and Remote Sensing, IEEE Transactions on*, vol.40, no.11, pp.2405-2414, Nov 2002 doi: 10.1109/TGRS.2002.803732, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1166599&isnumber=26301>
156. Datcu, M.; Melgani, F.; Piardi, A.; Serpico, S.B., "Multisource data classification with dependence trees," in *Geoscience and Remote Sensing, IEEE Transactions on*, vol.40, no.3, pp.609-617, Mar 2002, doi: 10.1109/TGRS.2002.1000321, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1000321&isnumber=21604>
157. Stan, S.; Palubinskas, G.; Datcu, M., "Bayesian selection of the neighbourhood order for Gauss-Markov texture models," *Pattern Recognition Letters*, vol.23, no.10, pp. 1229-1238, 2002, doi: 10.1016/S0167-8655(02)00070-3, URL:  
[https://www.vision.ee.ethz.ch/en/publications/.../eth\\_biwi\\_00267.pdf](https://www.vision.ee.ethz.ch/en/publications/.../eth_biwi_00267.pdf)
158. Datcu, M.; Seidel, K.; D'Elia, S.; Marchetti, P. G., "Knowledge-driven information mining in remote-sensing image archives," *E. S. A. Bulletin*, vol.110, pp.26-33, 2002, URL:  
[http://www.vision.ee.ethz.ch/publications/papers/articles/eth\\_biwi\\_00254.pdf](http://www.vision.ee.ethz.ch/publications/papers/articles/eth_biwi_00254.pdf)
159. Nico, G.; Palubinskas, G.; Datcu, M., "Bayesian approaches to phase unwrapping: theoretical study," in *Signal Processing, IEEE Transactions on*, vol.48, no.9, pp.2545-2556, Sep 2000 doi: 10.1109/78.863057, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=863057&isnumber=18703>
160. Walessa, M.; Datcu, M., "Model-based despeckling and information extraction from SAR images," in *Geoscience and Remote Sensing, IEEE Transactions on*, vol.38, no.5, pp.2258-2269, Sep 2000, doi: 10.1109/36.868883, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=868883&isnumber=18811>
161. Schroder, M.; Rehrauer, H.; Seidel, Klaus; Datcu, M., "Interactive learning and probabilistic retrieval in remote sensing image archives," in *Geoscience and Remote Sensing, IEEE Transactions on*, vol.38, no.5, pp.2288-2298, Sep 2000 doi: 10.1109/36.868886, URL:  
<http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=868886&isnumber=18811>

162. Schröder, M.; Walessa, M., Rehrauer; H., Seidel, K.; Datcu, M., "Gibbs random field models: A toolbox for spatial information extraction," *Computers and Geosciences*, vol.26, no.4, pp.423-432, 2000, doi: 10.1016/S0098-3004(99)00122-3
163. Datcu, M.; Seidel, Klaus; Walessa, M., "Spatial information retrieval from remote-sensing images. I. Information theoretical perspective," in *Geoscience and Remote Sensing, IEEE Transactions on*, vol.36, no.5, pp.1431-1445, Sep 1998 doi: 10.1109/36.718847, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=718847&isnumber=15531>
164. Schroder, M.; Rehrauer, H.; Seidel, Klaus; Datcu, M., "Spatial information retrieval from remote-sensing images. II. Gibbs-Markov random fields," in *Geoscience and Remote Sensing, IEEE Transactions on*, vol.36, no.5, pp.1446-1455, Sep 1998 doi: 10.1109/36.718848, URL: <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=718848&isnumber=15531>
165. Schwarz, G.; Datcu, M.; 1997, „Wavelets - ein neues leistungsfähiges Werkzeug für die Verarbeitung von Bilddaten in der Fernerkundung“, *Photogrammetrie-Fernerkundung-Geoinformation*, No.3, pp. 189-202.
166. Datcu, M.; Luca, D.: 1986, Point transforms in picture processing, *EEA-Automatics and Electronics*; Romania No.3/86, pp. 83-87. (in Romanian)

## 5. Articles in conference proceedings with peer review

1. M. Keymasi, O. Ghizatlou, A. Anghel, M. Datcu, "Classification of Danube Delta boundaries by using machine learning algorithms on co-registered Sentinel-1 and Sentinel-2 data", *Proc. SPIE 12493, Advanced Topics in Optoelectronics, Microelectronics, and Nanotechnologies XI, 124931B* (2 March 2023)
2. O. Dumitru, G. Schwarz, C. Karmakar, M. Datcu, "Polar Ice Coverage Classified by Various Machine Learning Algorithms", *EGU23-452, EGU General Assembly 2023*.
3. O. Ghizatlou and M. Datcu, "Comparative Studies on Similarity Distances for Remote Sensing Image Classification," *2022 IEEE 5th International Conference on Image Processing Applications and Systems (IPAS)*, Genova, Italy, 2022, pp. 1-6.
4. O. Ghizatlou, M. H. Conde and M. Datcu, "Wavelet-Guided Deep Neural Network For Robust One-Class Classification," *2022 12th Workshop on Hyperspectral Imaging and Signal Processing: Evolution in Remote Sensing (WHISPERS)*, Rome, Italy, 2022, pp. 1-5
5. M. Muzeau, C. Ren, S. Angelliaume, M. Datcu, J.-P. Ovarlez, "SAR Anomalies Detection based on Deep Learning:", *XXVIIIème Colloque GRETSI 2022*, Sep 2022, Nancy, France.
6. C. Karmakar, G. Schwartz, C. O. Dumitru, M. Datcu, "A Domain-Change Approach to the Semantic Labelling of Remote Sensing Images", *EGU General Assembly Conference*, EGU22-12043, 2022

7. R. Mohammadi Asiyabi, M. Datcu, A. Anghel and H. Nies, "Complex-Valued Autoencoders with Coherence Preservation for SAR," *EUSAR 2022; 14th European Conference on Synthetic Aperture Radar*, Leipzig, Germany, 2022, pp. 1-6
8. M. A. Iqbal, A. Anghel and M. Datcu, "On the De-Ramping of SLC-IW Tops SAR Data and Ocean Circulation Parameters Estimation," *IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium*, Kuala Lumpur, Malaysia, 2022, pp. 6817-6820
9. R. M. Asiyabi, M. Datcu, H. Nies and A. Anghel, "Complex-Valued Vs. Real-Valued Convolutional Neural Network for PolSAR Data Classification," *IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium*, Kuala Lumpur, Malaysia, 2022, pp. 421-424
10. W. Yao, G. Schwarz and M. Datcu, "A Pattern Analysis Image Validation Tool for the Generation of Reliable Earth Observation Image Benchmarks," *IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium*, Kuala Lumpur, Malaysia, 2022, pp. 3999-4002
11. C. Karmakar, A. Antunes and M. Datcu, "Achieving Information Super-resolution for Sentinel-2 NDVI Through Gaussian Process Regression," *IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium*, Kuala Lumpur, Malaysia, 2022, pp. 338-341
12. S. Guha, M. Datcu and J. Ender, "Sar Super-Resolution Using Physics-Aware Adaptive Compressed Sensing," *IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium*, Kuala Lumpur, Malaysia, 2022, pp. 52-55
13. I. Calota, D. Faur and M. Datcu, "Estimating NDVI from SAR Images Using DNN," *IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium*, Kuala Lumpur, Malaysia, 2022, pp. 5232-5235
14. S. Otgonbaatar, M. Datcu and B. Demir, "Coreset of Hyperspectral Images on a Small Quantum Computer," *IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium*, Kuala Lumpur, Malaysia, 2022, pp. 4923-4926
15. S. Otgonbaatar, M. Datcu and B. Demir, "Causality for Remote Sensing: An Exploratory Study," *IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium*, Kuala Lumpur, Malaysia, 2022, pp. 259-262
16. A. Focsa, A. Anghel and M. Datcu, "Inter-polarization Mapping via Gaussian Process Regression for Sentinel-1 EW Denoising," *IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium*, Kuala Lumpur, Malaysia, 2022, pp. 2063-2066
17. N. -C. Ristea, A. Anghel, M. Datcu and B. Chapron, "Guided Deep Learning by Subaperture Decomposition: Ocean Patterns from SAR Imagery," *IGARSS 2022 - 2022 IEEE International Geoscience and Remote Sensing Symposium*, Kuala Lumpur, Malaysia, 2022, pp. 6825-6828



18. M. Unsalan, A. Radoi and M. Datcu, "SAR Image Classification Using Mixed Spatial-Spectral Information and Pre-trained Convolutional Neural Networks," *2022 14th International Conference on Communications (COMM)*, Bucharest, Romania, 2022
19. G. -S. Xia *et al.*, "LUAI Challenge 2021 on Learning to Understand Aerial Images," *2021 IEEE/CVF International Conference on Computer Vision Workshops (ICCVW)*, 2021, pp. 762-768
20. M. Koubarakis *et al.*, (2021) Artificial Intelligence and Big Data Technologies for Copernicus Data: The ExtremeEarth Project. JRC. Big Data from Space (BiDS), 18.-20. May 2021, Bucharest, Romania
21. C.-O. Dumitru, G. Schwarz, M. Datcu, (2021) Machine Learning Techniques for Knowledge Extraction from Satellite Images: Application to Specific Area Types. In: *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLIII, pp. 455-462. ISPRS 2021, 5.-9. July 2021, Nice
22. W. Yao, *et al.*, (2021) Early and late fusion of multiple modalities in Sentinel imagery and social media retrieval. In: *2021 International Conference on Pattern Recognition (ICPR)*, 12667, pp. 591-606. Springer. ICPR 2020, 10.-15.01.2021
23. N. Liao, M. Datcu, Z. Zhang, W. Guo and W. Yu, "Can We Evaluate the Distinguishability of the Opensarurban Dataset?," *2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS*, 2021, pp. 391-394
24. M. A. Iqbal, A. Anghel and M. Datcu, "Doppler Centroid Estimation for Ocean Surface Current Retrieval from Sentinel-1 SAR Data," *2021 18th European Radar Conference (EuRAD)*, London, United Kingdom, 2022, pp. 429-432
25. I. C. Neagoe, C. Vaduva and M. Datcu, "Haze and Smoke Removal for Visualization of Multispectral Images: A DNN Physics Aware Architecture," *2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS*, 2021, pp. 2102-2105
26. I. Calota, D. Faur and M. Datcu, "Bag-of-Words for Transfer Learning," *2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS*, 2021
27. M. Coca and M. Datcu, "Anomaly Detection in Post Fire Assessment," *2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS*, 2021, pp. 8620-8623
28. O. Ghizatlou and M. Datcu, "Hybrid Gan and Spectral Angular Distance for Cloud Removal," *2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS*, 2021
29. W. Yao, O. Dumitru and M. Datcu, "An Active Learning Tool for the Generation of Earth Observation Image Benchmarks," *2021 IEEE International Geoscience and Remote Sensing*



- Symposium IGARSS, 2021, pp. 5720-5723
30. U. Chaudhuri, B. Banerjee, A. Bhattacharya and M. Datcu, "Attention-Driven Cross-Modal Remote Sensing Image Retrieval," 2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS, 2021, pp. 4783-4786
  31. R. M. Asiyabi and M. Datcu, "Earth Observation Image Semantics: Latent Dirichlet Allocation Based Information Discovery," 2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS, 2021, pp. 2620-2623
  32. F. Rosu, A. Anghel, R. Cacoveanu, S. Ciochină and M. Datcu, "Deconvolution Method for Eliminating Reference Signal Coupling/Reflections in Bistatic SAR," 2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS, 2021, pp. 2715-2718
  33. C. O. Dumitru, G. Schwarz, C. Karmakar and M. Datcu, "Machine Learning-Based Paradigm for Boosting the Semantic Annotation of EO Images," 2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS, 2021, pp. 4268-4271
  34. I. C. Neagoe, C. Vaduva and M. Datcu, "Haze and Smoke Removal for Visualization of Multispectral Images: A DNN Physics Aware Architecture," 2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS, Brussels, Belgium, 2021, pp. 2102-2105
  35. F. Rosu, A. Anghel, R. Cacoveanu, M. Datcu, "Stable Scatterer Detection in Multi-Aperture Spaceborne-TX / Ground based-RX Bistatic SAR Ground based-RX Bistatic SAR", *CENTERIS, Elsevier, Procedia Computer Science* 181 (2021) 255–260
  36. S. Otgonbaatar and M. Datcu, "Quantum annealer for network flow minimization in InSAR images," *EUSAR 2021; 13th European Conference on Synthetic Aperture Radar*, 2021, pp. 1-4
  37. S. Otgonbaatar and M. Datcu, "Quantum Annealing Approach: Feature Extraction and Segmentation of Synthetic Aperture Radar Image," *IGARSS 2020 - 2020 IEEE International Geoscience and Remote Sensing Symposium*, 2020, pp. 3692-3695, doi: 10.1109/IGARSS39084.2020.9323504.
  38. Z. Huang and M. Datcu, "Urban Area Analysis in Single-polarized SAR Images Based On Unsupervised Deep Learning," *EUSAR 2021; 13th European Conference on Synthetic Aperture Radar*, 2021, pp. 1-5.
  39. L. Liu, M. Datcu, Q. Zhang, G. Schwarz, J. Liu and Y. Liu, "Direct Ocean Surface Velocity Measurement for Chinese Gaofen-3 SAR Satellite," 2020 17th European Radar Conference (EuRAD), 2021, pp. 198-201, doi: 10.1109/EuRAD48048.2021.00058.
  40. C.O. Dumitru, G. Schwarz, D. Ao, G. Dax, V. Andrei, C. Karmakar, and M. Datcu, "Selection of Reliable Machine Learning Algorithms for Geophysical Applications", *European Geosciences*

- Union (EGU) General Assembly – Big data and machine learning in geosciences, Vienna, Austria, 3-8 May 2020, online.
41. W. Yao, C.O. Dumitru, J. Lorenzo, and M. Datcu, “Data Fusion on the CANDELA Cloud Platform” European Geosciences Union (EGU) General Assembly - Big data and machine learning in geosciences, Vienna, Austria, 3-8 May 2020, online.
  42. C. Rambour, N. Audebert, E. Koeniguer, B. Le Saux, M. Crucianu, M. Datcu, Flood Detection in Time Series of Optical and SAR Images, *Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci.*, XLIII-B2-2020, 1343–1346, <https://doi.org/10.5194/isprs-archives-XLIII-B2-2020-1343-2020>.
  43. C.-O. Dumitru, G. Schwarz, M. Datcu, Knowledge extraction from Copernicus satellite data, *IOP Conference Series: Materials Science and Engineering*, 2020.
  44. Mihai Coca, Iulia Neagoe, Mihai Datcu, Physically Meaningful Dictionaries from EO Crowdsourcing: A ML for Blockchain Architecture, *IGARSS 2020*.
  45. Andreea Griparis, Daniela Faur, Mihai Datcu, DR-KNN: A Hybrid Approach for Dimensionality Reduction of EO Images Datasets, *IGARSS 2020*.
  46. Jean-François Rolland, Anne Haugommard, Fabien Castel, Michelle Aubrun, Wei Yao, Corneliu Octavian Dumitru, Mihai Datcu, Michal Bylicki, Ba-Huy Tran, Nathalie Aussenac-Gilles, Catherine Comparot, Cassia Trojahn, CANDELA: A Cloud Platform for COPERNICUS Earth Observation Data Analytics, *IGARSS 2020*.
  47. Soronzonbold Otgonbaatar, Mihai Datcu, Quantum Annealing Approach: Feature Extraction and Segmentation of Synthetic Aperture Radar Image, *IGARSS 2020*.
  48. Wei Yao, Octavian Dumitru, Jose Lorenzo, Mihai Datcu, Data Mining on the CANDELA Cloud Platform, *IGARSS 2020*.
  49. Chandrabali Karmakar, Mihai Datcu, A Fast Search System for Remote Sensing Imagery Based on Bag of Visual Topics Model, *IGARSS 2020*.
  50. Iulia Calota, Daniela Faur, Mihai Datcu, DNN-Based, Semantic Extraction: Fast Learning from Multiplespectral Signatures, *IGARSS 2020*.
  51. Zhongling Huang, Mihai Datcu, Zongxu Pan, Bin Lei, A Hybrid and Explainable Deep Learning Framework for SAR Images, *IGARSS 2020*.
  52. Andrei Anghel, Remus Cacoveanu, Bjorn Rommen, Mihai Datcu, Time-Domain SAR Processor for Sentinel 1 TOPS Data, *IGARSS 2020*.
  53. Adrian Focsa, Andrei Anghel, Ștefan-Adrian Toma, Mihai Datcu, Synthetic Aperture Radar

- Focusing Based on Back-Projection and Compressive Sensing, IGARSS 2020.
54. Ushasi Chaudhuri, Biplab Banerjee, Avik Bhattacharya, Mihai Datcu, A Simplified Framework for Zero-Shot Cross-Modal Sketch Data Retrieval, Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops CVPR, 2020.
  55. Bogdan Barbulescu, Andreea Griparis, Mihai datcu, A Bag-of-Words Framework for Natural Disaster Evaluation on Sentinel-2 Image, COMM 2020
  56. Corneliu Octavian Dumitru, Gabriel Dax, Gottfried Schwarz, Constantin Cazacu, Mihai Cristian Adamescu, Mihai Datcu, Accurate Monitoring of the Danube Delta Dynamics using Copernicus Data. SPIE Remote Sensing, 9.-12. Sept. 2019, Strasbourg, France.
  57. Juanping Zhao, Mihai Datcu, Zenghui Zhang, Huilin Xiong, Wenxian Yu, Learning Physical Scattering Patterns from PolSAR Images by using Complex-Valued CNN, IGARSS 2019, IEEE International Geoscience and Remote Sensing Symposium
  58. Corina Vaduva, Florin Andrei Georgescu, Andreea Griparis, Iulia Neagoe, Alexandru Cosmin Grivei, Mihai Datcu, Exploratory Search Methodology for Sentinel 2 Data: A Propsect of Both Visual and Latent Characteristics, IGARSS 2019, IEEE International Geoscience and Remote Sensing Symposium
  59. Corneliu Octavian Dumitru, Gottfried Schwarz, Anna Pulak-Siwiec, Bartosz Kulawik, Jose Lorenzo, Mihai Datcu, Earth Observation Data Mining: A Use Case for Forest Monitoring, IGARSS 2019, IEEE International Geoscience and Remote Sensing Symposium
  60. Andrei Anghel, Remus Cacoveanu, Bjorn Rommen, Mihai Datcu, Multi-Aperture Focusing in Spaceborne Transmitter-Stationary Receiver Bistatic SAR, IGARSS 2019, IEEE International Geoscience and Remote Sensing Symposium
  61. Madalina Ciuca, Andrei Anghel, Remus Cacoveanu, Bjorn Rommen, Mihai Datcu, A Radargrammetric Approach for Spaceborne Transmitter-Stationary Receiver Bistatic SAR, IGARSS 2019, IEEE International Geoscience and Remote Sensing Symposium
  62. Zhongling Huang, Corneliu Octavian Dumitru, Zongxu Pan, Bin Lei, Mihai Datcu, Can A Deep Network Understand The Land Cover Across Sensors?, IGARSS 2019, IEEE International Geoscience and Remote Sensing Symposium
  63. Daniela Faur, Andreea Griparis, Adrian Stoica, Philippe Mougnaud, Mihai Datcu, An Interactive Visual Analytics Tool for Big Earth Observation Data Content Estimation, IGARSS 2019, IEEE International Geoscience and Remote Sensing Symposium
  64. Alexandru-Cosmin Grivei, Corina Văduva, Mihai Datcu, Improved Earth Observation Data Retrieval through Hashing Algorithms, IGARSS 2019, IEEE International Geoscience and Remote

Sensing Symposium

65. Manolis Koubarakis, Konstantina Bereta, Dimitris Bilidas, Konstantinos Giannousis, Theofilos Ioannidis, Despina-Athanasia Pantazi, George Stamoulis, Seif Haridi, Vladimir Vlassov, Lorenzo Bruzzone, Claudia Paris, Torbjørn Eltoft, Thomas Krämer, Angelos Charalabidis, Vangelis Karkaletsis, Stasinou Konstantopoulos, Jim Dowling, Theofilos Kakantousis, Mihai Datcu, Corneliu Octavian Dumitru, Florian Appel, Heike Bach, Nick Hughes, David Arthurs, Andrew Fleming, From Copernicus Big Data to Extreme Earth Analytics. Advances in Database Technology - EDBT 2019, 22nd International Conference on Extending Database Technology, 26.-29. Mar. 2019, Lisbon, Portugal. ISBN ISBN: 978-3-89318-081-3
66. Mihai Datcu, Corneliu Octavian Dumitru, Gottfried Schwarz, Fabian Castel, Jose Lorenzo, Data Science Workflows for the CANDELA Project. In: Proceedings of 2019 Big Data from Space (BiDS'19), Seiten 19-22. Big Data from Space 2019, 19. - 21. Feb. 2019, Munich, Germany. DOI: 10.2760/848593
67. Jian Ding; Zhen Zhu; Gui-Song Xia; Xiang Bai; Serge Belongie; Jiebo Luo; Mihai Datcu; Marcello Pelillo; Liangpei Zhang Contest on Object Detection in Aerial Images (ODAI-18) 2018, 24th International Conference on Pattern Recognition (ICPR)
68. Gui-Song Xia; Xiang Bai; Jian Ding; Zhen Zhu; Serge Belongie; Jiebo Luo; Mihai Datcu; Marcello Pelillo; Liangpei Zhang, 2018, DOTA: A Large-Scale Dataset for Object Detection in Aerial Images, 2018 IEEE/CVF Conference on Computer Vision and Pattern Recognition
69. A. Radoi; M. Datcu, 2018, Bag-of-Visual Words and Error-Correcting Output Codes for Multilabel Classification of Remote Sensing Images, IGARSS 2018, IEEE International Geoscience and Remote Sensing Symposium
70. A.-C. Grivei; M. Datcu, 2018 Analysis of Bucharest's Land Cover Evolution Over A Period Of 33 Years Using Multi-Sensor Data, IGARSS 2018, IEEE International Geoscience and Remote Sensing Symposium
71. Iulia Neagae; Daniela Faur; Carina Vaduva; Mihai Datcu, 2018, Exploratory Visual Analysis of Multispectral EO Images Based on DNN, IGARSS 2018, IEEE International Geoscience and Remote Sensing Symposium
72. Wei Yao; Mihai Datcu, 2018, Deep Neural Networks Based Semantic Segmentation for Optical Time Series, IGARSS 2018, IEEE International Geoscience and Remote Sensing Symposium
73. Andrei Anghel ; Remus Cacoveanu; Mihai Datcu, 2018, Repeat-Pass Spaceborne Transmitter-Stationary Receiver Bistatic Sar Interferometry - First Results, IGARSS 2018, IEEE International Geoscience and Remote Sensing Symposium
74. Cosmin Danisor; Gianfranco Fornaro; Antonio Pauciuolo; Mihai Datcu, 2018, Statistical Analysis for Improvement of Double Persistent Scatterers Detection in SAR Tomography, IGARSS 2018 IEEE International Geoscience and Remote Sensing Symposium
75. Mihai Coca; Andrei Anghel; Mihai Datcu, 2018, Normalized Compression Distance for SAR Image

- Change Detection, IGARSS 2018 IEEE International Geoscience and Remote Sensing Symposium
76. Corneliu Octavian Dumitru; Gottfried Schwarz; Mihai Datcu, 2018 Evaluation of Retrieved Categories from a Terrasar-X Benchmarking Data Set, IGARSS 2018, IEEE International Geoscience and Remote Sensing Symposium
  77. Mihai-Liviu Tudose; Andrei Anghel; Remus Cacoveanu; Mihai Datcu, 2018, Electronic Target for Ground Based SAR Displacement Measurements, 2018 International Conference on Communications (COMM)
  78. Radu Tanase; Gottfried Schwarz; Mihai Datcu, 2018, A Bag-of-Meaningful-Words Integrating Scattering and Structure Information for PolSAR Image Classification, EUSAR 2018; 12th European Conference on Synthetic Aperture Radar, ISBN: 978-3-8007-4636-1
  79. Mihai Tudose; Andrei Anghel; Remus Cacoveanu; Mihai Datcu, 2018, Electronic target for bistatic/monostatic SAR systems, EUSAR 2018; 12th European Conference on Synthetic Aperture Radar, ISBN: 978-3-8007-4636-1
  80. Dongyang Ao; Mihai Datcu, 2018, Ship Azimuth Velocity Estimation in TerraSAR-X data based on Minimum-Entropy Criterion, EUSAR 2018; 12th European Conference on Synthetic Aperture Radar, ISBN: 978-3-8007-4636-1
  81. Cosmin Danisor; Mihai Datcu, 2018, Extension of PS-InSAR Approach for DEM and Linear Deformation Rates Estimation. Case Study of Bucharest Area, EUSAR 2018; 12th European Conference on Synthetic Aperture Radar, ISBN: 978-3-8007-4636-1
  82. Cosmin Danisor; Mihai Datcu, 2018, 3-Pass D-InSAR for Estimation of Displacements Caused by October 2016 Central Italy Earthquake, EUSAR 2018; 12th European Conference on Synthetic Aperture Radar, ISBN: 978-3-8007-4636-1
  83. Cosmin Dănișor; Antonio Pauciuolo; Gianfranco Fornaro; Mihai Datcu, 2018, Optimization of NLLS algorithm using matrix Algebra: Application on SAR tomography, 2017 25th Telecommunication Forum (TELFOR)
  84. Adrian Focșa; Ștefan-Adrian Toma; Mihai Datcu, 2017, Maximum entropy image reconstruction applied to C-band ground based synthetic aperture radar, 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), ISSN: 2153-7003
  85. Daniela Espinoza-Molina ; Reza Bahmanyar ; Ricardo Díaz-Delgado ; Javier Bustamante ; Mihai Datcu, 2017, Land-cover change detection using local feature descriptors extracted from spectral indices, 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), ISSN: 2153-7003
  86. Ovidiu-Marius Moaca; Andrei Anghel; Mihai Datcu, 2017, Investigation of displacement measurements performed with a ground-based fixed receiver bistatic SAR simulator, 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), ISSN: 2153-7003
  87. Cosmin Dănișor ; Gianfranco Fornaro ; Mihai Datcu, 2017, Non-Linear least squares algorithm for detection of simple and double persistent scatterers, 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), ISSN: 2153-7003

88. Andrei Anghel; Remus Cacoveanu; Mihai Datcu, 2017, Phase sensitivity analysis of spaceborne transmitter — Stationary ground-based receiver bistatic sar interferometry with one imaging channel, 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), ISSN: 2153-7003
89. Andreea Griparis; Florin-Andrei Georgescu; Mihai Datcu, 2017, Visual data mining applied on earth observation datasets, 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), ISSN: 2153-7003
90. D. Marmanis ; K. Schindler ; J. D. Wegner ; M. Datcu ; U. Stilla, 2017, Semantic segmentation of aerial images with explicit class-boundary modeling, 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), ISSN: 2153-7003
91. Corina Văduva; Cosmin Dănișor; Mihai Datcu, 2017, Temporal analysis of SAR imagery for permanent and evolving Earth land cover behavior assessment, 9th International Workshop on the Analysis of Multitemporal Remote Sensing Images (MultiTemp)
92. Corneliu Octavian Dumitru; Gottfried Schwarz; Mihai Datcu, 2017, Image representation alternatives for the analysis of satellite image time series, 2017 9th International Workshop on the Analysis of Multitemporal Remote Sensing Images (MultiTemp)
93. Daniela Espinoza-Molina; Reza Bahmanyar; Mihai Datcu; Ricardo Díaz-Delgado; Javier Bustamante, 2017, Land-cover evolution class analysis in Image Time Series of Landsat and Sentinel-2 based on Latent Dirichlet Allocation, 2017 9th International Workshop on the Analysis of Multitemporal Remote Sensing Images (MultiTemp)
94. Alexandru-Cosmin Grivei; Anamaria Radoi; Mihai Datcu, 2017, Land cover change detection in Satellite Image Time Series using an active learning method, 2017 9th International Workshop on the Analysis of Multitemporal Remote Sensing Images (MultiTemp)
95. C.C. Damian; D. Coltuc; F. Garoi; M. Datcu, 2017, Improvement of submillimeter spectrometric measurement via deconvolution, 2017 International Symposium on Signals, Circuits and Systems (ISSCS)
96. Radu Tanase; Constantin Cazacu; Daniela Faur; Dragos Sacaleanu; Mihai Datcu, 2017, Potential of polarimetric SAR data use for ecosystems monitoring, 2017 International Symposium on Signals, Circuits and Systems (ISSCS)
97. Andrei Anghel; Remus Cacoveanu; Adrian-Septimiu Moldovan; Cristian Savlovschi; Bjorn Rommen ; Mihai Datcu, 2017, Bistatic SAR imaging with Sentinel-1 operating in TOPSAR mode, 2017 IEEE Radar Conference (RadarConf), ISSN: 2375-5318
98. Cosmin Dănișor; Gianfranco Fornaro; Mihai Datcu, 2016, Applications of SAR Tomography on Persistent Scatterers detection, based on Beam-Forming filtering, 2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), ISSN: 2153-7003
99. Andreea Griparis; Daniela Faur; Mihai Datcu, 2016, A dimensionality reduction approach for the visualization of the cluster space: A trustworthiness evaluation, 2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), ISSN: 2153-7003
100. Andrei Anghel; Remus Cacoveanu; Adrian-Septimiu Moldovan; Anca-Andreea Popescu; Mihai

- Datcu ; Florin Serban, Simplified bistatic SAR imaging with a fixed receiver and TerraSAR-X as transmitter of opportunity - first results, 2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), ISSN: 2153-7003
101. Radu Tanase; Mihai Datcu; Dan Raducanu, 2016, A convolutional deep belief network for polarimetric SAR data feature extraction 2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), ISSN: 2153-7003
  102. Daniela Espinoza-Molina; Kevin Alonso; Mihai Datcu, 2016, Visual data mining for feature space exploration using in-situ data, 2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), ISSN: 2153-7003
  103. Ovidiu-Marius Moacă; Anca Andreea Popescu; Andrei Anghel; Mihai Datcu, 2016, A bistatic SAR simulator for ground-based fixed-receiver geometry, 2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), ISSN: 2153-7003
  104. Corina Văduva; Florin Andrei Georgescu; Mihai Datcu, 2016, Compound and configurable framework for exploratory earth observation data analysis, 2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), ISSN: 2153-7003
  105. Mohammadreza Babaei; Gerhard Rigoll; Mihai Datcu, 2016, Position-Aware Non-negative Matrix Factorization for Satellite Image Representation, Proceedings of EUSAR 2016: 11th European Conference on Synthetic Aperture Radar, ISBN: 978-3-8007-4228-8
  106. Corneliu Octavian Dumitru; Gottfried Schwarz; Shiyong Cui; Daniela Espinoza-Molina; Mihai Datcu, 2016, Semi-Automated Semantic Annotation of Big Archives of High Resolution SAR Images, Proceedings of EUSAR 2016: 11th European Conference on Synthetic Aperture Radar, ISBN: 978-3-8007-4228-8
  107. Nazli Deniz Cagatay; Mihai Datcu, 2016, Bag-of-Visual-Words Model for Classification of Interferometric SAR Images, Proceedings of EUSAR 2016: 11th European Conference on Synthetic Aperture Radar, ISBN: 978-3-8007-4228-8
  108. Nazli Deniz Cagatay; Mihai Datcu, 2016, Multi-scale feature extraction approaches for classification of insar and phase gradient insar images, 2016 IEEE International Conference on Image Processing (ICIP)
  109. Andreea Griparis; Daniela Faur; Mihai Datcu, 2016, A dimensionality reduction approach to support visual data mining: Co-ranking-based evaluation, 2016 International Conference on Communications (COMM)
  110. Alexandru-Cosmin Grivei ; Anamaria Rădoi ; Corina Văduva ; Mihai Datcu, 2016, An Active-Learning approach to the query by example retrieval in remote sensing images, 2016 International Conference on Communications (COMM)
  111. Corneliu Octavian Dumitru; Gottfried Schwarz; Shiyong Cui; Mihai Datcu, 2016, Improved image classification by proper patch size selection: TerraSAR-X vs. Sentinel-1A, 2016 International Conference on Systems, Signals and Image Processing (IWSSIP)
  112. Cosmin Dănișor; Gianfranco Fornaro; Mihai Datcu, 2015, Comparative study of SAR tomographic reconstruction algorithms, 2015, 23rd Telecommunications Forum Telfor (TELFOR)

113. Alexandru-Cosmin Grivei; Mihai Datcu, 2015, HyperMINE — An earth observation spatio-temporal data mining system, 2015 23rd Telecommunications Forum Telfor (TELFOR)
114. Shiyong Cui ; Gottfried Schwarz ; Mihai Datcu, 2015, Image classification: No features, no clustering, 2015 IEEE International Conference on Image Processing (ICIP)
115. Nazli Deniz Cagatay; Mihai Datcu, 2015, Classification of interferometric SAR images based on parametric modeling in the fractional Fourier transform domain, 2015 IEEE International Conference on Image Processing (ICIP)
116. Radu Tănase; Corina Văduva; Mihai Datcu; Dan Răducanu, 2015, A validation of ICA decomposition for PolSAR images by using measures of normalized compression distance, 2015 IEEE International Conference on Image Processing (ICIP)
117. Shiyong Cui; Mihai Datcu, 2015, A comparison of Bag-of-Words method and normalized compression distance for satellite image retrieval, 2015 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)
118. M. Babaei ; X. Yu; D. Merget; A. Babaeian ; G. Rigoll; M. Datcu, 2015, Interactive feature learning from SAR image patches, 2015 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)
119. A. Radoi; R. Tanase; M. Datcu, 2015, Semantic interpretation of multi-level change detection in multi-temporal satellite images, 2015 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)
120. R. Tănase; A. Rădoi; M. Datcu; D. Răducanu, 2015, Polarimetric SAR data feature selection using measures of mutual information, 2015 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)
121. Mihaela Stan; Anca Popescu; Mihai Datcu; Dan Alexandru Stoichescu, 2015, An assessment of feature extraction methods for SENTINEL-1 images on urban areas, 2015 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)
122. Kevin Alonso; Daniela Espinoza-Molina; Mihai Datcu, 2015, LUCAS Visual Browser: A tool for land cover visual analytics, 2015 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)
123. Niko Lukač; Borut Žalik; Shiyong Cui; Mihai Datcu, 2015, GPU-based kernelized locality-sensitive hashing for satellite image retrieval, 2015 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)
124. Wei Yao ; Otmar Loffeld ; Mihai Datcu, 2015, A hierarchical patch clustering method for high-resolution TerraSAR-X images, 2015 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)
125. Shiyong Cui; Mihai Datcu, 2015, Comparison of Kullback-Leibler divergence approximation methods between Gaussian mixture models for satellite image retrieval, 2015 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)



126. Andreea Griparis; Daniela Faur; Mihai Datcu, 2015 Feature space dimensionality reduction for the optimization of visualization methods, 2015 IEEE International Geoscience and Remote Sensing Symposium (IGARSS)
127. Mohammadreza Babaei; Stefanos Tsoukalas; Maryam Babaei; Mihai Datcu, 2015, Active learning using a low-rank classifier, 2015 23rd Iranian Conference on Electrical Engineering, ISSN: 2164-7054
128. Corneliu Octavian Dumitru; Shiyong Cui; Mihai Datcu, 2015, A study of multi-sensor satellite image indexing, 2015 Joint Urban Remote Sensing Event (JURSE), ISBN: 978-1-4799-6652-3, ISSN: 2334-0932
129. B. F. Florea, O. Grigore, M. Datcu, 2015, Pheromone averaging exploration algorithm. Proc. of 2015 International Conference on Advanced Robotics (ICAR), pp. 617 – 622.
130. M.A. Petrovici, D. Coltuc, M. Datcu, T. Vasile, 2015, Rate-distortion performance of compressive sensing in single pixel camera, Proc. of 2015 IEEE International Conference on Industrial Technology (ICIT), pp. 1747 – 1751
131. D. Faur, M. Datcu, 2015, A rapid mapping approach to quantify damages caused by the 2003 Bam earthquake using high resolution multitemporal optical images, Proc. of 2015 8th International Workshop on the Analysis of Multitemporal Remote Sensing Images (Multi-Temp), pp. 1 – 4.
132. R. Tanase, M. Datcu, D. Raducanu, 2014, PolSAR Data Indexing Using Biquaternions Algebra and Joint Time-Frequency Analysis. In: Presentations of 1st ESA SAOCOM Companion Satellite Workshop, pp. 1-17, 1st ESA SAOCOM Companion Satellite Workshop, 1.-2. Oct. 2014, Noordwijk, The Netherlands
133. A. Radoi, M. Datcu, 2014, A L2-Norm Regularized Pseudo-Code for Change Analysis in Satellite Image Time Series. In: Proceedings of First International Workshop on Learning over Multiple Contexts LMCE 2014, pp. 1-13. 19. Sep 2014, Nancy, France.
134. C. Pătrașcu, A. Popescu, M. Datcu, 2014, Adaptive Multilooking for Long Term Monitoring of Critical Infrastructure, Proceedings of EUSAR 2014, 10th European Conference on Synthetic Aperture Radar, pp. 552-555. VDE Verlag. 03-05 June 2014, Berlin, Germany.
135. F. A. Georgescu, C. Vaduva, M. Datcu, D. Răducanu, 2014, A Framework for Benchmarking of Feature Extraction Methods in Earth Observation image Analysis, Proceedings of ESA-EUSC-JRC 2014 - 9th Conference on Image Information Mining Conference: The Sentinels Era, pp. 81-84. EU. ESA-EUSC-JRC 2014, 05-07 March 2014, Bucharest, Romania.
136. A. Radoi, M. Datcu, 2014, Learned Atoms from Multispectral Satellite Image Time Series. In: Proceedings of ESA-EUSC-JRC 2014 - 9th Conference on Image Information Mining Conference: The Sentinels Era, pp. 71-75. EU. ESA-EUSC-JRC 2014, 05-07 March 2014, Bucharest, Romania.
137. A. Radoi, R. Tanase, M. Datcu, 2014, Change Maps for Pairs of Images Extracted from Satellite Image Time Series. In: Proceedings of the 2014 Conference on Big Data from Space (BiDS'14), pp. 132-135. Publications Office of the European Union. Big Data from Space - BiDS'14, 12.-14.11.2014, Frascati, Italien.

138. M. Babae, M. Datcu, G. Rigoll, 2013, Assessment of dimensionality reduction based on communication channel model; application to immersive information visualization. In: 2013 IEEE International Conference on Big Data, pp. 1-6. IEEE Xplore. Big Data 2013, 6.-9. Oct. 2013, Silicon Valley, CA, USA. ISBN doi: 10.1109/BigData.2013.6691726.
139. M. Babae, M. Datcu, G. Rigoll, 2013, Immersive Interactive Information Mining with Application to Earth Observation Data Retrieval. In: Availability, Reliability, and Security in Information Systems and HCI, Vol. 8127, pp. 376-386. Springer. International Cross Domain Conference and Workshop (CD-ARES 2013), 2.-6. Sep. 2013, Regensburg, Germany. ISBN 978-3-642-40511-2 (E) 978-3-642-40510-5 (P). ISSN doi: 10.1007/978-3-642-40511-2\_27
140. R. Bahmanyar, G. Rigoll, M. Datcu, 2013, A Clustering-Based Approach for Evaluation of EO Image Indexing, Sensors and Models in Photogrammetry and Remote Sensing. In: ISPRS Archives, XL-1 (W3), pp. 79-84. ISPRS. SMPR 2013, 5.-8. Oct. 2013, Tehran, Iran. ISBN DOI: 10.5194/isprsarchives-XL-1-W3-79-2013.
141. R. Bahmanyar, M. Datcu, 2013, Measuring the Semantic Gap Based on a Communication Channel Model. In: 2013 20th IEEE International Conference on Image Processing (ICIP), pp. 4377-4381. IEEE Xplore. ICIP 2013, 15.-18. Sep. 2013, Melbourne, Australia. ISBN DOI: 10.1109/ICIP.2013.6738902.
142. T. Costachioiu, B. Alzenk, R. Constantinescu, M. Datcu, 2013, Unsupervised classification of EO-1 Hyperion hyperspectral data using Latent Dirichlet Allocation. In: 2013 International Symposium on Signals, Circuits and Systems (ISSCS), pp. 1-4. IEEE Xplore. ISSCS 2013, 11.-12. July 2013, Lasi, Romania. ISBN 978-1-4799-3193-4 (P). ISSN DOI: 10.1109/ISSCS.2013.6651211
143. T. Costachioiu, R. Constantinescu, V. Lăzărescu, M. Datcu, 2013, Semantic Analysis of EO-1 Hyperion Hyperspectral Data. In: Proceedings of WHISPERS 2013, pp. 1-4. IEEE Xplore. WHISPERS 2013, 25.-28. June 2013, Gainesville, Florida, USA.
144. T. Costachioiu, C. Vaduva, V. Lazarescu, M. Datcu, 2013, Content extraction of long-term Satellite Image Time Series: spatiotemporal analysis of Bucharest metropolitan area. In: MultiTemp 2013 Conference Proceedings, pp. 1-4 IEEEExplore, 25-27 June 2013, Banff, Alberta, Canada.
145. S. Cui, M. Datcu, 2013, Cascade Active Learning for Evolution Pattern Extraction from SAR Image Time Series. In: MultiTemp 2013 Conference Proceedings, pp. 1-4. IEEEExplore, 25-27 June 2013, Banff, Alberta, Canada.
146. O. Dumitru, M. Datcu, 2013, Diversity of Settlement Categories in Very High Resolution SAR Images. In: Proceedings of the JURSE 2013, pp. 87-90. IEEE Xplore. JURSE 2013, 21.-23.4.2013, Sao Paulo, Brazil. ISBN DOI: 10.1109/JURSE#.2013.6550672. ISSN 978-1-4799-0212-5 (E) 978-1-4799-0213-2 (P)
147. O. Dumitru, M. Datcu, 2013, How Many Categories Are in Very High Resolution SAR Images? In: Proceedings of IGARSS 2013, pp. 4257-4260. IEEE Xplore. IGARSS 2013, 21-26 June 2013, Melbourne, Australia. ISBN DOI:10.1109/IGARSS.2013.6723774. ISSN 2153-6996
148. D. Espinoza-Molina, M. Datcu, 2013, Architecture Concept for Earth Observation Data Mining System. In: Proceedings of IGARSS 2013, pp. 1729-1732. IEEE Xplore. IGARSS 2013, 21.-26. June

- 2013, Melbourne, Australia. ISBN DOI:10.1109/IGARSS.2013.6723130. ISSN 2153-6996
149. D. Faur, D. Espinoza-Molina, I. Gavati, M. Datcu, 2013, Multi Temporal Analysis of Floods and Tsunami Effects: Annotation and Quantitative Analysis. In: MultiTemp 2013 Conference Proceedings, pp. 1-4. IEEE Xplore. MultiTemp 2013, 25.-27. June 2013, Banff, Alberta, Canada.
  150. C. Patrascu, M. Datcu, 2013, Analysis of PS Detection and Parameter Optimization. In: 2013 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), pp. 1-4. IEEE Xplore. IGARSS 2013, 21.-26. June 2013, Melbourne, Australia.
  151. G. Schwarz, M. Datcu, 2013, Preparation of Scenarios for the Performance Optimization of a Content-Based Remote Sensing Image Mining System. In: 2013 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), pp. 4352-4355. IEEE Xplore. IGARSS 2013, 21.-26. July 2013, Melbourne, Australia. ISBN DOI: 10.1109/IGARSS.2013.6723798. ISSN 2153-6996
  152. G. Schwarz, M. Datcu, 2013, The impact of rain, frost, seasonal cycle, and wind on sequences of high resolution urban SAR images. In: 2013 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), pp. 4367-4370. IEEE Xplore. IGARSS 2013, 21.-26. July 2013, Melbourne, Australia. ISBN DOI: 10.1109/IGARSS.2013.6723802. ISSN 2153-6996
  153. J. Singh, M. Datcu, 2013, Parametric modeling of the fractional Fourier transform coefficients for complex-valued SAR image categorization. In: Proceedings of the 2013 20th IEEE International Conference on Image Processing (ICIP), pp. 2882-2886. IEEE Xplore. ICIP 2013, 15-18 Sep. 2013, Melbourne, Australia. ISBN DOI: 10.1109/ICIP.2013.6738593.
  154. D. Cagatay, M. Datcu, 2013, 2D Phase Unwrapping using Markov Random Field Based Phase Locked Loops. In: SPIE Remote Sensing 2013, Vol. 8891, pp. 1-8. Spie digital library. SPIE Remote Sensing 2013, 23.-26. Sept. 2013, Dresden, Germany. ISSN doi:10.1117/12.2032775
  155. D. Espinoza-Molina, M. Datcu, 2013, Urban Area Understanding Based on Compression Methods. In: Proceedings of the JURSE 2013, pp. 174-177. IEEE Xplore. JURSE 2013, 20.-23. April 2013, Sao Paulo, Brazil. ISBN 978-1-4799-0212-5 (e) 978-1-4799-0213-2 (p). ISSN doi: 10.1109/JURSE#.2013.6550694
  156. A.A. Popescu, M. Datcu, 2012, High resolution SAR classification using Rányi Entropy constrained spectrum estimates, 9th European Conference on Synthetic Aperture Radar (EUSAR 2012), pp. 247-250.
  157. A. Radoi, M. Datcu, 2012, SAR imagery from the perspective of multiscale Chirplet Transform, 9th European Conference on Synthetic Aperture Radar (EUSAR 2012), pp. 187-190.
  158. J. Singh, M. Datcu, 2012, Mining very high resolution complex-valued SAR images using the fractional Fourier transform, 9th European Conference on Synthetic Aperture Radar (EUSAR 2012), pp. 135-138
  159. C.O. Dumitru, J. Singh, M. Datcu, 2012, Selection of relevant features and TerraSAR-X products for classification of high resolution SAR images, 9th European Conference on Synthetic Aperture Radar (EUSAR 2012), pp. 243-246.
  160. G. Schwarz, M. Datcu, 2012, Identification and Characterization of Railway Trains in High

- Resolution Terrasar-X Images, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Munich, Germany, July 22-27, 2012, pp. 1793-1796.
161. S. Cui, M. Datcu, P. Blanchart, 2012, Cascade Active Learning for SAR Image Annotation, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Munich, Germany, July 22-27, 2012, pp. 2000-2003.
  162. C. Dumitru, M. Datcu, 2012, Study and Assessment of Selected Primitive Features Behavior for SAR Image Description, 2012, Cascade Active Learning for SAR Image Annotation, IEEE International Geoscience and Remote Sensing Symposium(IGARSS),Munich,Germany,July22-27,2012,pp.3596-3599.
  163. J. Singh, M. Datcu, 2012, Automated Interpretation of Very High Resolution SAR Images, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Munich, Germany, July 22-27, 2012, pp. 3724-3727.
  164. C. Patrascu, A.A. Popescu, M. Datcu, 2012, SBAS and PS Measurement Fusion for Enhancing Displacement Measurements, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Munich, Germany, July 22-27, 2012, pp. 3947-3950.
  165. T. Costachioiu, I. Nita, V. Lazarescu et al, 2012, A Semantic Framework for Data Retrieval in Large Remote Sensing Databases, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Munich, Germany, July 22-27, 2012, pp. 5285-5288.
  166. D. Espinoza-Molina, M. Quartulli, M. Datcu, 2012, Query by Example in Earth-Observation Image Archive Using Data Compression-Based Approach, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Munich, Germany, July 22-27, 2012, pp.6035-6038.
  167. J. Chadalawada, D. Espinoza-Molina, M. Datcu, 2012, Assessment of Earth Observation Data Content Based on Data Compression - Application to Settlements Understanding, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Munich, Germany, July 22-27, 2012, pp. 6130-6133.
  168. T. Costachioiu, R. Costachioiu, B. AlZenk et al., 2012, Semantic Analysis of Satellite Image Time Series, 20th European Signal Processing Conference (EUSIPCO), Bucharest, Romania, August 27-31, 2012, pp. 2492-2495.
  169. A.A. Popescu, C. Vaduva, D. Faur, I. Gavat, M. Datcu, 2012, A Remote Sensing Image Processing Framework for Damage Assessment in a Forest Fire Scenario, 20th European Signal Processing Conference (EUSIPCO), Bucharest, Romania, August 27-31, 2012, pp. 2496-2500.
  170. C. Vaduva, I. Gavat, M. Datcu, 2012, Deep Learning in Very High Resolution Remote Sensing Image Information Mining. Communication Concept, 20th European Signal Processing Conference (EUSIPCO), Bucharest, Romania, August 27-31, 2012, pp. 2506-2510.
  171. J. Singh, S. Cui, M. Datcu et al., 2012, A Survey of Density Estimation for SAR Images, 20th European Signal Processing Conference (EUSIPCO), Bucharest, Romania, August 27-31, 2012, pp. 2526-2530.
  172. A.A. Popescu, I. Gavat, M. Datcu, 2012, A High Resolution SAR Image Spectral Analysis

- Framework for Multiple Class Image Mining in Urban Areas, 9th International Conference on Communications (COMM), Bucharest, Romania, June 21-23, 2012, pp. 379-382, DOI: 10.1109/ICComm.2012.6262560.
173. J. Sing, M. Datcu, 2012, Use of the second-kind statistics for VHR SAR image retrieval, 9th International Conference on Communications (COMM), Bucharest, Romania, June 21-23, 2012, pp. 367-370, DOI: 10.1109/ICComm.2012.6262556.
  174. P. Blanchart, M. Ferecatu, M. Datcu, 2011, Cascaded Active Learning for Object Retrieval Using Multiscale Coarse to Fine Analysis, 18th IEEE International Conference on Image Processing (ICIP), Brussels, Belgium, September 11-14, 2011.
  175. P. Blanchart, M. Ferecatu, M. Datcu, 2011, Mining Large Satellite Image Repositories Using Semi-Supervised Methods, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Vancouver, Canada, July 24-29, 2011, pp. 1585-1588.
  176. Shiyong Cui, M. Datcu, 2011, Mining Satellite Image Time Series: Statistical Modeling and Evolution Analysis, International Symposium on Image and Data Fusion (ISIDF), DOI 10.1109/ISIDF.2011.6024237, pp. 1 – 4.
  177. T. Costachioiu, V. Lazarescu; M. Datcu, 2011, Classification of scene evolution patterns from Satellite Image Time Series based on spectro-temporal signatures, 10th International Symposium on Signals, Circuits and Systems (ISSCS), 2011, DOI 10.1109/ISSCS.2011.5978721, pp. 1 – 4.
  178. Shiyong Cui, M. Datcu, 2011, Coarse to fine patches-based multitemporal analysis of very high resolution satellite images, 6th International Workshop on the Analysis of Multi-temporal Remote Sensing Images (Multi-Temp 2011, DOI 10.1109/Multi-Temp.2011.6005054, pp. 85 – 88.
  179. C. Vaduva, T. Costachioiu, C. Patrascu, I. Gavut, V. Lazarescu, M. Datcu, 2011, Classification of dynamic evolutions from satellitar image time series based on similarity measures, 6th International Workshop on the Analysis of Multi-temporal Remote Sensing Images (Multi-Temp 2011, DOI 10.1109/Multi-Temp.2011.6005068, pp. 141 – 144.
  180. C. Vaduva, C. Patrascu, A. Popescu, D. Faur, I. Gavut, M. Datcu, 2011, Knowledge Based Information Mining for Urban Classification Using Multispectral High Resolution Images, 10-th International Symposium on Signals, Circuits and Systems, ISSCS 2011, June 30 - July 1, Iasi, Romania, DOI 10.1109/ISSCS.2011.5978723.
  181. A. Popescu, C. Patrascu, C. Vaduva, I. Gavut , M. Datcu, 2011, Semantic Annotation of High Resolution TerraSAR-X Images using Information Mining, 10-th International Symposium on Signals, Circuits and Systems, ISSCS2011, June 30 - July 1, Iasi, Romania, DOI 10.1109/ISSCS.2011.5978724.
  182. R. King, N. Younan, M. Datcu, I. Nedelcu, 2011, Innovative data mining techniques in support of GEOSS: A workshop's findings, 2nd International Conference on Space Technology (ICST 2011), DOI 10.1109/ICSpT.2011.6064661, pp. 1-4.
  183. P. Blanchart, M. Ferecatu, M. Datcu, 2011, Active learning using the data distribution for

- interactive image classification and retrieval, IEEE Symposium on Computational Intelligence and Data Mining (CIDM 2011), pp. 7 – 14.
184. A. Popescu, I. Gavut, M. Datcu, 2011, Scene class recognition using high resolution SAR/InSAR spectral decomposition methods, IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2011, DOI 10.1109/IGARSS.2011.6049761, pp. 2704 – 2707.
  185. A. Roman-Gonzalez, M. Datcu, 2011, Satellite Image Artifacts Detection Based on Complexity Distortion Theory, IEEE International Geoscience and Remote Sensing Symposium (IGARSS), Vancouver, Canada, July 24-29, 2011, pp. 1437-1440.
  186. D. Cerra, M. Datcu, 2010, A Similarity Measure Using Smallest Context-Free Grammars, Data Compression Conference (DCC), DOI 10.1109/DCC.2010.37, pp. 346 – 355, 2010.
  187. A. Popescu, C. Patrascu, J. Singh, M. Datcu, 2010, A spectral space-variant approach for structure indexing in Spotlight TerraSAR-X data, 8th International Conference on Communications (COMM 2010), DOI 10.1109/ICCOMM.2010.5509005, pp. 169 – 172.
  188. M. Datcu, G. Schwarz, 2010, Image information mining methods for exploring and understanding high resolution images, IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2010, DOI: 10.1109/IGARSS.2010.5654442, pp. 33-35.
  189. M. Datcu, D. Espinoza-Molina, A. de Miguel, G. Schwartz, 2010, Texture estimation in SAR images: the impact of scale and model order, IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2010, DOI: 10.1109/IGARSS.2010.5653613, pp. 2844-2847.
  190. L. Gueguen, S. Cui, G. Schwarz, M. Datcu, 2010, Multitemporal analysis of multisensor data: information theoretical approaches, IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2010, DOI: 10.1109/IGARSS.2010.5651902, pp. 2559-2562.
  191. A. Popescu, M. Costache, J. Singh, G. Schwartz, M. Datcu, 2010, Generic object recognition in high resolution SAR images, IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2010, DOI: 10.1109/IGARSS.2010.5652568, pp. 1629 – 1632, pp. 1629-1632.
  192. J. Singh, M. Soccorsi, M. Datcu, 2010, SAR complex image analysis: a gauss Markov and a multiple sub-aperture based target characterization, IEEE International Geoscience and Remote Sensing Symposium, IGARSS 2010, DOI: 10.1109/IGARSS.2010.5653827, pp. 1585-1588.
  193. A.A. Popescu, C. Vaduva, D. Faur, D. Raducanu, I. Gavut M., Datcu, 2010, User image mining for natural hazards, IEEE International Conference on Automation Quality and Testing Robotics (AQTR 2010), DOI 10.1109/AQTR.2010.5520670, Vol. 3, pp. 1 – 6.
  194. T. Costachioiu, M. Datcu, 2010, Land cover dynamics classification using multi-temporal spectral indices from satellite image time series, 8th International Conference on Communications (COMM 2010), DOI 10.1109/ICCOMM.2010.5509070, pp. 157 – 160.
  195. D. Cerra, M. Datcu, 2010, Image retrieval using compression-based techniques, International ITG Conference on Source and Channel Coding (SCC 2010), pp. 1 – 6.
  196. P. Birjandi, M. Datcu, 31.Aug. - 03.Sep. 2009, Bag of words model using ICA components for high

- resolution satellite image characterization. Proc. SPIE 7477 (7477) . SPIE . SPIE Conference 7477, Berlin, Germany. ISBN 9780819477828.
197. A. Popescu, I. Gavut, M. Datcu, 2009, Wavelet analysis for audio signals with music classification applications, 5th Conference on Speech Technology and Human-Computer-Dialogue (SpeD 2009), pp. 189-197.
  198. D. Espinoza-Molina, G. Schwarz, M. Datcu, 31.Aug. - 03.Sep. 2009, Experience gained with texture modeling and classification of 1 meter resolution SAR images. Proc. SPIE 7477 , 7477 . SPIE . SPIE Conference 7477, Berlin, Germany. ISBN 9780819477828.
  199. G. Schwarz, M. Datcu, 24.-26. Aug. 2009, Particularities of High Resolution SAR Image Understanding. Proceedings of International Conference on Space Technology. International Conference on Space Technology 2009, Thessaloniki, Greece. ISBN 987-1-901725-38-4
  200. D. Gleich, M. Soccorsi, M. Datcu, 24.-26. Aug. 2009, Markov Random Field model for non-quadratic regularization of complex SAR images. Proceedings of Int. Conf. on Space Technology 2009 . International Conference on Space Technology 2009, Thessaloniki, Greece. ISBN 978-1-901725-38-4
  201. J. Singh, M. Soccorsi, M. Datcu, 12.-17. Juli 2009, Parametric versus non-parametric complex-values image analysis. IGARSS 2009 Proceedings . 2009 IEEE International Geoscience & Remote Sensing Symposium (IGARSS 09), Cape Town, South Africa, pp. 1311-1314.
  202. P. Birjandi, M. Datcu, 12.-17. Juli 2009, ICA based visual words for describing under meter high resolution satellite images. Proceedings IGARSS 2009 . IEEE . IGARSS 2009, Cape Town, South Africa.
  203. P. Blanchart, M. Datcu, 12.-17. Juli 2009, Semi-supervised learning and discovery of unknown structures among data: application to satellite image annotation. Proceedings IGARSS 2009 . IEEE . IGARSS 2009, Cape Town, South Africa.
  204. D. Cerra, M. Israel, M. Datcu, 12.-17. Juli 2009, Parameter-free clustering: Application to fawns detection. Proceedings IGARSS 2009 . IEEE . IGARSS 2009 , Cape Town, South Africa.
  205. M. Datcu, M. Costache, G. Schwarz, A. Miguel, 12.-17. Juli 2009, Tools for value adding by semantic coding: The Earth Observation image librarian. Proceedings IGARSS 2009 . IEEE . IGARSS 2009, Cape Town, South Africa
  206. D. Espinoza-Molina, D. Gleich, M. Datcu, 18.-20. Juni 2009, Cramer-Rao Bound for Evaluation Despeckling and Texture Extraction from SAR images. Proceedings of the IWSSIP 2009 . IEEE . IWSSIP 2009, Chalkida, Greece
  207. D. Gleich, P. Planinsic, M. Kseneman, M. Soccorsi, M. Datcu, 18.-20. Juni 2009, Regularization of complex SAR images using Markov Random Fields. Proceedings of the IWSSIP 2009 . IEEE . IWSSIP 2009, Chalkida, Greece.
  208. A. Popescu, C. Patrascu, I. Gavut, M. Datcu, 18.-20. Juni 2009, Damage Assessment based on SAR image analysis. Proceedings of the IWSSIP 2009 . IEEE . IWSSIP 2009, Chalkida, Greece
  209. F. Rodriguez-Gonzalez, M. Datcu, 12.-17. Juli 2009, Bayesian restoration of interferometric

- phase through biased anisotropic diffusion. Proceedings IGARSS 2009 . IEEE . IGARSS 2009, Cape Town, South Africa.
210. F. Rodriguez-Gonzalez, M. Datcu, 12.-17. Juli 2009, Enhancing complex interferograms by anisotropic diffusion. Proceedings IGARSS 2009 . IEEE . IGARSS 2009, Cape Town, South Africa.
211. G. Schwarz, M. Soccorsi, H. Chaabouni-Chouayakh, D. Espinoza-Molina, D. Cerra, F. Rodriguez-Gonzales, M. Datcu, 12.-17. Juli 2009, Automated information extraction from high resolution SAR images: TerraSAR-X image interpretation applications. Proceedings IGARSS 2009 . IEEE . IGARSS 2009, Cape Town, South Africa.
212. J. Singh, M. Soccorsi, M. Datcu, 12.-17. Juli 2009, Parametric versus non-parametric complex-values image analysis. Proceedings IGARSS 2009 . IEEE . IGARSS 2009 , Cape Town, South Africa.
213. D. Cerra, M. Datcu, 2009, Algorithmic Cross-Complexity and Relative Complexity, IEEE Computer Society Proc. DCC 2009, IEEE Computer Society Press, Data Compression Conference (DCC2009), Snowbird, Utah, pp. 342-351.
214. D. Bratasanu, I. Nedelcu, M. Datcu, 2009, Semantic rules discovery for satellite image based cartography, Proceedings of the 17th International ACM SIGSPATIAL GIS, Seattle, USA 2009.
215. D. Faur, C. Vaduva, I. Gavut, M. Datcu, 25-28 June 2008, An information theory based image processing chain for change detection in Earth Observation, Proceedings of IWSSIP, Bratislava, Slovak Republik, Vol. 15, pp. 129-132.
216. C. Vaduva, D. Faur, A.A. Popescu, I. Gavut, M. Datcu, 20-24 October 2008, Semantic map generation from satellite images for humanitarian scenarios applications, The Advanced Concepts for Intelligent Vision Systems Conference, ACIVS 2008, Juan-les-Pins, France, Book Series: Lecture Notes in Computer Science Volume: 5259 Pages: 808-817.
217. M. Datcu, S. D'Elia, C. Zelli, PIMS Project Team, 2008, Knowledge-based Image Information Mining (KIM) for TerraSAR-X Data Exploration. 3. TerraSAR-X Science Team Meeting , 2008-11-25 - 2008-11-26 , Oberpfaffenhofen
218. H. Chaabouni-Chouayakh, M. Datcu, 2008, Optimal Processing for Geometric and Topological Features Extraction from TerraSAR-X Data. Proc. IGARSS 2008 . IEEE . 2008 IEEE International Geoscience & Remote Sensing Symposium , 2008-07-06 - 2008-07-11 , Boston, Mass.
219. A. Mallet, M. Datcu, 16.07-11.07.2008, Model Free Earth Observation Image Artifacts Detection. In: Proc. IGARSS 2008, 2008 IEEE International Geoscience & Remote Sensing Symposium, Boston, Mass.
220. M. Soccorsi, M. Datcu, 2008, TerraSAR-X a Complex Image Approach for Feature Extraction and Modeling. Proc. IGARSS 2008 . IEEE . 2008 IEEE International Geoscience & Remote Sensing Symposium , 2008-07-06 - 2008-07-11 , Boston, Mass.
221. D. Cerra, M. Datcu, 2008, Image Classification Using Data Compression Based Techniques. In: Proc. IGRSS 2008 . IEEE . 2008 IEEE International Geoscience & Remote Sensing Symposium , 2008-07-06 - 2008-07-11 , Boston, Mass.
222. M. Datcu, D. Cerra, H. Chaabouni-Chouayakh, A. de Miguel, D. Espinoza-Molina, G. Schwarz, M.



- Soccorsi, 2008, Automated Information Extraction from TerraSAR-X Data. In: Proc. IGARSS 2008 . IEEE . 2008 IEEE International Geoscience & Remote Sensing Symposium (IGARSS 2008) , 2008-07-06 - 2008-07-11 , Boston, Mass.
223. G. Schwarz, D. Espinoza-Molina, H. Breit, M. Datcu, 2008, Optimal Multilooking for Robust SAR Image Indexing. In: Proc. IGARSS 2008 . IEEE . 2008 IEEE International Geoscience & Remote Sensing Symposium , 2008-07-06 - 2008-07-11 , Boston, Mass.
224. M. Soccorsi, M. Datcu, 2008 TerraSAR-X Data Evidence Maximization-based Feature Extraction and Despeckling. In Proc. Of EUSAR 2008, VDE Verlag, 7th European Conference on Synthetic Aperture Radar, Friedrichshafen, 2008-07-02 - 2008-07-05, ISBN 978-3-8007-3084-1, pp. 481 – 483.
225. Munoz-Ferreras, Jose, F. Perez-Martinez, M. Datcu, 2008, Detection of the Along-Track Speed of Moving Targets in SAR Imagery based on the Radon Transform. In Proc. of EUSAR 2008, VDE Verlag, 7th European Conference on Synthetic Aperture Radar, Friedrichshafen, 2008-07-02 - 2008-07-05, ISBN 978-3-8007-3084-1, pp. 77 – 80
226. A. Popescu, I. Gavut, M. Datcu, 2008, Complex SAR image characterization using space variant spectral analysis. IEEE Radar Conference RADARCON'08, Rome, Italy. Vol. 1-4, Book Series: IEEE Radar Conference, pp. 1759-1762.
227. M. Aragone, A. Caridi, S. Serpico, G. Moser, D. Cerra, M. Datcu, 2008, Study of information content of SAR images, Proceedings of the IEEE Radar Conference RADARCON'08, Rome, Italy, Vol. 1-4, Book Series: IEEE Radar Conference, pp. 1696-1701.
228. J. Munoz-Ferreras, F. Perez-Martinez, M. Datcu, 2008, Detection of the Along-Track Speed of Moving Targets in SAR Imagery based on the Radon Transform. EUSAR 2008, 3, ISBN 978-3-8007-3084-1, pp. 77-80. VDE Verlag, 7th European Conference on Synthetic Aperture Radar, 2008-07-02 - 2008-07-05, Friedrichshafen.
229. D. Cerra, M. Datcu, 2008, Model Conditioned Data Compression Based Similarity Measure. IEEE Computer Society Proc. DCC 2008, IEEE Computer Society Press, Data Compression Conference (DCC2008), Snowbird, Utah, pp. 509.
230. H. Chaabouni Chouayakh, M. Datcu, 2007, Azimuth Sub band and Eigenspace Decomposition for High Resolution SAR Image Analysis, Proceedings of SSD'07, Tunisia (Hammamet).
231. M. Soccorsi, M. Datcu, 2007, Phase characterization of polarimetric SAR images, Proceedings of SAR Image Analysis, Modeling, and Techniques IX, Ed.. C. Notarnicola, F. Posa, SPIE Vol. 6746.
232. H. Chaabouni Chouayakh, M. Datcu, 2007, PCA vs. ICA decomposition of high resolution SAR images: application to urban structures recognition, Proceedings of SAR Image Analysis, Modeling, and Techniques IX, Ed.. C. Notarnicola, F. Posa, SPIE Vol. 6746.
233. M. Datcu, G. Schwarz, M. Soccorsi, H. Chaabouni, 2007, Phase information contained in meter-scale SAR images, Proceedings of SAR Image Analysis, Modeling, and Techniques IX, Ed.. C. Notarnicola, F. Posa, SPIE Vol. 6746.
234. D. Faur, M. Datcu, I. Gavut, 2007, Relevance of Earth Observation Images Information Mining to

- Humanitarian Crisis Management, Proceedings of 14-th International Conference on systems, signal and image processing IWSSIP 2007 and 6-th EURASIP Conference focused on speech and image processing, multimedia communications and services EC SIMPS 2007.
235. D. Faur, I. Gavati, M. Datcu, 2007, Earth Observation images information mining for humanitarian crisis management related applications, 1st IMEKO TC19 International Symposium on Measurements and Instrumentation for Environmental Monitoring.
  236. M. Datcu, G. Schwarz, 2007, The EO Images Librarian, PV 2007 International Conference on Ensuring the Long-Term Preservation and Value Adding to Scientific and Technical Data, <http://www.pv2007.dlr.de/>.
  237. I. Gavati, D. Faur, M.I. Piso, F. Serban, M. Datcu, 2007, Knowledge based image information mining system -KIM used for flooding and other risk assesment, PV 2007 International Conference on Ensuring the Long-Term Preservation and Value Adding to Scientific and Technical Data, <http://www.pv2007.dlr.de/>.
  238. M. Soccorsi, M. Datcu, 2007, Stochastic models of SLC HR SAR images, Proceedings of Geoscience and Remote Sensing Symposium, IGARSS '07, IEEE International, Barcelona, Spain, pp. 3887 - 3890
  239. H. Chaabouni-Chouayakh, M. Datcu, 2007, Linear versus non-linear analysis of relevant scatterers in high resolution SAR images, Proceedings of Geoscience and Remote Sensing Symposium, IGARSS '07, IEEE International, Barcelona, Spain, pp. :3895 - 3898.
  240. A. de Miguel, G. Schwarz, M. Datcu, A. Colapicchioni, 2007, Knowledge centred Earth Observation: Feature Extraction, Proceedings of Geoscience and Remote Sensing Symposium, IGARSS '07, IEEE International, Barcelona, Spain, pp. 417 - 420
  241. M. Costache, M. Datcu, 2007, Learning - unlearning for mining high resolution EO images, Proceedings of Geoscience and Remote Sensing Symposium, IGARSS '07, IEEE International, Barcelona, Spain, pp. 4761 - 4764.
  242. I. Gomez, M. Datcu, 2007, A Bayesian multi-class image content retrieval, Proceedings of Geoscience and Remote Sensing Symposium, IGARSS '07, IEEE International, Barcelona, Spain, pp. 326 - 329.
  243. D. Faur, I. Gavati, M. Datcu, 2007, Relevance of Earth Observation Images Information Mining to Humanitarian Crisis Management, Systems, Signals and Image Processing, 2007 and 6th EURASIP Conference focused on Speech and Image Processing, Multimedia Communications and Services, pp. 475 – 478.
  244. L. Gueguen, M. Datcu, 2007, The Model based Similarity Metric, IEEE Data Compression Conference, DCC '07, pp. 382 - 382.
  245. M. Soccorsi, F. Del Frate, M. Datcu, 2006, Rate distortion based analysis of image parameter estimation for information extraction, IEEE GOLD Remote Sensing Conference 2006 Bari, Italia.
  246. D. Faur, I. Gavati, M. Datcu, 2006, Use of knowledge driven information mining for earth observation images assessment to support sustainable humanitarian crisis management, in

- Workshop Proceedings of ESA-EUSC 2006: Image Information Mining for Security and Intelligence, Madrid, Spain.
247. L. Gueguen, M. Datcu, 2006, Spatio-temporal structures characterization based on multi-information bottleneck, in Workshop Proceedings of ESA-EUSC 2006: Image Information Mining for Security and Intelligence, Madrid, Spain.
  248. M. Soccorsi, M. Datcu, 2006, Bayesian Texture based Analysis of HR SAR Images., in Workshop Proceedings of ESA-EUSC 2006: Image Information Mining for Security and Intelligence, Madrid, Spain, November 2006.
  249. M. Costache, M. Datcu, 2006, Bayesian Enhancement of a SVM based Image Search Engine, in Workshop Proceedings of ESA-EUSC 2006: Image Information Mining for Security and Intelligence, Madrid, Spain, November 2006.
  250. G. Schwarz, M. Soccorsi, H. Chaabouni, M. Datcu, 2006, Information Extraction for Satellite-Based Disaster Monitoring - Current No.s and Expected Progress., in Workshop Proceedings of ESA-EUSC 2006: Image Information Mining for Security and Intelligence, Madrid, Spain, November 2006.
  251. H. Chaabouni, M. Datcu, 2006, Covariance based analysis of relevant scatterers in high resolution SAR images., in Workshop Proceedings of ESA-EUSC 2006: Image Information Mining for Security and Intelligence, Madrid, Spain, November 2006.
  252. C. Le Men, M. Datcu, 2006, Hierarchical concept for reasoning on segmentations of Satellite Image Time Series: first results., in Workshop Proceedings of ESA-EUSC 2006: Image Information Mining for Security and Intelligence, Madrid, Spain, November 2006.
  253. M. Lienou, H. Maitre, M. Datcu, 2006, CLC: how much information comes from a satellite image, in Workshop Proceedings of ESA -EUSC 2006: Image Information Mining for Security and Intelligence, Madrid, Spain, November 2006.
  254. I. Gomez, M. Datcu, 2006, Concepts Elaboration and System Architectures for Mining Very Large Image Archives., in Workshop Proceedings of ESA -EUSC 2006: Image Information Mining for Security and Intelligence, Madrid, Spain, November 2006.
  255. D. Faur, I.Gavat, M.Datcu, 2006, Earth observation images information mining for flooding and security related applications, in Workshop Proceedings of ESA - EUSC 2006: Image Information Mining for Security and Intelligence, Madrid, Spain, November 2006.
  256. D. Faur, I. Gavat, M. Datcu, 2006, Knowledge based image information mining from earth observation images. applications in forced mobility, in Proc. of Workshop on Knowledge discovery for sustainable mobility, The Netherlands, September 2006. Waag Society.
  257. D. Faur, M. Datcu, I. Gavat, 2006, Algorithms evaluation for remote sensing image segmentation., in Proceedings of International Workshop Control and Information Technology IWCIT 2006, Gliwice, Poland, September 2006.
  258. M. Costache, H. Maitre, M. Datcu, 2006, Categorization Based Relevance Feedback Search Engine for Earth Observation Images Repositories, Proceedings of Geoscience and Remote

Sensing Symposium, IGARSS '06, IEEE International, Denver, USA, CDROM.

259. R. Strungaru., G. M. Ungureanu, R. Murri, C. Pasqualli, K. Seidel, M. Datcu, R. Stanciu, April 6-8, 2006, Data Mining in Multimodal Medical Databases, in: A. Reichert, G. Mihalas, L. Stoicu-Tivadar, St. Schulz, R. Engelbrecht - Integrating Biomedical Information: from e-Cell to e-Patient, Proceedings of the European Federation for Medical Informatics - Special Topic Conference, Timisoara, Romania, IOS Press, 2006, pp. 85-90, ISBN 3-89838-072-6 (Aka), ISBN 1-58603-614-9 (IOS Press), ISBN 973-625-303-1, Ed. Politehnica.
260. R. Strungaru., G. M. Ungureanu, R. Murri, C. Pasqualli, K. Seidel, M. Datcu, R. Stanciu, 8-10 June 2006, Image information mining for dental and dermatological diagnosis, 6th IEEE Communications International Conference, Communications'2006, Bucharest, Romania.
261. H. Chaabouni, M. Datcu, 2006, Relevant Scatterers Characterization in SAR Images, in Bayesian Inference and Maximum Entropy Methods in Science and Engineering, Editor:Ali Mohammad-Djafari, AIP Conf. Proceedings, ISBN: 978-0-7354-0371-6, ISSN 0094-243X, Vol. 872, pp. 43-51, pp. 375-382.
262. M. Soccorsi, M. Quartulli, M. Datcu, 2006, Space-Variant Model Fitting and Selection for Image Information Extraction, in Bayesian Inference and Maximum Entropy Methods in Science and Engineering, Editor:Ali Mohammad-Djafari, AIP Conf. Proceedings, ISBN: 978-0-7354-0371-6, ISSN 0094-243X, Vol. 872, pp. 358-366.
263. L. Gueguen, C. Le Men, M. Datcu, 2006, Analysis of Satellite Image Time Series Based on Information Bottleneck, in Bayesian Inference and Maximum Entropy Methods in Science and Engineering, Editor:Ali Mohammad-Djafari, AIP Conf. Proceedings, ISBN: 978-0-7354-0371-6, ISSN 0094-243X, Vol. 872, pp. 367-374.
264. M. Costache, M. Lienou, M. Datcu, 2006, On Bayesian Inference, Maximum Entropy and Support Vector Machines Methods, in Bayesian Inference and Maximum Entropy Methods in Science and Engineering, Editor:Ali Mohammad-Djafari, AIP Conf. Proceedings, ISBN: 978-0-7354-0371-6, ISSN 0094-243X, Vol. 872, pp. 43-51.
265. R. Strungaru., G. M. Ungureanu, R. Murri, C. Pasqualli, K. Seidel, R. Stanciu, M. Datcu, 1-2 July, 2005, Content-Based Image Retrieval in Medical Image Databases, ECAI 2005 - International Conference - First Edition, Electronics, Computers and Artificial Intelligence, Pitesti, Romania.
266. D. Faur, I.Gavat, M. Datcu, 15-16 September 2005, An entropic measure for image content characterization, Proceedings of International Workshop Control and Information Technology IWCIT 2005, Ostrava, Czech Republic, ISBN 80-248-0906-0.
267. C. Iancu, I. Gavate, M. Datcu, 15-16 September 2005, Rate distortion theory for image characterization, Proceedings of International Workshop Control and Information Technology IWCIT 2005, Ostrava, Czech Republic, ISBN 80-248-0906-0.
268. I. Gavate, C.Iancu, D. Faur, M.Datcu, 15-17 October 2005, Image classification by complexity measures, Proceedings of ESA-EUSC 2005 - Image Information Mining - Theory and Application to Earth Observation, Frascati, Italy.
269. D. Gleich, M. Datcu, 2005, Unsupervised Model Based SAR Data Denoising, Proceedings of the

- IEEE International Symposium on Industrial Electronics ISIE 2005.
270. D. Gleich, M. Datcu, 2005, Model base SAR data Compression, Proceedings of Geoscience and Remote Sensing Symposium, IGARSS '04, IEEE International, Seul, South Korea, CDROM.
  271. D. Gleich, M. Datcu, 2005, Wavelet based denoising using Gauss Markov Random Field and Particle Filters, ESA-EUSC Conference 2005: Image Information Mining - Theory and Application to Earth Observation, ESA/ESRIN, Frascati (Italy), 5-7 Oct.2005, Digital Proceedings on [http://earth.esa.int/rtd/Events/ESA-EUSC\\_2005/](http://earth.esa.int/rtd/Events/ESA-EUSC_2005/).
  272. M. Datcu, Ines Maria Gomez Munoz, 2005, High Resolution SAR and Optical Image Fusion for Mine Risk Map Generation, Proc. of PSIP'2005 Fourth International Conference on Physics in Signal & Image Processing" Jan.31 - Feb.02 2005 Enseiht, Toulouse, France, ISBN: 2-912328-22-5, CDROM.
  273. Ines Maria Gomez Munoz, M. Datcu, 2005, Target Detection by Change Analysis of Multitemporal High Resoluiton Hyperspectral Images, Proc. of PSIP'2005 Fourth International Conference on Physics in Signal & Image Processing" Jan.31 - Feb.02 2005 Enseiht, Toulouse, France, ISBN: 2-912328-22-5, CDROM.
  274. D. Gleich, M. Datcu, 2005, Context based quantization using Bayesian model, Proc. of IWSSIP 05, 12th International Workshop on Systems, Signals & Image Processing, Ed. D. A. Krras, S. Voliotis, M. Rangoussi, A. Kokkosis, INDERSCIENCE ENTERPRISES LIMITED, Geneve, Switzerland, pp. 459-462.
  275. M. Ciucu, M. Datcu, 2005, Information Theoretical Approach for Searching Very Large Image Archives, Bayesian Inference and Maximum Entropy Methods in Science and Engineering, Editors: K.H. Knuth, A.E. Abbas, R. D. Morris, J. P. Castle, American Institute of Physics, AIP Conf. Proc, ISBN 0-7354-0292-2, ISSN 0094-243X, Vol. 803, pp. 43-52.
  276. R. Strungaru., G. M. Ungureanu, R. Murri, C. Pasqualli, K. Seidel, M. Datcu, 2005, Information mining in medical image databases , Proc. The 3rd European Medical and Biological Engineering Conference, EMBEC2005, 20-25 November 2005, Prague, Czech Republic, CD with ISSN 1727-1983, 4 pages, 2 col, pp. 4005-4008.
  277. P. Heas, M. Datcu, A. Giros, 2004, Mining image time series, ESA-EUSC Conference 2004: Theory and Applications of Knowledge driven Image Information Mining, with focus on Earth Observation, EUSC, Madrid (Spain), March 17-18, 2004, Digital Proceedings on [http://earth.esa.int/rtd/Events/ESA-EUSC\\_2004/](http://earth.esa.int/rtd/Events/ESA-EUSC_2004/).
  278. I. Gomez, M. Datcu, 2004, Mining Image temporal changes, ESA-EUSC Conference 2004: Theory and Applications of Knowledge driven Image Information Mining, with focus on Earth Observation, EUSC, Madrid (Spain), March 17-18, 2004, Digital Proceedings on [http://earth.esa.int/rtd/Events/ESA-EUSC\\_2004/](http://earth.esa.int/rtd/Events/ESA-EUSC_2004/).
  279. C. Maire, M. Datcu, 2004, Visual mining of large DEM and image data bases, ESA-EUSC Conference 2004: Theory and Applications of Knowledge driven Image Information Mining, with focus on Earth Observation, EUSC, Madrid (Spain), March 17-18, 2004, Digital Proceedings on [http://earth.esa.int/rtd/Events/ESA-EUSC\\_2004/](http://earth.esa.int/rtd/Events/ESA-EUSC_2004/).

280. M. Ciucu, M. Datcu, 2004, Information theoretical approach for domain ontology exploration in large EO image archives, Proceedings of Geoscience and Remote Sensing Symposium, IGARSS '04, IEEE International, Vol. 1, CD-ROM.
281. M. Datcu, D. A. Stoichescu, K. Seidel, C. Iorga, 2004, Model Fitting and Model Evidence for Majuscule Image Texture Analysis, Bayesian Inference and Maximum Entropy Methods in Science and Engineering, Editors: R. Fisher, R. Press, U. von Tousaint, American Institute of Physics, AIP Conf. Proc., ISBN 0-7354-0217-5, ISSN 0094-243X, Vol. 735, pp. 35-42.
282. P. Heas, M. Datcu, 2004, Bayesian Learning on Graphs for Reasoning on Image Time Series, Bayesian Inference and Maximum Entropy Methods in Science and Engineering, Editors: R. Fisher, R. Preuss, U. von Tousaint, American Institute of Physics, AIP Conf. Proc., ISBN 0-7354-0217-5, ISSN 0094-243X, Vol. 735, pp. 127-137.
283. M. Datcu, K. Seidel, 2003, Human centered concepts for exploration and understanding of satellite images, Proc. of the IEEE Workshop on Advances in Techniques for Analysis of remotely Sensed Data, CD-ROM, 8 pagini.
284. S. B. Serpico, M. Datcu, G. Moser, S. Mansi, P. Pecciarini, 2003, HYBRID SUPERVISED/UNSUPERVISED MULTISENSOR FUSION OF REMOTE SENSING IMAGES BASED ON HIERARCHICAL CLUSTERING, Proc. of SPIE Image and Signal Processing for Remote Sensing IX, Barcelona, 8-12 sept. 2003, Vol. 5238-8.
285. P. Audenino, M. Datcu, 2003, Multiresolution analysis of DEM, Proc. of SPIE Image and Signal Processing for Remote Sensing IX, Barcelona, 8-12 Sept. 2003, Vol. 5238-8.
286. H. Daschiel, M. Datcu:, 2003, Image information mining system evaluation using information-theoretic measures, Proc. of Advanced Concepts for Intelligent Vision Systems (ACIVS), Ghent, pp. 109-115.
287. M. Quartulli, M. Datcu, 2003, Information extraction from high resolution SAR data for urban scene understanding, Remote Sensing and Data Fusion over Urban Areas, 2003. 2nd GRSS/ISPRS Joint Workshop, pp. 115 -119.
288. P. Heas, M. Datcu, 2003, Trajectory of dynamic clusters in image time-series, Proc. of Second International Workshop on the Analysis of Multitemporal Remote Sensing Images. Digital Proceedings on CD-ROM.
289. M. Quartulli, M. Datcu, 2003, Structural information extraction from high resolution SAR data, Proceedings of Interational Geoscience And Remote Sensing Symposium, IGARSS 2003, Toulouse France 20-26 July 2003. Digital Proceedings on CD-ROM.
290. C. Maire, M. Datcu, P. Audenino, 2003, SAR DEM filtering by mean of Bayesian and multi-scale, nonstationary methods, Proceedings of Interational Geoscience And Remote Sensing Symposium, IGARSS 2003, Toulouse France 20-26 July 2003. Digital Proceedings on CD-ROM.
291. P. Heas, M. Datcu, A. Giros, 2003, Image Time-Series Mining for Dynamic Scene Understanding, Proceedings of Interational Geoscience And Remote Sensing Symposium, IGARSS 2003, Toulouse France 20-26 July 2003. Digital Proceedings on CD-ROM.

292. P. Heas, M. Datcu, A. Giros, 2002, Image Time Series Mining for Dynamic Scene Understanding, KDD 2nd Workshop on Temporal Data Mining. Digital Proceedings on CD-ROM.
293. J. C. Tilton, G. Marchisio, K. Koperski, M. Datcu, 2002, Image Information Mining Utilizing Hierarchical Segmentation, IEEE Intern. Geoscience and Remote Sensing Symposium IGARSS 2002. Digital Proceedings on CD-ROM. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
294. F. Adragna, M. Datcu, I.Hajnsek, J.Inglada, K.Papathanassiou, D.Petit, M.Quartulli, J.C. Souyris, 2002, Information extraction from high resolution SAR data, Proc. XI European Signal Processing Conference, 3-6 Sept 2002, Toulouse, France, EUSIPCO 2002, Paper Num. 855, Signal and Image Processing for Space Applications.
295. M. Datcu, A.Giros, 2002, New concepts for Earth observation data catalogues, Proc. XI European Signal Processing Conference, 3-6 Sept 2002, Toulouse, France, EUSIPCO 2002, Paper Num. 760, Image Mining.
296. M. Datcu, A.Pelizzari, H.Daschiel, K.Seidel, M.Quartulli, 2002, Advanced Value Adding to Metric Resolution SAR Data: Information Mining, Proc. 4th European Conference on Synthetic Aperture Radar EuSAR2002, 4-6 June 2002, Cologne, Germany, pp.409-412.
297. M. Quartulli, M. Datcu, 2002, 3-d scene reconstruction and structure recognition from metric resolution InSAR, Proc. 4th European Conference on Synthetic Aperture Radar EuSAR2002, 4-6 June 2002, Cologne, Germany, pag.153-156.
298. H. Daschiel, M. Datcu, 2002, Cluster Structure Evaluation of a Dyadic k-means Algorithm for Mining Large Image Archives, Proc. SPIE Image and Signal Processing for Remote Sensing VIII, SPIE Vol. 4885-16.
299. M. Quartulli, M. Datcu, 2001, Bayesian model based city reconstruction from high resolution InSAR data, Proc. 1st GRSS/ISPRS Joint Workshop on Remote Sensing and Data Fusion over Urban Areas Urban2001, Rome, Italy, 8-9 nov 2001.
300. M. Quartulli, M. Datcu, 2001, Scene understanding for settlements from metric resolution SAR, Proc. of 3rd International Symposium, Retrieval of Geophysical Parameters from SAR Data for Land Applications, Sheffield, UK, ESA SP 475, pp. 297-300.
301. M. Quartulli, M. Datcu, 2001, A Bayesian Inversion Method for the 3D Reconstruction of Settlements from Metric SAR Observations', Proc. SPIE 2001, 17-18 sept. 2001, Toulouse, France, Vol.4543 SAR Image Analysis, Modeling and Techniques IV.
302. M. Quartulli, M. Datcu, 2001, Quality of Model-Based Information Extraction from SAR Images'', Proc. SPIE 2001, 17-18 Sept. 2001, Toulouse, France, Vol.4543 SAR Image Analysis, Modeling and Techniques IV, pp. 115-119.
303. A. Pelizzari, V. Descargues, M. Datcu, 2001, Visual information mining in remote sensing image archives, Proc. SPIE 2001, 17-18 Sept. 2001, Toulouse, France, Vol.4543 SAR Image Analysis, Modeling and Techniques IV, pp. 241-251.
304. H. Daschiel, M. Datcu, 2001, Bayesian Texture Extraction from Metric Resolution SAR Images, Proc. SPIE 2001, 17-18 Sept. 2001, Toulouse, France, Vol.4543 SAR Image Analysis, Modeling

- and Techniques IV, pp. 232-239.
305. K. Seidel, M. Datcu, 2000, Architecture of a new generation of remote sensing ground segments, In J. L. Casanova, editor, Remote sensing in the 21st century, A. A. Balkema, pp. 223-228.
306. M. Datcu, K. Seidel, 2000, Image Information Mining: Exploration of Image Content in Large Archives, Proceedings of IEEE Aerospace Conference, Montana 2000, Digital Proceedings on CD-ROM. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
307. M. Walessa, M. Datcu, 2000, Enhancement of Interferometric DEMs by Spatially Adaptive Model-Based Filtering of Non-Stationary Noise, Proc. of EUSAR 2000, 3d European Conference on Synthetic Aperture Radar, pp. 695-698.
308. G. Palubinskas, M. Datcu, 2000, Global land-cover classification approach for InSAR DEM interpretation, Proc. of EUSAR 2000, 3d European Conference on Synthetic Aperture Radar, pp. 241-244.
309. M. Caparrini, K. Seidel, M. Datcu, 2000, Bayesian method for segmentation of SAR images in rough terrain, 20th EARSeL Symposium, Dresden.
310. M. Datcu, K. Seidel, M. Schröder, H. Rehrauer, G. Palubinskas, M. Walessa, 2000, Image Information Mining and Remote Sensing Data Interpretation, Proc. of 2000 IEEE International Geoscience and Remote Sensing Symposium IGARSS 2000. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
311. H. Rehrauer, M. Datcu, 2000, Using Scale in Content-based Queries for Spatial Data, Proc. of 2000 IEEE International Geoscience and Remote Sensing Symposium IGARSS 2000. Digital Proceedings on CD-ROM. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
312. M. Caparrini, K. Seidel, M. Datcu, 2000, Information Theoretical Assessment of Methods for Segmentation of High Resolution Remote Sensing Images, Proc. of 2000 IEEE International Geoscience and Remote Sensing Symposium IGARSS 2000. Digital Proceedings on CD-ROM.
313. H. Rehrauer, M. Datcu, 2000, Selecting scales for texture models, In Texture analysis in machine vision, Ed.: M.K. Pietikäinen, Series in machine perception and artificial intelligence, vol. 40, World Scientific. 8 pagini.
314. M. Datcu, K. Seidel, 1999, Bayesian methods: applications in information aggregation and data mining. International Archives of Photogrammetry and Remote Sensing, Vol. 32, Part 7-4-3 W6, pp. 68-73. Digital Proceedings on <http://www.data-fusion.org/ps/sig/meeting/Spain99ps/datcu.pdf>
315. M. Datcu, K. Seidel, 1999, New concepts for remote sensing information dissemination: Query by image content and information mining, in Proc. of 1999 IEEE International Geoscience and Remote Sensing Symposium IGARSS'99, Vol. III, pp. 1335-1337. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
316. K. Seidel, M. Datcu, G. Schwarz, L. van Gool, 1999, Advanced remote sensing information system at ETH Zurich and DLR, in Proc. of 1999 IEEE International Geoscience and Remote Sensing Symposium IGARSS'99, Vol. V, pp. 2363-2365. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)



317. H. Rehrauer, K. Seidel, M. Datcu, 1999, Characteristic scale detection in remote-sensing data., in Proc. of 1999 IEEE International Geoscience and Remote Sensing Symposium IGARSS'99, Vol. I, pp. 116-118. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
318. H. Rehrauer, K. Seidel, M. Datcu, 1999, Multi-scale indices for content-based image retrieval. in Proc. of 1999 IEEE International Geoscience and Remote Sensing Symposium IGARSS'99, Vol. V, pp. 2377-2379. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
319. M. Schröder, K. Seidel, M. Datcu, 1999, Bayesian modeling of remote-sensing image content., in Proc. of IEEE International Geoscience and Remote Sensing Symposium IGARSS'99, Vol. III, pp. 1810-1812. Available on [www.vision.ee.ethz.ch](http://www.vision.ee.ethz.ch)
320. G. Palubinskas, M. Datcu, R. Pac, 1999, Clustering algorithms for large sets of heterogeneous remote sensing data, in Proc. of IEEE International Geoscience and Remote Sensing Symposium IGARSS'99, Vol. III, pp.1591-1593.
321. M. Datcu, K.Seidel, G. Schwarz, 1999, Elaboration of advanced tools for information retrieval and the design of a new generation of remote sensing ground segment systems, in I. Kanellopoulos, editor, Machine Vision in Remote Sensing, Springer, pp. 199-212.
322. H. Rehrauer, K. Seidel, M. Datcu, 1999, Bayesian image segmentation using a dynamic pyramidal structure, in W. von der Linden, V. Dose, R. Fischer, and R. Preuss, editors, Maximum Entropy and Bayesian Methods, Kluwer Academic Publishers, London, 1999, ISBN 0 7923 5766 3, pp. 115-122.
323. G. Nico, L. Guerriero, G. Palubinskas, M. Datcu, 1999, Overview and Bayesian perspective of phase unwrapping, in W. von der Linden, V. Dose, R. Fischer, and R. Preuss, editors, Maximum Entropy and Bayesian Methods, Kluwer Academic Publishers, London, 1999, ISBN 0 7923 5766 3, pp. 301-318.
324. M. Walessa, M. Datcu, 1999, Texture reconstruction in noisy images, in W. von der Linden, V. Dose, R. Fischer, and R. Preuss, editors, Maximum Entropy and Bayesian Methods, Kluwer Academic Publishers, London,1999, ISBN 0 7923 5766 3, pp. 65-72.
325. M. Schröder, K. Seidel, M. Datcu, 1999, Bayesian labeling of remote sensing image content, in W. von der Linden, V. Dose, R. Fischer, and R. Preuss, editors, Maximum Entropy and Bayesian Methods, Kluwer Academic Publishers, London, 1999, ISBN 0 7923 5766 3, pp. 199-206.
326. M. Datcu, G. Schwarz, 1998, Remote Sensing of Land, Water, and Atmosphere: The Role of Forward Modelling as a Data Analysis Tool, Proc. SPIE Vol. 3500. 8 pagini.
327. M. Datcu, G. Palubinskas, 1998, Multiscale Bayesian height estimation from InSAR using a fractal prior, Proc. SPIE Vol. 3497.
328. G. Schwarz, M. Datcu, 1998, High Resolution Imaging Methods - A Comparison of Optical and SAR Techniques, Proc. SPIE Vol. 3500.
329. M. Walessa , G. Nico, M. Datcu, Precise information retrieval from SAR and InSAR images of rough terrain: a Bayesian approach, Proc. SPIE Vol. 3497.

330. M. Datcu, G. Schwarz, 1998, Advanced Image Compression: Specific Topics for Space Applications, Proc. of DSP'98 Workshop, ESA/ESTEC, pp. 3.1
331. M. Datcu, G. Palubinskas, 1998, Multiscale Bayesian Terrain Height Estimation from SAR Interferometry, Proc. of 1998 IEEE International Geoscience and Remote Sensing Symposium IGARSS'98, Vol. I, pp. 88-90.
332. M. Datcu, G. Schwarz, 1998, Chirp Signal Correlation in the Wavelet Domain, Proc. of 1998 IEEE International Geoscience and Remote Sensing Symposium IGARSS'98, Vol. V, pp. 2646-2648.
333. H. Rehrauer, K. Seidel, M. Datcu, 1998, Multiscale Image Segmentation with a Dynamic Label Tree, Proc. of 1998 IEEE International Geoscience and Remote Sensing Symposium IGARSS'98, Vol.. IV, pp. 1772-1774. Available on [www.vision.ee.ethz.ch](http://www.vision.ee.ethz.ch)
334. K. Seidel, M. Schröder, H. Rehrauer, M. Datcu, 1998, Meta Features for Remote Sensing Image Content Indexing, Proc. of 1998 IEEE International Geoscience and Remote Sensing Symposium IGARSS'98, Vol. II, pp. 1022-1024. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
335. K. Seidel, M. Schröder, H. Rehrauer, G. Schwarz, M. Datcu, 1998, Query by Image Content from Remote Sensing Archives, Proc. of 1998 IEEE International Geoscience and Remote Sensing Symposium IGARSS'98, Vol. I, pp. 393-396. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
336. M. Walessa, M. Datcu, 1998, Bayesian Reconstruction and Texture Segmentation of SAR Images, Proc. of 1998 IEEE International Geoscience and Remote Sensing Symposium IGARSS'98, Vol. I, pp. 13-15.
337. G. Nicco, M. Walessa, M. Datcu, 1998, Topographic Mapping: A New Approach, Proc. of IEEE 1998 International Geoscience and Remote Sensing Symposium IGARSS'98, Vol. I, pp. 91-93.
338. M. Schröder, K. Seidel, M. Datcu, 1998, User-oriented Content Labelling in Remote Sensing Image Archives, Proc. of 1998 IEEE International Geoscience and Remote Sensing Symposium IGARSS'98, Vol. II, pp. 1019-1021. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
339. U. Benz, M. Datcu, G. Schwarz, K. Seidel, 1998, Image communication: new features of a remote sensing data ground segment, Proc. of CEOS SAR Workshop, ESA/ESTEC, pp. 289-303.
340. M. Datcu, M. Walessa, 1997, Maximum entropy methods for despeckling and resampling SAR images of rough terrain, Proc. of EOS/SPIE Vol. 3217, The European Symposium on Aerospace Remote Sensing-Sept'97, London pp. 58-66.
341. M. Datcu, G. Schwarz, M. Walessa, 1997, Wavelet Feature Coding for Quicklook Synthetic Aperture Radar Images: An Image Epitome, Proc. of EOS/SPIE Vol. 3217, The European Symposium on Aerospace Remote Sensing-Sept'97, London, pp. 58-66.
342. M. Datcu, G. Schwarz, 1997, Chirp correlation in the wavelet domain, Proc. of EOS/SPIE Vol. 3217, The European Symposium on Aerospace Remote Sensing-Sept'97, London, pp. 104-111.
343. G. Schwarz, M. Datcu, 1997, Wavelets - a universal tool for the processing of remote sensing image data?, Proc. of EOS/SPIE Vol. 3217, The European Symposium on Aerospace Remote Sensing-Sept'97, London, pp. 427-434.

344. A. J. Wilkinson, M. Datcu, 1997, Interferometric SAR Topographic Mapping - A Bayesian Model-Based Approach, In Proc. of COMSIG 97, 1997 IEEE South African Symposium on Communications and Signal Processing. Available on <http://www.eng.uct.ac.za/~ajw/>
345. M. Walessa, M. Datcu, 1997, Bayesian Approach to SAR Image Reconstruction, Proc. of 1997 IEEE International Geoscience and Remote Sensing Symposium IGARSS'97, pp. 767-769.
346. G. Schwarz, M. Walessa, M. Datcu, 1997, Speckle Reduction in SAR Images - Techniques and Prospects, Proc. of 1997 IEEE International Geoscience and Remote Sensing Symposium IGARSS'97, pp. 2031-2033.
347. K. Seidel, R. Mastropietro, M. Datcu, 1997, New Architectures for Remote Sensing Image Archives, Proc. of 1997 IEEE International Geoscience and Remote Sensing Symposium IGARSS'97, pp. 616-618. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
348. H. Rehrauer, K. Seidel, M. Datcu, 1997, Multiscale Markov, Random Fields for Large Datasets Representation, Proc. of 1997 IEEE International Geoscience and Remote Sensing Symposium IGARSS'97, pp. 255 -257. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
349. M. Schröder, K. Seidel, M. Datcu, 1997, Gibbs Random Field Models for Image Content Characterization, Proc. of 1997 IEEE International Geoscience and Remote Sensing Symposium IGARSS'97, pp. 258-260. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
350. D. Luca, K Seidel, M. Datcu, 1997, On the accuracy of snow cover segmentation in optical satellite images, Proc. of 1997 IEEE International Geoscience and Remote Sensing Symposium IGARSS'97, pp. 411-413. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
351. M. Datcu, D. Luca and K. Seidel, 1997, An inverse problem approach for the segmentation of the snow cover in satellite images, In Proc. of EARSeL Symposium : Future Trends in Remote Sensing; Lyngby, Copenhagen, Denmark. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
352. M. Datcu, D. Luca and K. Seidel, 1997, A New Image Formation Model for the Segmentation of the Snow Cover in Mountainous Areas, In: Proc. of EARSeL Workshop on Remote Sensing of Land Ice and Snow. Freiburg, Germany, April 1997, pp. 69-76. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
353. M. Datcu, G. Schwarz, M. Walessa, 1997, Quasi full spatial resolution quicklook SAR images: A demonstration of the potential of integrated image restoration and compression in the wavelet transform domain, Third ERS Symposium 'Space at the Service of our Environment, March 1997 in Florence, Italy (poster).
354. M. Datcu, 1996, Maximum Entropy Solution for InSAR Phase Unwrapping, Proc. of 1996 IEEE International Geoscience and Remote Sensing Symposium IGARSS'96, pp. 310-314.
355. M. Datcu, 1996, Scene Understanding from SAR Images, Proc. of 1996 IEEE International Geoscience and Remote Sensing Symposium IGARSS'96, pp. 2054-2056.
356. D. Luca, M. Datcu, K. Seidel, 1996, Multiresolution Analysis of DEM's: Error and Artifact Characterization, in: FRINGE'96: ESA Workshop on Applications of ERS SAR Interferometry. Zurich, Switzerland, October 1996. Available from <http://www.geo.unizh.ch/rsl/fringe96/>.

357. M. Datcu, October 1996, The multiresolution approach in SAR interferometry, in: FRINGE'96: ESA Workshop on Applications of ERS SAR Interferometry. Zurich, Switzerland. Available from <http://www.geo.unizh.ch/rsl/fringe96/>.
358. M. Datcu, D. Luca, K. Seidel, 1996, Multiresolution Analysis of SAR Images, Proc. of European Conference on Synthetic Aperture Radar: EUSAR'96, pp. 375-378. Available on [www.vision.ee.ethz.ch/](http://www.vision.ee.ethz.ch/)
359. H. Runge, H. Breit, U. Steinbrecher, M. Datcu, 1995, Higher resolution X-SAR Images, Proc. of 1995 IEEE International Geoscience and Remote Sensing Symposium IGARSS'95 pp. 187-189.
360. M. Datcu, G. Schwarz, K. Schmidt, C. Reck, 1995, Quality Evaluation of Compressed Optical and SAR Images: JPEG vs. Wavelets, Proc. of 1995 IEEE International Geoscience and Remote Sensing Symposium IGARSS'95, pp.1687-1689.
361. M. Datcu, G. Schwarz, K. Schmidt, C. Reck, 1995, Correction of Fixed Pattern Background and Restoration of JPEG Compressed CCD Images, Proceedings of NASAs Space and Earth Science Data Compression Workshop University of Utah, Salt Lake City, Utah, March 27, JPL Publication 95-8, pp.115-126.
362. M. Datcu, 1995, Method for quality evaluation of the block transform compressed images, Proc. IS&T/SPIE Vol. 2418, Still-Image Compression.
363. M. Datcu, G. Schwarz, K. Schmidt, C. Reck, 1995, Histogram Analysis of JPEG Compressed Images as an Aid in Image Deblocking, Proceedings of IEEE Computer Society TCCC Data Compression Conference - DCC'95, Snowbird, Utah, March 28-30, ISSN 1068-0314, ISBN 0-8186-7012-6, pp. 424-425.
364. D. Coltuc, K. Seidel, M. Datcu, 1994, 3-D Signal Analysis of Remotely Sensed Data, Proc. SPIE, Vol. 2315, Image and Signal Processing for Remote Sensing, The European Symposium on Satellite Remote Sensing, pp.264-268.
365. Cr. Toma, M. Datcu, 1994, Genetic Algorithm for Maximum Entropy Image Restoration, Proc. SPIE, Vol. 2304: Neural and Stochastic Methods in Image and Signal Processing III, pp. 253-264.
366. M. Datcu, K. Seidel, 1994, Fractal and Multiresolution Techniques for the Understanding of Geo-Information, Proceedings of a Joint JRC/EARSel Expert Meeting "Fractals in Geoscience and Remote Sensing" Image Understanding Research Series Vol.1, Report EUR 16092 EN, pp. 56-84.
367. K. Seidel, M. Datcu, 1994, Fusion of real and synthetic images for remote sensing scene understanding, in M. M. Novak, editor, Fractals in the Natural and Applied Sciences, North-Holland, ISSN 0926 5473, pp. 359-370.
368. F. Holecz, M. Datcu, D. Small, 1993, August, Model based radiometric correction of optical imagery in mountainous regions for snow cover segmentation, Proc. of 1993 IEEE International Geoscience and Remote Sensing Symposium IGARSS'93, pp.401-403.
369. M. Datcu, F. Holecz, 1993, April, Generation of synthetic images for radiometric topographic correction of optical imagery, Proc. SPIE, Vol. 1938, editors: Pat S. Chavez, Jr., Robert A. Schowengerdt, Recent Advances in Sensors, Radiometric Calibration, and Processing of

Remotely Sensed Data, pp. 260-271

370. K. Seidel, M. Datcu, 1993, Model based image analysis for remotely sensed images, Geotechnica'93, Koln, Germany.
371. M. Datcu, F. Folta, Cr. Toma, 1992, November, Algorithms for dynamic object tracking, Proc. SPIE, Vol. 1825, Intelligent Robots and Computer Vision XI: Algorithms, Techniques, and Active Vision, Editor: David P. Casasent, pp. 389-394.
372. Cr. Toma, M. Datcu, 1992, November, Maximum entropy and minimum crossentropy methods in image processing, Proc. SPIE, Vol. 1827 Model-Based Vision, editors: Hatem N.Nasr, Rodney Larson, pp.133-144.
373. M. Datcu, K.Seidel, 1992, Fractals for modelling and analysing geo-information, Proc. of EARSeL Symposium analysis of Earth observation space data integration, pp.107-118.
374. M. Datcu, 1992, April, Model for SAR Images, Proc. SPIE Vol. 1700, Automatic Object Recognition II, editor: Firooz A. Sadjadi, pp.131-137.
375. M. Datcu, F. Folta, 1991, Hardware windowing of dynamic images, Proc. of Barnaimage 91, Barcelona, Springer Verlag.
376. M. Datcu, Cr .Toma, 1991, Digital global modeling of coherent images processing; Proc. SPIE Vol. 1609, Model-Based Vision Development and Tools, Rodney M. Larson, Hatem N. Nasr (Eds.), pp. 111 - 120.
377. V. Buzuloiu, D. Coltuc, M. Datcu, 1986, Some software problems of small image processing systems, Summer School of Software Applied in Physics, Prague, pp. 34-36
378. V. Buzuloiu, A. Gheorghe, M. Datcu, 1983, A data traffic principle and some applications; MELECOM'83 Conference , Athena, Greece, IEEE Press, Vol. 1, pp. A8.08-A8.12.
379. V. Buzuloiu, M. Datcu, 1982, Real time computing of the gray level histogram for digital TV signal, 9th IMEKO Congress, West Berlin, Germany, IEEE Press, pp. 235-238.

#### **6. Publications 1979 – 1991 in Romanian**

1. D. Apostol, V. Damian, M. Datcu, Cr. Toma, 1991, Interferometru ESPI pentru testare nondestructiva, A 2-a Conferinta nationala pentru progress in tehnologia, Bucuresti, Romania.
2. M. Datcu, F. Folta, 1988, Modelarea imaginilor speckle, CNETAC'88, (Conferinta Nationala de Electronica, Telecomunicatii, Automatizari si Calculatoare), Bucuresti, Romania.
3. M. Datcu, 1988, Algoritmi rapizi pentru prelucrarea imaginilor, CNETAC'88, (Conferinta Nationala de Electronica, Telecomunicatii, Automatizari si Calculatoare), Bucuresti, Romania.
4. M. Datcu, Gh.. Gheorghe, A. Gheorghe, R. Oprea, 1987, Algoritmi de recunoastere a formelor pentru roboti de control gemetric, A 5-a Confernita AMC Bucuresti, Romania.

5. V. Buzuloiu, D. Coltuc, M. Datcu, 1986, Some software problems of small image processing systems, Summer School of Software Applied in Physics, Prague, pp. 34-36.
6. M. Datcu, 1985, Algebra matriciala in prelucrarea semnalelor multidimensionale, Proc. of the 6th International Conference on Control Systems and Computer Science, Bucuresti, pp. 112-117
7. M. Datcu, D. Coltuc, D. Luca, 1985, Programarea sistemului SAADI 1000, Proc. of the 6th International Conference on Control Systems and Computer Science, Bucuresti, Vol.I, pp. 192-195.
8. V. Buzuloiu, M. Datcu, A. Gheorghe, R. Oprea, A. Zamfir, D. Coltuc, D. Luca, 1985, Arhitectura sistemului de analiza automata digitala a imaginilor SAADI-1000, Proc. of the 6th International Conference on Control Systems and Computer Science, Bucuresti, Vol. II, pp. 81-86.
9. V. Buzuloiu, M. Datcu, A. Gheorghe, R. Oprea, A. Zamfir, 1984, Sistemul de analiza automata digitala a imaginilor SAADI-1000, CNETAC'84 (Conferinta Nationala de Electronica, Telecomunicatii, Automatizari si Calculatoare), Vol. 2, pp. 183-187. Vi 152
10. V. Buzuloiu, A. Gheorghe, M. Datcu, 1983, A data traffic principle and some applications; MELECOM'83 Conference, Athena, Greece, IEEE Press, Vol. 1, pp. A8.08-A8.12.
11. A. Zamfir, M. Datcu, 1983, Memoria de imagine pentru sistemul SAADI-1000, CNETAC'83, Conferinta Nationala de Electronica, Telecomunicatii, Automatizari si Calculatoare pp.93-96.
12. V. Buzuloiu, M. Datcu, 1982, Real time computing of the gray level histogram for digital TV signal, 9th IMEKO Congress, West Berlin, Germany, IEEE Press, pp. 235-238.
13. V. Buzuloiu, M. Datcu, 1981, Particularitati ale sistemelor mici, autonome si automate pentru prelucrarea imaginilor, Primul simpozion pentru aplicatiile microprocesoarelor si, Bucuresti, 1981, pp. 476-478.
14. V. Buzuloiu, M. Datcu, S. Raileanu, 1979, Metode de detectie a proceselor stochastice dublu Poisson, Simpozionul de microunde, Bucuresti, 1979, pp. 28-33

## 8. Patents

1. D. Coltuc, M. Datcu, A. Gheorghe, R. Oprea, V. Buzuloiu, A. Zamfir, Memorie multiport reconfigurabila, Pat. No. 89117/1986.
2. D. Coltuc, M. Datcu, A. Gheorghe, R. Oprea, A. Zamfir, Modul pentru memorie bi-dimensională, Pat. No. 89116/1986.

## ARXIVX articles

1. N.-C. Ristea, A. Anghel, M. Datcu, "Sea Ice Segmentation From SAR Data by Convolutional Transformer Networks", 2023, arXiv:2306.07649.
2. D. Tuia, et. al, "Artificial intelligence to advance Earth observation: a perspective", 2023, arXiv:2305.08413.
3. M. Muzeau, C. Ren, S. Angelliaume, M. Datcu, J.-P. Ovarlez, "Deep Learning-Based Anomaly Detection in Synthetic Aperture Radar Imaging", 2022, arXiv:2210.16038.
4. S. Otgonbaatar, G. Schwarz, M. Datcu, D. Kranzlmüller, "Quantum Transfer Learning for Real-World, Small, and Large-Scale Datasets", 2022, arXiv:2209.07799.