

## Curriculum Vitae

### Working Experience

1993 – present	The Senior Scientist of the Remote Sensing Technology Institute – IMF and Team Leader Image Mining and Understanding	German Aerospace Center - DLR, Germany
2011 – present	Head, Immersive Visual Information Mining TUM-DLR Joint Lab	Munich Aerospace Faculty
2011 – present	Director, Research Center for Spatial Information	University <i>Politehnica</i> - UPB Bucharest, Romania
2005 – 2013	Professor, titular of the CNES/DLR Chair Information Extraction and Image Understanding for Earth Observation And Coordinator of CNES/DLR/ <i>Télécom</i> Competence Center	Paris Institute of Technology, <i>Télécom</i> Paris
1992 – 2004	Invited Professor, Dept. Image Science, Institute for Communication Technology	Swiss Federal Institute of Technology ETH Zurich
1990 – present [on leave]	Professor, Faculty of Electronics, Telecommunications and Information Technology	University <i>Politehnica</i> - UPB Bucharest, Romania
1990 – 1992	Director, Research Centre for Space <i>Teleinformatics</i>	University <i>Politehnica</i> - UPB Bucharest, Romania
1981 – 1990	Assistant/Associate Professor, Faculty of Electronics and Telecommunications	University <i>Politehnica</i> - UPB Bucharest, Romania
1978 – 1981	Scientist	Electrical Research Institute – ICPE, Bucharest, Romania

## Education

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

*Note: **Polytechnic Institute of Bucharest** is presently the **University Politehnica Bucharest***

## Projects

2018-2021	CANDELA: Copernicus Access Platform Intermediate Layers Small Scale Demonstrator, H2020, 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
2017-2020	Automated Scientific Discovery, Information und Data Science, HGF Helmholtz-Gemeinschaft, 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, Co-investigator
2015-2018	ECOPOTENTIAL - improving future ecosystem benefits through earth observations, H2020, 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

1978 – 1981 Medical data acquisition system, (Medical Science Academy of Romania) – Co-investigator

## Invited Professor Positions

2018 – 2020 Invited Professor, International Chair Blaise Pascal, CNAM, Paris

2017 Chinese Academy of Science, Shenyang Institute of Automation, China

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

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

**Directing 38 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), University *Politehnica* Bucharest (Romania)

The **thematic** of the Ph.D. are in the fields of Data Science, information theory, statistical modeling, Bayesian inference, machine learning, information mining and image understanding with applications to information extraction and understanding of high resolution Synthetic Aperture Radar SAR and optical Earth Observation data.

#### **Directing 89 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 97, in press 5
  - Articles in conference proceedings with peer review: more than 250
  - Books: published 1, chapters published 16, books under work 2
  - Other articles in conference proceedings or presentations: more than 100
  - Invited conferences, key notes, tutorials: 118
- H Index 31, RG Score 39.97

List available on: <http://elib.dlr.de>

## Honors and awards

- |      |                                                                                                                                                                                                                                                                |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2017 | <i>Chair Blaise Pascal</i> for international recognition in the field of Data Science in Earth Observation, with the <i>Centre d'Etudes et de Recherche en Informatique</i> (CEDRIC) at the <i>Conservatoire National des Arts et Métiers</i> (CNAM) 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 *DLR Seniorwissenschaftler (Senior Scientist)* for activities in Information Theory, Image Analysis, Image Information Mining
- 2000 *DLR diploma of merit* 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 *Romanian Academy Prize Traian Vuia* awarded for the development of SAADI image analysis system and activity in image processing
- 1977/78 Best student *Republican Fellowship*
- 1975 *Award from the National Students Contest in Theoretical Physics.*

## Selected Memberships and Functions

- 2017-2018 Guest Editor, IEEE Transactions on Big Data, Special Issue on Big Data from Space
- 2017 Guest Editor, IEEE Geoscience and Remote Sensing Letters, Special Stream on Deep Learning as Applied in Remote Sensing Imagery Interpretation
- 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
- From 2011 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



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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. Big SAR Data, Key note, BIGASRDAT17 Conference, 13 Nov 2017, China Academy of Science CAS, Beijing
2. Advanced SAR data understanding, invited lecture, 14 Nov. 2017, Beijing Institute of Technology, Beijing
3. Advancing EO Data Science, invited lecture, 15 Nov. 2017 China Academy of Space Technology CAST, Beijing
4. Data Science: Progress and Perspectives, Key Note, 29 Nov. 2017, Big Data from Space Conference, Toulouse
5. Earth Observation Big Data: The Data Science paradigm shift, tutorial, IGARSS 2017, July 23, Fort Worth, Texas, USA.
6. Big Data from Space, Invited lecture, 3rd China High Resolution Earth Observation Conference, November 25, 2016, Shanghai Jiao Tong University, Shanghai, China.
7. Big Data Analytics for Earth Observation, October 10-14, invited lectures, Big Data from Space: algorithms and methods, Wuhan University, China.
8. Image Understanding and Information Mining for Very High Resolution Earth Observation, tutorial, ICIP 2016, September 25, Phoenix, Arizona, USA.
9. 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.
10. Big Data Mining for Earth Observation: a paradigm shift, invited lecture, September 19, 2016, NASA, GSFC, Greenbelt, USA.
11. Big Data Analytics: Algorithms, Methods and Tools for Earth Observation, tutorial, IGARSS 2016, July 10, Beijing, China.
12. Big data science for Earth observation - large scale visual analytics and knowledge discovery, invited Helmholtz Open Science, June 14&20, 2016, Webinar.
13. Mining Sensor Data, Big Data from Space BiDS 2016, keynote, March 16, Santa Cruz de Tenerife, Spain.
14. Data analytics, invited lectures, BigSkyEarth Training School, German Aerospace Center DLR, April 4-9, 2016. Oberpfaffenhofen, Germany.
15. SAR image analysis and understanding, postgraduate lectures, Embrapa Agricultural Informatics and Unicamp, 18-22 Jan. 2016, Campinas, Brazil.
16. DLR Activities in Image Information Mining: Results and Perspectives, Image Information Mining Conference (IIM) 2015, 29-20 Oct 2015, Bucharest, Romania.

17. SAR Information Extraction in the Era of Big Data, IET International Radar Conference, 14-16 Oct 2015, Hangzhou, China.
18. 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.
19. Mining Big EO Data, Big Data in Secure Societies - 1st Workshop, 01 Sep 2015, Brussels, Belgium.
20. Big Data from Earth Observation: analytics, mining, semantics, tutorial, IGARSS 2015, 26 July, 2015, Milan, Italy.
21. 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.
22. Information Mining for Satellite Image Time Series: Methods and Perspectives, 17th Brazilian Remote Sensing Symposium (SBSR), 25-29 Apr 2015, Joao Pessoa, PB, Brazil.
23. Lecture on SAR, China Academy of Space Technology CAST, 8-10 Dec 2014, Beijing, China
24. Mining Earth Observation Big Data: methods and applications, tutorial, IGARSS 2014, 12 July 2014, Quebec, Canada.
25. Smart Sensors Against Big Data: David and Goliath of Technology, ARSI14 & KEO14, 1-2 Oct. 2014, ESA/ESTEC, Noordwijk, The Netherlands.
26. Big Data Challenge: Mining Heterogeneous Data, Copernicus Big Data Workshop, 13-14 Mar 2014, Brussels, Belgium.
27. Advanced Pattern Recognition, lectures at the Doctoral School on Information and Communication Technology, 16-20 June 2014, University of Trento.
28. Big Data: Methods and Technology for Content Access, Big Data from Space, 5-6 June 2013, ESA/ESRIN, Frascati, Italy.
29. Earth Observation Data Mining: Spatio-temporal Patterns Discovery in Heterogeneous Data, tutorial, IGARSS 2013, 21 June 2013, Melbourne, Australia.
30. Image information mining, IGARSS Summer School, RMIT University, 18 July, 2013, Melbourne, Australia.
31. Image Information Mining: Fast Learning Methods, Chinese Academy of Sciences, Aeronautics, Space and Transport, Seminar 10 Apr. 2013, Beijing, China.
32. Perspectives of SAR Imaging, Seminar, Beijing Institute of Technology, 10. Apr. 2013, China.
33. 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.
34. The Big Data Challenge: Handling Large Volumes of Earth Observation Data, tutorial, Copernicus Conference, 21-22 May 2013, Bucharest, Romania.
35. 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.
36. Image Information Mining - Methods and Applications for Exploration of Earth Observation data, tutorial, IGARSS 2012, 22 July 2012, Munich, Germany.
37. 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.
38. Image Information Mining – Methods and Applications Related to Earth Observation Data, tutorial, IGARSS 2011, 24 July 2011, Vancouver, Canada. (presented by Gottfried Schwarz)
39. From Shannon Communication Theory to Semantic Coding: Concepts for Image Information Mining, Research Focal Point Scientific Computing, 7 February 2011, University of Innsbruck.

40. Understanding and Interpretation of High Resolution SAR Images, tutorial, IGARSS 2010, 25 July 2010, Honolulu, Hawaii (with Klaus Seidel).
41. 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.
42. Sensors as Communication Channels: Information Theoretical Modeling, Optimization, Design, tutorial, IEEE SENSORS 2009 Conference, 25 October 2009, New Zealand (with Prof. Inge Gavvat)
43. Space-based Earth Observation and Applications, invited lecture, Romanian Conference on Space Applications, September 9-10, 2009, Palace of the Parliament, Bucharest, Romania.
44. New perspectives for satellite image data analysis, tutorial, 1st International Conference of Space Technology, ICST 2009, 24 August, 2009, Thessaloniki, Greece.
45. Understanding and Interpretation of High Resolution SAR Images, full day tutorial, IGARSS 2009, 12 July, 2009, Cape Town, South Africa (jointly with Klaus Seidel)
46. 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).
47. Understanding and Interpretation of High Resolution SAR Images, one day tutorial, IEEE RADARCON, 2009, 8 May, Pasadena, CA, USA.
48. From Shannon Communication Theory to Semantic Coding: Concepts for Image Information Mining, March 19, 2009, invited seminar, Informatics Institute, University of Missouri, USA.
49. Practical InSAR Lectures. ROSA Seminar, December 2-5, 2008, Bucharest, Romania.
50. Compression based indexing of image content. November 11, 2008, ETH Zurich, BIWI Seminar, Zürich, Switzerland.
51. Satellite Image Information Extraction and Understanding: Semantic and Contextual Understanding. October 23, 2008, Journée 23 Octobre / Conseil Scientifique, Paris, France.
52. Trends in Earth Observation. Workshop on Romanian R&D Strategy, 17 Sept. 2008, Bucharest, Romania.
53. 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.
54. Image Information Mining - The High Resolution Era, July 15, 2008, NASA GSFC Seminar, Greenbelt, Maryland. USA.
55. Semantic Content Extraction from High Resolution EO Images, July 6, 2008, IGARSS 2008 Tutorial, Boston, Mass., USA.
56. Advances in Machine Learning: Application to High Resolution EO Image Understanding. Invited Lectures, June 16-20 Madrid, 2008, Spain
57. High Resolution Earth Observation Image Understanding. May 9-12, 2008, Invited Lectures, Alcala de Henares (Madrid), Spain
58. KIM for security applications, 14 December, 2007, EADS, Paris, France.
59. The GEMS and related security projects, Military Technical Academy, 23 October 2007, Sibiu, Romania.
60. Lectures on SAR and applications, Romanian Space Agency, 24-29 August 2007, Bucharest, Romania.
61. 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).

62. 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.
63. 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.
64. 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.
65. Image Semantic Coding, NASA Information Science and Technology Colloquium Series, GSFC, 27 Sept., 2006, Goddard, USA. (jointly with Klaus Seidel)
66. 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)
67. Information Extraction and Content Analysis of High Resolution EO Images, (one day tutorial), July 30th, 2006, IGARSS'06, Denver, USA.
68. 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.
69. 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.
70. 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.
71. Information Theory based Inference: application to image mining and semantic coding, Jan. 30, 2006, Harriot - Watt University, Edinburgh UK.
72. 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.
73. Information extraction from high resolution EO images: Information Mining and Scene Understanding, (one day tutorial). July 24, 2005, IGARSS'05, Seoul, Korea.
74. Image Information Mining, 21 June, 2005, CNES Seminar, Toulouse, France.
75. 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.
76. Human aware image understanding and information communication, BIWI Seminar, Knowledge-Based Image Interpretation, 28 April 2005, Swiss Federal Institute of Technology - ETH Zurich, Switzerland.
77. Bayesian methods for image information retrieval, 4 April 2005, European Patent Office, Munchen, Germany.
78. Image Information Mining, European Knowledge Discovery Network of Excellence KdNET Symposium, 3 June 2004, Bonn, Germany.
79. Applications of Image Information Mining, (one day tutorial) MacDonald Dettwiler and Associates Ltd., 31 Oct. 2003, Richmond, Canada.

80. 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.
81. 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.
82. KIM: Knowledge driven Image Information Mining, Seminar on Image Mining activities at CNRS/GdR, Information, Signal, Images et ViSion, 7 July, 2003, Paris, France.
83. 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.
84. 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.
85. Knowledge Driven Image Information Mining, BIWI Seminar, Knowledge-Based Image Interpretation, 28 November, 2002, Swiss Federal Institute of Technology - ETH Zurich.
86. Image Information Mining: theoretical perspectives, Invited talk at ACIVS 2002, Advanced Concepts for Intelligent Vision Systems, 9 September 2002, Ghent, Belgium.
87. Estimation of Bayesian hierarchical models, 19 August, 2002, University of Siegen, Germany.
88. 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.
89. 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.
90. Image information mining: Advanced methods for exploration and interpretation of remote sensing images (one day tutorial) 8 July 2001, IGARSS01, Sydney, Australia.
91. ClassFuse: New Bayesian learning and data grouping method with applications to image information content exploration, 12 March 2001, INRIA - Sophia Antipolis, France.
92. Image Information Mining, Short Course (3 hours + discussions), "Data Mining" meeting Alcatel/CNES/DLR, Alcatel Space Industries, 10 November 2000, Toulouse, France.
93. 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).
94. 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.
95. Information extraction and mining information in SAR data, SAR expert meeting Alcatel/CNES/DLR, 20-21 June 2000, Alcatel Space Industries, Toulouse, France.
96. 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.
97. Synthetic Aperture Radar Interferometry: a classical signal processing approach, 25 November 1999, Swiss Federal Institute of Technology - ETH Zürich, Switzerland.

98. Image Communication: New Features of a Satellite Data Ground Segment, 1 June 1999, JRC, Ispra, Italy.
99. Image Information Mining, 4 April 1999, JRC, Ispra, Italy.
100. Bayesian methods for information retrieval from remote sensing data (tutorial 3 hours), 27 June 1999, IGARSS'99, Hamburg, Germany.
101. Bayesian hierarchic modeling and image information retrieval, February 1999, LSIIT ENSP Strasbourg, France.
102. Content Based Information Retrieval from Large Remote Sensing Databases, 25 January 1999, DLR Colloquium, Oberpfaffenhofen, Germany.
103. 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.
104. Scene understanding from SAR images (tutorial), ISPRS Workshop WG III/6, 29 January 1998, Aerospatiales, Cannes, France.
105. Fusion of multiscale information (tutorial), 28 January 1998, EARSeL Workshop, Fusion of Earth Data'98, Sophia Antipolis, France.
106. Model-Based Methods for Remote Sensing Data Management, 25 April 1997, Round Table, DLR, Oberpfaffenhofen, Germany.
107. InSAR Topographic Mapping - a Bayesian Approach, 23 April 1997, European Geophysical Society XXII, General Assembly Vienna, Austria.
108. Wavelets: Potential Applications in Remote Sensing, 22 October 1996, Workshop on "Wavelets", Daimler-Benz Aerospace AG, Ulm, Germany.
109. 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.
110. Scene Understanding: A Bayesian Approach, 15-17 May 1996, Massachusetts Institute of Technology – MIT, Cambridge, MA, USA.
111. Scene Understanding from Images: A Bayesian Approach, April 1996, Swiss Federal Institute of Technology - ETH Zürich, Switzerland.
112. Management and Interpretation of Remotely Sensed Data, 15 November 1993, European Space Agency ESA/ESTEC, Noordwijk, The Netherlands.
113. System and Memory Architectures for Parallel Image Processing, March 1993, Ecole Polytechnique Federale de Lausanne - EPFL, Switzerland.
114. Image formation and synthesis, Short Course (4 hours), 4 February 1993, SPIE International Symposium on Electronic Imaging: Science&Technology, San Jose CA, USA.
115. Application of Fractals in Geoinformation Processing, January 1993, Groupement Scientifique pour Teledetection Spatiale, Universite Louis Pasteur de Strasbourg, France.
116. Advances in Visualisation Techniques in Remote Sensing, February 1992, Hunter College, City University of New York, USA.
117. Image Formation and Synthesis, 28 February 1992, Center for Image Processing and Integrated Computing seminar, University of California, Davis, CA, USA.
118. Modelling Coherent Light Image Formation, 25 November 1991, Colloquium on Electronics and Communications, Swiss Federal Institute of Technology - ETH Zürich, Switzerland.
119. Trends in Image Processing Systems Architectures and Algorithms (intensive course, 20 hours), 21-23 October 1991, Universidad Politecnica de Valencia, Spain.

120. Aspects in DFT Applications in Signal Processing (intensive course, 20 hours), June 1991, Automatics Control and Systems Dpt., Polytechnic Institute of Gijon, Spain.
121. Speckle Images: Digital Simulation and Processing, May 1991, Ecole Polytechnique Federale de Lausanne - EPFL, Switzerland.
122. Computer Networks and Sattelite Communications, April 1991, Iasi, Romania.
123. Cellular Automata, July 1989, Dynamic Systems Conference, Odorhei, Romania.

## List of Publications

### 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. Journal articles with peer review

1. 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
2. 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
3. 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
4. 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, DOI: 10.1109/JSTARS.2017.2649040, URL: <http://ieeexplore.ieee.org/document/7843650/>
5. 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/>
6. 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



7. 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/>
8. 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/>
9. 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/>
10. 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/>
11. 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/>
12. 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/>
13. 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/>
14. 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/>
15. 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/>
16. 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>
17. 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,

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18. 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
19. 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>
20. 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>
21. 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>
22. 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>
23. 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>
24. 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>
25. 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>
26. 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>

27. 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>
28. 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>
29. 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>
30. 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
31. 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>
32. 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>
33. 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>
34. 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
35. 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>

36. 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>
37. 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>
38. 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>
39. 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>
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41. Vaduva, C.; Costachioiu, T.; Patrascu, C.; Gavath, 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>
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44. 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>
45. 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:

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  50. 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:  
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