PERSONAL INFORMATION Mihai IVANOVICI

Str. Politehnicii nr. 1, Brașov 500024, România
Str. Institutului nr. 10, Brasov 500000, România

✉ mihai.ivanovici@unitbv.ro

🌐 http://miv.unitbv.ro

💬 Skype mihai.ivanovici

POSITION IOSUD UTBv

PhD coordinator
Doctoral studies domain: **Electronics engineering, telecommunications and information technologies**
Since: 2016

EXPERTISE FIELD AND RESEARCH INTEREST AREAS

Image and multidimensional signal acquisition, processing and analysis (including color, multisperctral and hyperspectral remotely-sensed images)
Data acquisition and processing real-time electronic systems for the ATLAS Experiment at CERN, Geneva

WORK EXPERIENCE

October 2006 - present

Full Professor (2017), assistant professor (2012), lecturer (2006)

Department of Electronics and Computers, Faculty of Electrical Engineering and Computer Science, Transilvania University of Brașov, Romania

▪ Courses: Signal Processing, Signals and Systems I, Image Processing and Analysis, Packet Processors, Research Project Management

October 2015 – present

Coordinator of the research center C13 „Smart Electronic Systems" within the CDI Institute of Transilvania University

April 2012 – present

Vice-dean responsible for scientific research

Faculty of Electrical Engineering and Computer Science, Transilvania University of Brașov

▪ Coordination of research in the faculty and reporting

Business or sector Public institution

November 2010 – present

"Multispectral Imaging and Vision" laboratory research coordinator

Department of Electronics and Computers, Faculty of Electrical Engineering and Computer Science, Transilvania University of Brașov

▪ Scientific research, coordinating research activities, project management
▪ http://miv.unitbv.ro

Business or sector Public institution

February 2002 – present

CERN user

European Organization for Nuclear Research (CERN), Geneva, Switzerland

▪ Scientific research in the field of electronic data acquisition systems

Business or sector International institution

September 2001 – October 2006

Research Assistant

Department of Applied Electronics and Information Engineering, Faculty of Electronics, Telecommunications and Information Technology, Politehnica University of Bucharest

▪ Research activities

Business or sector Public institution

EDUCATION AND TRAINING

March 2016 — Habilitation in Electronics and Telecommunications Engineering

▪ Title of the habilitation thesis: Color and Multispectral Texture Image Analysis. Models, Features and Applications
▪ Jury: prof. C. Burileanu (UPB), prof. C. Rusu (UTCN) și prof. G. Toacșe (UTBv)
▪ Atestation **OM nr. 3270 / 02.03.2016**
▪ Defended on: 18 January 2016

october 2001 - january 2006 — PhD in Electronic Engineering and Telecommunications

Politehnica University of Bucharest, Romania

▪ Title: Emulating quality degradation in computer networks - a perspective on performance measurement applications using FPGAs
▪ Mentor and scientific coordinator: Vasile Buzuloiu
▪ PhD in electronic engineering and telecommunications: **OM nr. 3824 / 03.05.2006**
▪ Thesis defense date: January 26th, 2006

october 2001 – july 2002 — Postgraduate studies

Politehnica University of Bucharest, Romania

▪ Programme: Images, shapes and artificial intelligence

october 1996 – july 2001 — Bachelor degree studies

Transilvania University of Brașov, Romania

▪ Programme: Applied Electronics
▪ Engineer in Digital Electronics and Software Techniques

PERSONAL SKILLS

Mother tongue — Romanian

Other languages

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

Communication skills

▪ Good communication skills gained due to work experience as vice-dean, research laboratory coordinator, project director, manager and professor

Organisational / managerial skills

▪ leadership (currently coordinating a team of 8 members in the research laboratory MIV and director of the research center of the C13 CDI Institute of Transilvania University of Brașov with a staff of 27 members)

Job-related skills	▪ good management skills for didactic and research projects
	▪ good organizational skills - conferences, summer schools, events
	▪ good skills of drafting project proposals and implementing research projects
	▪ good administrative skills
	▪ good programming skills - MATLAB, C/C++
Digital competence	▪ good knowledge of LaTeX and Microsoft Office ™ tools

ADDITIONAL INFORMATION

Representative Projects (as project manager or assistant)

- 2022 – 2025 – AI4AGRI - Romanian Excellence Center on Artificial Intelligence on Earth Observation data for Agriculture, GA 101079136 (budget 1.412.360 euro)
- 2020 – 2023 - InnEO'Space_PhD - Open Science Innovation in PhD programme through Earth Observation: towards new career skills development, GA 101006275 (budget 74.125 euro)
- 2016-2019 – The ATLAS Experiment at LHC – PNIII CERN-RO Module, coordinated by IFIN-HH Măgurele, responsible Partner no.5 Universitatea Transilvania din Brașov, contract no. 6/2016 (budget: 1.238.490,60 lei)
- 2014-2015 – The ATLAS Experiment at LHC – PNII Modul Capacități, coordinated by IFIN-HH Măgurele, responsible Partener no .5 Universitatea Transilvania din Brașov, contract nr. 7/2012 (budget: 124.979,94 lei)
- 2014 – 2015 Burse doctorale pentru cercetarea de excelenta, coordonator Universitatea Transilvania din Brașov, proiect POSDRU/159/1.5/S/134378, Responsabil grup țintă
- 2014 – 2015 - Cresterea atractivitatii si performantei programelor de formare doctorala si postdoctorala pentru cercetatori in stiinte ingineresti - ATRACTING, coordonator Universitatea Politehnica din Timișoara, POSDRU/159/1.5/S/137070, Asistent implementare proiect la partener UTBv
- 2014 - IEEE SPS Summer School on Intensive Program on Computer Vision (IPCV 2014), competitie SPS seasonal schools, finantator:IEEE International LLC NrContract: 5860/21.05.2014
- 2010 – 2013, *ITEMS – Analysis, Modeling and Simulation Techniques for Imagery, Bioinformatics and Complex Systems (ITEMS)* contract POS-DRU/86/1.2/S/61756, 2010-2013
- 2012 – SAPAI – International School on Image Processing - Scoala de Studii Aprofundate (UEFISCDI IDEI SSA) *Studii Aprofundate de Prelucrarea si Analiza Imaginilor (SAPAI 2012)* contract 9/2012

Relevant publications

- **M. Ivanovici**, "A Multi-Spectral Fractal Image Model and Its Associated Fractal Dimension Estimator", FRACTAL AND FRACTIONAL, vol. 7, issue 3, 2023
- R. Coliban, **M. Ivanovici**, "Quality-based band selection for hyperspectral image visualization", REMOTE SENSING LETTERS, vol. 14, issue 3, 2023
- S. Oprișescu, R. Coliban, **M. Ivanovici**, „Polarization-based optical characterization for color texture analysis and segmentation", PATTERN RECOGNITION LETTERS, 163, nov. 2022
- I. E. Nicolae, **M. Ivanovici**, " Color Texture Image Complexity-EEG-Sensed Human Brain Perception vs. Computed Measures", APPLIED SCIENCES, 11(9), 2021
- I. E. Nicolae, **M. Ivanovici**, "Preparatory Experiments Regarding Human Brain Perception and Reasoning of Image Complexity for Synthetic Color Fractal and Natural Texture Images via EEG", APPLIED SCIENCES, 11(1), 2021
- **M. Ivanovici**, "Fractal Dimension of Color Fractal Images with Correlated Color Components", IEEE TRANSACTIONS ON IMAGE PROCESSING, vol. 29, 2020,
- Ș. Popa, S. Martoiu, **M. Ivanovici**, „ The Quality-Control Test of the ATLAS New Small Wheel Read-Out Controller ASIC: Part I - Digital logic", JOURNAL OF INSTRUMENTATION, March 2020 accepted for publication
- **M. Ivanovici**, R.M. Coliban, C. Hatfaludi, I.E. Nicolae, „Color Image Complexity versus Over-segmentation. A Preliminary Study on the Correlation between Complexity Measures and Number of Segments", MDPI JOURNAL OF IMAGING, March 2020 – accepted for publication
- R.M. Coliban, **M. Ivanovici**, "Reducing the oversegmentation induced by quasi-flat zone for color images", JOURNAL OF VISUAL COMMUNICATION AND IMAGE REPRESENTATION, vol. 53, pp. 281-293, May 2018 https://doi.org/10.1016/j.jvcir.2018.04.003
- O.M. Machidon, M. Ivanovici, "Digital color restoration for the preservation of reversal film heritage", JOURNAL OF CULTURAL HERITAGE, vol. 33, pp. 181-190, October 2018 https://doi.org/10.1016/j.culher.2018.01.021
- R. Coliban, **M. Ivanovici**, N. Richard, "Improved probabilistic pseudo-morphology for noise reduction in color images", IET IMAGE PROCESSING, DOI 10.1049/iet-ipr.2015.0741
- R. Coliban, S. Popa, T. Tulbure, D. Nicula, **M. Ivanovici**, S. Martoiu, L. Levinson, J. Vermeulen, The Read Out Controller for the ATLAS New Small Wheel, JOURNAL OF INSTRUMENTATION, volume 11, February 2016
- M. Ivanovici, "Color and Multispectral Texture Image Analysis – Models, Features and Applications", Transilvania University Press, ISBN 978-606-19-0587-4, September 2015
- A. Căliman, **M. Ivanovici**, N. Richard, „Probabilistic pseudo-morphology for grayscale and color images", PATTERN RECOGNITION, vol. 47, no. 2, pag. 721-735, 2014
- **M. Ivanovici**, N. Richard, D. Paulus, *"Color Image Segmentation"*, in *"Advanced Color Image Processing and Analysis"*, Editor: Christine Fernandez-Maloigne, Springer, 2012
- **M. Ivanovici**, N. Richard, *"Colour Fractal Dimension of Colour Fractal Images"*, IEEE TRANSACTIONS ON IMAGE PROCESSING, vol. 20, issue 1, pp. 227–235, 2011

Projects (researcher, implementation team member)	▪ 2020-2022 – The ATLAS Experiment at LHC – PNIII CERN-RO Module, coordinated by IFIN-HH Măgurele, contract no. 10/2020, financed by IFA ▪ 2020-2022 – Brain DigiPrint (mentor), Determinarea unei amprente digitale a creierului uman utilizabilă pentru procese de criptare, bazată pe potențialele ERP detectate in semnalele cerebrale EEG, PN-III-P1-1.1-PD-2019-0971 contract: PD 215/2020, financed by UEFISCDI ▪ 2014 – 2016 - Sistem inteligent de asistare automata a diagnosticului in cancerul cervical - PN-II-PT-PCCA-2013-4-0202, Universitatea Politehnica din București, contract no. 7/2014, financed by UEFISCDI ▪ 2010 – 2013 - Program multi-regional de studii masterale in domeniul eActivitati - eSTART, ID 54956, POSDRU/86/1.2/S/54956 (short-term expert) ▪ 2010 – 2012 – MorFISM: morphologie et fractales pour l'image specialisee et multimedia (project FEDER no. 33073-2010, France) ▪ 2008 – Modele de connaissances pour la valorisation des bases des donnees multimedia (DLES/ESRS/MV/AE-projet regional Poitou-Charentes, Lab. SIC, Universite de Poitiers, France) ▪ 2007 – 2009 Integrated System for Medical Information Management using the HL7 Standard– SIMIMED (PN2, D1-1-019/14.09.2007) ▪ 2007 - MOB-URBIS – Traffic Management of the Urban Mobility Increase (CEEX Cod MEC 1589, nr. X2C34, AMTRANS, conf. MEC-ANCS nr. 10909/19.09.2006) ▪ 2006 - The research, design and testing of software tools for the mapping of installed network configurations and correlation of the achieved map with existing equipment data-bases UPB-CERN 2006 I10.06.01 ▪ 2005 – Development of an Integrated System of Mathematical Models for the Network Devices UPB-Liamis & Heb, 17-03-05 ▪ 2004 - Research Agreement for characterization of a network of processors for ATLAS Trigger Data Collection UPB-CERN 2004 I10.04.01 ▪ 2004 – Contributions to the Design, Testing and Evaluation of the Investigation Potential of the ATLAS Detector – PM-01-RIA UPB-IFIN ▪ 2004 – New Mathematical Models for the Network Devices - UPB-Liamis & Heb EL400410 ▪ 2003 – 2005 - FPGA-based Network Emulator PPARC (Particle Physics and Astronomy Research Council) UK CERN-EU4A- PPARC PIPSS Project No: PPA/I/S/2002/00653 ▪ 2003 - Software tools for the ATLAS data acquisition system (Research Agreement) UPB-CERN 2005 I10.05.01 ▪ 2002 – Ethernet Traffic Generation Software for the CERN Network UPB- 17-02-05
Lectures delivered as guest	▪ 2019, October 9, A theory of information perspective on hyperspectral images, NTNU, Gjøvik, Norway ▪ 2019, July 5, A theory of information perspective on hyperspectral images, UPS, IRIT, Toulouse, France ▪ 2018, July 6, Non-linear approaches based on the maximum distance — a pseudo morphology and PCA approximation for color, multispectral and hyperspectral data/image analysis, IRIT, Toulouse, France ▪ 2010, September 29, Multi-scale Variance-driven Active Contours for CT Image Segmentation with Application to Hepatic Volumetry, Laboratoire des signaux et systèmes (L2S), SUPELEC, France ▪ 2010, June 25, Fractal Analysis for Colour Images, Laboratoire des signaux et systèmes (L2S), SUPELEC, France ▪ 2010, May 27, Colour Fractal Analysis for Video Quality Assessment, University of Konstanz, Germany ▪ 2007, December 2th, Quality of Service in computer networks, European Organization for Nuclear Research, CERN, Geneva, Switzerland
H indexes	Google Scholar: 13; Scopus: 8; Web of Science Clarivate Analytics: 5
Other information	summary of key achievements: • 2 book chapters published by international publishers • 6 books published by national publishers • 4 book chapters published by national publishers • 40 Web of Science indexed papers
Membership in professional societies	▪ IEEE Signal Processing, IEEE Geoscience and Remote Sensing ▪ European Organization for Nuclear Research, Geneva, Switzerland ▪ CIE – International Commission on Illumination