

## PERSONAL INFORMATION



## Laurențiu Mihail IVANOVICI

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Sex M | Date of birth / | Nationality romanian

POSITION  
PhD COORDINATOR  
IOSUD UTBV

PhD coordinator in the doctoral studies domain: **Electronics engineering, telecommunications and information technologies**

Since: 2016 / March

Expertise fields and research interest topics within the coordinated PhD domain

- Image and multidimensional signal processing and analysis
- Data acquisition and processing systems for the ATLAS Experiment at CERN

Number of PhD students (currently studying for their PhD): 0

Number of defended PhD theses (to be confirmed): 0

Number of approved PhD titles: 0

## WORK EXPERIENCE

March 2017 - present

### Full Professor

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

October 2015 – present

### Head of the research center C13 „Advanced communications and integrated electronic systems” within the CDI Institute of Transilvania University

October 2012 – February 2017

### Associate Professor

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

- Coordinator of the courses of Image Processing and Analysis, Fundamentals of Signal Processing
- Research activities in the processing and analysis of color and multispectral images

Business or sector Public institution

April 2012 – present

### Vice-dean responsible for scientific research

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

- Coordination of research in the faculty and reporting

Business or sector Public institution

November 2010 – present

### “Machine Intelligence and Vision” laboratory research coordinator

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

- 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

October 2006 – September 2012

### University Lecturer, coordinator of the courses of Image Processing and Analysis, Fundamentals of Signal Processing

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

- Courses, seminars and laboratory teaching activities

**Business or sector** Public 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 Braşov, 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 12 members in the research laboratory MIV and director of the research center of the C13 CDI Institute of Transilvania University of Braşov 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  
• good command of Microsoft Office™ tools

**Representative Projects (as project manager or assistant)**

- 2016-2018 – The ATLAS Experiment at LHC – PNIII CERN-RO Module, coordinated by IFIN-HH Măgurele, responsible Partner no.5 Universitatea Transilvania din Braşov, contract no. 6/2016 (budget: 709.718,00 lei)
- 2014-2015 – The ATLAS Experiment at LHC – PNII Modul Capacități, coordinated by IFIN-HH Măgurele, responsible Partener no. 5 Universitatea Transilvania din Braşov, contract nr. 7/2012 (budget: 124.979,94 lei)
- 2014 – 2015 Burse doctorale pentru cercetarea de excelență, coordonator Universitatea Transilvania din Braşov, proiect POSDRU/159/1.5/S/134378, Responsabil grup țință
- 2014 – 2015 - Creșterea atractivității și performanței programelor de formare doctorală și postdoctorală pentru cercetători în științe inginerești - ATTRACTING, coordonator Universitatea Politehnică 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 (IPCVC 2014), competiție SPS seasonal schools, finanțator: 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 - Școala de Studii Aprofundate (UEFISCDI IDEI SSA) *Studii Aprofundate de Prelucrarea și Analiza Imaginilor (SAPAI 2012)* contract 9/2012
- 2011, Indoor and Outdoor Monocular Video Odometry Assisted by the Available Sensors on Mobile Devices (contract with S.C. ROUTE 66 S.R.L. no. 4878 / 04.04.2011)
- 2008 - 2009, *System and methodology for video signal quality assessment* for MPEG-4 video streaming applications (contract with S.C. Infinity Design S.R.L. Braşov no. 17486 / 19.11.2008)

**Publications (the most representative)**

- 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](https://doi.org/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
- A. Căliman, **M. Ivanovici**, N. Richard, G. Toacșe, „A Multivariate Mathematical Morphology Based on Orthogonal Transformation, Probabilistic Extrema Estimation and Distance Optimization”, ISMM - 11<sup>th</sup> International Symposium on Mathematical Morphology, May 27–29 2013, Uppsala, Sweden
- **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
- **M. Ivanovici**, N. Richard - "Colour Covering Blanket", IPCV'10 - International Conference on Image Processing, Computer Vision and Pattern Recognition, Monte Carlo Resort, Las Vegas, Nevada, USA, July 12-15, 2010.
- **M. Ivanovici**, N. Richard, "The Lacunarity of Colour Fractal Images", ICIP'09 IEEE International Conference on Image Processing, Cairo, Egypt, November 7-11, 2009

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| Projects<br>(researcher,<br>implementation team<br>member) | <ul style="list-style-type: none"> <li>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</li> <li>2010 – 2013 - Program multi-regional de studii masterale in domeniul eActivitati - eSTART, ID 54956, POSDRU/86/1.2/S/54956 (short-term expert)</li> <li>2010 – 2012 – MorFISM: morphologie et fractales pour l'image specialisee et multimedia (project FEDER no. 33073-2010, France)</li> <li>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)</li> <li>2007 – 2009 Integrated System for Medical Information Management using the HL7 Standard– SIMIMED (PN2, D1-1-019/14.09.2007)</li> <li>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)</li> <li>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</li> <li>2005 – Development of an Integrated System of Mathematical Models for the Network Devices UPB-Liamis &amp; Heb, 17-03-05</li> <li>2004 - Research Agreement for characterization of a network of processors for ATLAS Trigger Data Collection UPB-CERN 2004 I10.04.01</li> <li>2004 – Contributions to the Design, Testing and Evaluation of the Investigation Potential of the ATLAS Detector – PM-01-RIA UPB-IFIN</li> <li>2004 – New Mathematical Models for the Network Devices - UPB-Liamis &amp; Heb EL400410</li> <li>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</li> <li>2003 - Software tools for the ATLAS data acquisition system (Research Agreement) UPB-CERN 2005 I10.05.01</li> <li>2002 – Ethernet Traffic Generation Software for the CERN Network UPB- 17-02-05</li> </ul> |
| Lectures delivered as<br>guest                             | <ul style="list-style-type: none"> <li>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</li> <li>2010, June 25, Fractal Analysis for Colour Images, Laboratoire des signaux et systèmes (L2S), SUPELEC, France</li> <li>2010, May 27, Colour Fractal Analysis for Video Quality Assessment, University of Konstanz, Germany</li> <li>2007, December 2th, Quality of Service in computer networks, European Organization for Nuclear Research, CERN, Geneva, Switzerland</li> </ul>   |
| Other information  | <p>summary of key achievements:</p> <ul style="list-style-type: none"> <li>2 book chapters published by international publishers</li> <li>5 books published by national publishers</li> <li>4 book chapters published by national publishers</li> <li>20 ISI indexed papers</li> <li>25 BDI indexed papers</li> <li>39 papers in conference proceedings</li> </ul>  |
| Membership in<br>professional societies                    | <ul style="list-style-type: none"> <li>IEEE Signal Processing, IEEE Computer</li> <li>European Organization for Nuclear Research, Geneva, Switzerland</li> </ul>  |
| References   | <ul style="list-style-type: none"> <li><b>Prof. Christine Fernandez-Maloigne</b>, XLIM-SIC research laboratory manager, Université de Poitiers, France (christine.fernandez-maloigne@univ-poitiers.fr).</li> <li><b>Prof. Detlef Richter</b>, Hochschule RheinMain, University of Applied Sciences, Wiesbaden, Germany (Detlef.Richter@hs-rm.de)</li> <li><b>Brian Martin</b>, Senior Engineer, head of the ATLAS Networking Group, European Organization for Nuclear Research (CERN), Geneva, Switzerland (E-mail: <a href="mailto:Brian.Martin@cern.ch">Brian.Martin@cern.ch</a>)</li> </ul>  |

