



Dr. Ing. **IONESCU Bogdan-Emanuel**  
Lecturer  
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[Http://alpha.imag.pub.ro/VideoIndexingRP2/](http://alpha.imag.pub.ro/VideoIndexingRP2/)

## Education:

**1997: bachelor's degree**, „Grigore Moisil” college - Bucharest, informatics-math-physics department, overall appreciation 9.32/10. *Analyst programmer* title delivered by the Ministry of Education and Research of Romania.

**2002: engineer's degree in electronics**, University “Politehnica” of Bucharest, Faculty of Electronics, Telecommunications and Information Technology, department of Applied Electronics, section: Computer Vision and Artificial Intelligence, overall appreciation 9.60/10. Graduation project entitled „Automatic Hand Gesture Recognition” developed jointly with LAMII, ESIA, Annecy-France and LAPI, UPB, Bucharest-Romania.

**2003: master's degree in computational systems**, University “Politehnica” of Bucharest, Faculty of Electronics, Telecommunications and Information Technology, department of Applied Electronics, section: Computational Systems Technology, overall appreciation 9.80/10. Graduation project entitled „A System for Indexing Video Sequences” developed jointly with LISTIC, Polytech'Savoie, Annecy-France and LAPI, Bucharest-Romania. **Master's degree derogation (DEA)** from University of Savoie, France.

**2007: PhD degree in electronic engineering and telecommunications and in electronics, electrotechnics and automatics**, University “Politehnica” of Bucharest, Faculty of Electronics, Telecommunications and Information Technology, LAPI laboratory, and University of Savoie, Polytech'Savoie, Annecy-France, LISTIC laboratory, with the “*very well*” jury appreciation and „*magna cum laude*” award. The thesis entitled: “The Symbolic Characterization of Image Sequences: Application to Animation Movies”, developed in the context of “The International Animated Film Festival of Annecy”, has been defended at Bucharest-Romania as part of the MSPAS – Multidimensional Signal Processing and Analysis International School.

## Specializations:

**april 2007: invited associate professor** at LISTIC laboratory, Polytech'Savoie, University of Savoie, as part of the cooperation between the LIMA – Loisirs IMAGES, Rhône-Alpes research project (ISLE - Informatique, Signal, Logiciel Embarqué) and CNCSIS RP-2 - „Content-Based Semantic Retrieval of Video Documents, Application to Navigation, Research and Automatic Content Abstraction” research project. Attending with laboratories LISTIC and VIVA, University of Ottawa, Canada, to the Trecvid 2008 rushes summarization competition.

**september 2008: invited associate professor** at VIVA laboratory, University of Ottawa, Canada, as part of the cooperation between the SSHRC Image, Text, Sound & Technology - „Media-ting the

Bible: Searching for Scripture in Digital Image and Sound” research project and CNCSIS RP-2 - „Content-Based Semantic Retrieval of Video Documents, Application to Navigation, Research and Automatic Content Abstraction” research project.

*june 2009: invited associate professor* at LISTIC laboratory, Polytech'Savoie, University of Savoie.

## **Research and didactic positions:**

*2005-2006: substitute teacher*, University of Savoie, ESIA, Annecy-França, conducting signal processing seminars and laboratories.

*2006-2007: temporary assistant professor* (ATER - Attaché Temporaire d'Enseignement et de la Recherche) University of Savoie, Polytech'Savoie, Annecy-France, CNU section 61: computer science and engineering, automatics and signal processing.

*2007-2009: senior researcher/project director*, University “Politehnica” of Bucharest, Faculty of Electronics, Telecommunications and Information Technology, department of Applied Electronics, laboratory LAPI – The Image Processing and Analysis Laboratory, CNCSIS - Romanian National University Research Council, Human Resources program, Founding Applications for Excellences Research Projects for Researchers Reintegration, Grant RP-2.

*2008-present: lecturer*, University “Politehnica” of Bucharest, Faculty of Electronics, Telecommunications and Information Technology, department of Applied Electronics, conducting lectures and seminars on C programming language, multidimensional digital signal processing, digital image processing and analysis, computer vision and video indexing.

## **Didactic experience:**

*2005-2006: conducting signal processing and computer vision seminars (TD) and laboratories (TP)*, department Automatique et Informatique Industrielle, ESIA - Ecole Supérieure d'Ingénieurs d'Annecy, University of Savoie, Annecy-France (36 TD hours and 24 TP hours).

*2006-2007: conducting image processing, computer vision, signal processing and object oriented programming seminars (TD) and laboratories (TP)*, departments Automatique et Informatique Industrielle, Physique Appliquée et Instrumentation, Génie Logiciel et Services, Polytech'Savoie, University of Savoie, Annecy-France (30 TD hours and 96 TP hours).

*2008-2009: conducting courses on C programming language (undergraduate cycle, license) and multidimensional digital signal processing (postgraduate cycle, master's degree)*, Faculty of Electronics, Telecommunications and Information Technology, University "Politehnica" of Bucharest-Romania. Conducting image processing laboratories (Analyse et Traitement d'Image), Faculty of Engineering in Foreign Languages, French language department, University "Politehnica" of Bucharest-Romania.

*2009-2010: conducting courses on C programming language (undergraduate cycle, license), advanced image processing and analysis, video indexing and multidimensional digital signal processing (postgraduate cycle, master's degree)*, Faculty of Electronics, Telecommunications and Information Technology, University "Politehnica" of Bucharest-Romania.

## **Technical activity:**

*1994-1995:* collaborator with the TV Sigma (TV5 Romania) television chain. Creating 3D computer assisted graphics with the 3D Studio 4 program.

*2002-2004:* collaborator with several prepress and advertising companies as technical director (image processing, vector graphics, print layouts, etc.)

*2002:* developing a software solution for the automatic hand gesture recognition (C++ language), part of the BQR project „Poste de Travail Interactif: le Geste”, University of Savoie, partners: LISTIC laboratory and IMSE - Faculty of Engineering, Japan.

*2003:* developing a software solution for the automatic detection and analysis of the osteoporosis in calcaneum X-ray images (Visual C++ language), part of the LAPI, University “Politehnica” of Bucharest, research activity.

*2003-2004:* developing software solutions for the automatic indexing of video sequences (Visual C++ language), part of the BQR project „IODA- Indexation Ontologique de Documents Audiovisuels”, University of Savoie, partners: LISTIC laboratory, CICA – Centre International du Cinéma d’Animation, PUMMA, CITIA – Cité des Techniques de l’Image, de l’Interactivité et de l’Animation.

*2003-2007:* developing software solutions for the semantic/symbolic content characterization of the animated movies, part of the LISTIC-University of Savoie and The International Animated Film Festival of Annecy-France (CICA - The International Animated Film Centre), research project. The achieved results have been cited in the „Le Point” journal, no. 1761 from 15-06-2006, page 216.

*2003-2007:* exhibiter at the Annecy International Animated Film Market (event reuniting the most prestigious companies in the field), presenting software solutions for the semantic content analysis and summarization of the animated movies.

*2006:* competing with the proposed cut detection method to the ARGOS - Evaluation Campaign for Surveillance Tools of Video Content campaign, a Techno Vision program, partners: the French Ministry of Research and French Ministry of Defense. Achieving a detection ratio greater than 90%.

*2007-2009:* developing software solutions for the automatic content-based indexing of video footage (Visual C++ language), as part of the CNCSIS - Romanian National University Research Council research program, Human Resources, Grant RP-2 ”Content-Based Semantic Retrieval of Video Documents, Application to Navigation, Research and Automatic Content Abstraction” (see <http://alpha.imag.pub.ro/VideoIndexingRP2/>).

*2008:* participating with LISTIC laboratory from University of Savoie and VIVA laboratory from University of Ottawa, to the Trecvid BBC Rushes Summarization Campaign (see <http://www-nlpir.nist.gov/projects/tv2008/tv2008.html#4.4>).

## **Academic experience:**

My research activity is now mainly developed at laboratory LAPI - The Image Processing and Analysis Laboratory, University “Politehnica” of Bucharest.

My research activity focuses on several main directions, namely: image analysis and processing techniques, colour image processing, non-linear filtering, image enhancement, content description, content segmentation, texture analysis, medical imaging, motion estimation techniques, video analysis, video/image content-based indexing, semantic video content annotation, human-computer interfaces and hand gesture recognition.

Starting with 2002, I have attended to several events and international conferences in the field or in other related domains, from which I mention:

- **several thematic international schools:** doctoral school of the University of Savoie, France, MSPAS- Multidimensional Signal Processing and Analysis School from LAPI-University "Politehnica" of Bucharest (also part of the organisation staff, see <http://alpha.imag.pub.ro/>),
- **thematic seminars:** GDR ISIS Journée Traitements Perceptifs Couleur Dédies à l'Image et à la Vidéo, Paris, France; Journée dédiée aux travaux de recherche du partenariat CITIA-LISTIC-IREGE organized by Polytech'Savoie, CITIA and IMUS, Annecy, France; Journée Scientifique LIMA (Loisirs et Images), part of the LIMA project, cluster 2 ISLE of the Rhône-Alpes region, organized by University of Savoie, Polytech'Savoie, Région Rhône-Alpes, Imaginove and laboratory LISTIC, Annecy, France.
- **thematic workshops** from the various research projects I attended at University of Savoie,
- **several national and international conferences:** ORASIS – Journées Francophones des Jeunes Chercheurs en Vision par Ordinateur, IEEE ICASSP – International Conference on Acoustic, Speech and Signal Processing, etc.
- **several events and expo:** International Animated Film Market (exhibiter presenting methods for analysing the content of animated movies), Journee Rhone-Alpes de l'Innovation des Logiciels et Services-Lyon Infocote, Rhones Alpes Numerique, Crealys, etc.
- **various presentations and demonstrations** at LISTIC laboratory (presidential staff visit in 2005, CNRS – French National Center for Research visit in 2006, „Le Point” journal interview, Portes Ouvertes Polytech Savoie, experience exchange with several national/foreign laboratories: University of Ottawa – Canada, CLIPS –Grenoble, LIRIS - Ecole Centrale de Lyon, Rheinisch-Westfalische Technische Hochschule Aachen – Germany, etc.).
- **several benchmarking campaigns:** ARGOS 2006 – Evaluation Campaign for Surveillance Tools of Video Content, programme Techno Vision - French Ministry of Research and French Ministry of Defence (the proposed method for shot change detection achieved a detection ratio >90%), Trecvid 2008 (the most prestigious video benchmarking campaign) BBC Rushes Summarization Campaign, with laboratories LISTIC and VIVA (the proposed video abstraction method achieved a middle position on the top list).

## Publications:

### Books:

1. **B. Ionescu:** „*The Analysis and Processing of Video Sequences: Automatic Content-Based Indexing*” (in romanian), Publishing House „Editura Tehnică București”, ISBN 978-973-31-2354-5, 2009, (286 pages).

### Book chapters:

1. C. Vertan, **B. Ionescu**, I. Ștefan, M. Ciuc: “*Osteoporosis detection in calcaneum X-ray images by digital image processing: fractal and statistical approaches*”, in *Interdisciplinary Applications of Fractal and Chaos Theory*, Eds. R. Dobrescu, C. Vasilescu, Publishing House “Editura Academiei Române” (ISBN 973-27-1070-5), 2004, (8 pages).
2. **Bogdan E. Ionescu**, Didier Coquin, Patrick Lambert and Vasile Buzuloiu: “*Fuzzy Semantic Action and Color Characterization of Animation Movies in the Video Indexing Task Context*”, in *Springer-Verlag LNCS - Lecture Notes in Computer Science*, Eds. S. Marchand-Maillet et al., no. 4398, pp. 119–135, 2007, (17 pages).
3. **B. Ionescu**, P. Lambert, D. Coquin, A. Marin, C. Vertan, “*Analyzing Animated Movie Contents for Automatic Video Indexing*”, “*Machine Learning Techniques for Adaptive Multimedia Retrieval: Technologies Applications and Perspectives*”, IGI – Global Printing House, Eds. Chia-Hung Wei, to appear in 2011 (accepted paper).

### International journals:

1. **B. Ionescu**, D. Coquin, P. Lambert, V. Buzuloiu: „*Dynamic Hand Gesture Recognition Using the Skeleton of the Hand*”, in *Eurasip Journal on Applied Signal Processing*, special issue on “*Advances in Intelligent Vision Systems: Methods and Applications*”, vol. 13, pp. 2101-2109, 2005, (9 pages).
2. D. Coquin, E. Benoit, H. Sawada, **B. Ionescu**: „*Gestures Recognition based on the Fusion of Hand Postures and Arm Gestures*”, in *JRM Journal of Robotics and Mechatronics*, vol 18, No. 6, pp. 751-759, december 2006, (12 pages).
3. **B. Ionescu**, P. Lambert, D. Coquin, V. Buzuloiu: „*The Cut Detection Issue in the Animation Movie Domain*”, in *Academy Publisher Journal of Multimedia*, vol. 2, No. 4, pp. 10-19, 2007, (10 pages).
4. F. Deloule, D. Beauchêne, **B. Ionescu**, P. Lambert: „*Modélisation des connaissances hétérogènes des documents multimédia*”, in *RNTI Revue des Nouvelles Technologies de l’Information E-12*, număr special *Modélisation des Connaissances*, 2008, (18 pages).
5. **B. Ionescu**, D. Coquin, P. Lambert, V. Buzuloiu: „*A Fuzzy Color-Based Approach for Understanding Animated Movies Content in the Indexing Task*”, in *Eurasip Journal on Image and Video Processing*, special issue on “*Color in Image and Video Processing*”, 2008.
6. **B. Ionescu**, L. Ott, P. Lambert, D. Coquin, A. Pacureanu, V. Buzuloiu, “*Tackling Action-Based Video Abstraction of Animated Movies for Video Browsing*”, *SPIE - Journal of Electronic Imaging*, 11 May, 2009 (accepted paper).
7. **B. Ionescu**, A. Marin, P. Lambert, D. Coquin, C. Vertan, “*A Content-Driven System Architecture for Tackling Automatic Cataloging of Animated Movie Databases*”, *IGI – International Journal of Digital Library Systems*, 2010 (invited paper).

### National journals with international dissemination:

1. **B. Ionescu**, D. Coquin, P. Lambert, V. Buzuloiu: „*Static Hand Gesture Recognition System*”, in

Sci. Bull. UPB, Series C, Vol. 66, No. 2-4, pp. 43-55, 2004, (12 pages).

2. **B. Ionescu**, D. Coquin, P. Lambert, V. Buzuloiu: „*An Approach to Scene Detection in Animation Movies and Its Applications*”, in Sci. Bull. UPB, Series C, Vol. 67, No. 2, pp. 45-57, 2005, (12 pages).

3. **B. Ionescu**, P. Lambert, D. Coquin, V. Buzuloiu: „*Analysis of Animation Movies: Segmentation, Abstraction and Annotation*”, in Sci. Bull. UPB, Series C, Vol. 67, No. 4, pp. 3-12, 2005, (10 pages).

4. **B. Ionescu**, P. Lambert, D. Coquin, V. Buzuloiu: „*Caracterisation du Mouvement dans les Films d'Animation*”, in Sci. Bull. UPB, Series C, Vol. 69, No. 2, 2007, (12 pages).

#### **International conferences:**

1. C. Vertan, **B. Ionescu**, I. Stefan, M. Ciuc: „*Computer vision support for osteoporosis detection in calcaneum X-ray images*”, CSCS 14th International Conference on Control Systems and Computer Science, Bucharest, June 2003, vol. 2, pp. 281-284, (4 pages).

2. **B. Ionescu**, C. Vertan, I. Stefan: „*Fractal and second-order statistics for the calcaneum trabecular structure analysis*”, IAFA- Interdisciplinary Approaches in Fractal Analysis, Bucharest, May 2003, pp. 255-260, (6 pages).

3. **B. Ionescu**, D. Coquin, P. Lambert: „*Reconnaissance de gestes dynamiques de la main*”, 19ème Colloque GRETSI sur le Traitement et l'Analyse du Signal et d'Image, Paris, September 2003, pp. 22-25, (4 pages).

4. **B. Ionescu**, D. Coquin, P. Lambert, V. Buzuloiu: „*Analyse et Caractérisation de Séquences de Films d'Animation*”, ORASIS Journées Francophones des Jeunes Chercheurs en Vision par Ordinateur, Fournois - Puy-de-Dôme, France, (CD-Rom) 24-27 May 2005, (10 pages).

5. D. Beauchêne, F. Deloule, **B. Ionescu**, P. Lambert: „*Base de Connaissances Multimédia pour le Cinéma d'Animation*”, CIDE.8 Conférence Internationale sur le Document Electronique, Beyrouth, Liban, (CD-Rom) 25-28 May 2005, (13 pages).

6. **B. Ionescu**, P. Lambert, D. Coquin, L. Dârlea: „*Color-Based Semantic Characterization of Cartoons*”, IEEE ISSCS - International Symposium on Signals, Circuits and Systems, special session on „Statistical Models in Image Processing”, Vol. 1, pp. 223-226, Iași, Romania, 14-15 July 2005, (4 pages).

7. D. Coquin, E. Benoit, H. Sawada, **B. Ionescu**: „*Fusion of Hand and Arm Gestures*”, SPIE - Optomechatronic Machine Vision, Sapporo, Japan, (CD-Rom) 5-7 December 2005, (11 pages).

8. D. Beauchêne, F. Deloule, **B. Ionescu**, P. Lambert: „*Ontologies et Indexations Vidéo pour les Films d'Animation*”, 23<sup>ème</sup> Congrès INFORSID, MetSI - Atelier Métadonnées et Systèmes d'Information, Grenoble, France, (CD-Rom) 24 May 2005, (10 pages).

9. **B. Ionescu**, D. Coquin, P. Lambert, V. Buzuloiu: „*Influence de la Réduction des Couleurs sur la Détection des Changements de Plan dans les Films d'Animation*”, 20<sup>ème</sup> Colloque GRETSI sur le Traitement et l'Analyse du Signal et d'Image, pp. 493-496, Louvain-la-Neuve, Belgium, 6-9 September 2005, (4 pages).

10. **B. Ionescu**, P. Lambert, D. Coquin, V. Buzuloiu: „*Fuzzy Color-Based Semantic Characterization of Animation Movies*”, IS&T CGIV - 3<sup>th</sup> European Conference on Colour in Graphics, Imaging, and Vision, University of Leeds, United Kingdom, (CD-Rom) 19-20 June, 2006, (5 pages).
11. **B. Ionescu**, V. Buzuloiu, P. Lambert, D. Coquin: „*Improved Cut Detection for the Segmentation of Animation Movies*”, IEEE ICASSP – International Conference on Acoustic, Speech and Signal Processing, Toulouse, France, (CD-Rom) 15-19 May, 2006, (4 pages).
12. **Bogdan E. Ionescu**, Didier Coquin, Patrick Lambert, Vasile Buzuloiu: „*Semantic Characterization of Animation Movies Based on Fuzzy Action and Color Information*”, AMR 4th International Workshop on Adaptive Multimedia Retrieval, Université de Genève, Switzerland, (CD-Rom) 27-28 July, 2006, (15 pages).
13. **Bogdan Ionescu**, Patrick Lambert, Didier Coquin, Laurent Ott, Vasile Buzuloiu: „*Animation Movies Trailer Computation*”, ACM Multimedia 2006, (CD-Rom) 22-27 October, Santa Barbara, CA, USA, 2006, (4 pages).
14. P. Lambert, **B. Ionescu**, D. Coquin: „*La couleur dans les séquences d’images*”, EHINC - Ecole d’Hiver sur l’Image Numérique Couleur organized by laboratory SIC, Université de Poitiers, GdR ISIS, Groupe Français de l’Image Numérique, 9-11 January 2007, Poitiers, France, (9 pages).
15. **B. Ionescu**, P. Lambert, D. Coquin, V. Buzuloiu: “*Color-Based Content Retrieval of Animation Movies A Study*”, IEEE Fifth International Workshop on Content-Based Multimedia Indexing, Bordeaux, France, 25-27 June 2007, (8 pages).
16. L. Ott, P. Lambert, **B. Ionescu**, D. Coquin: “*Animation Movie Abstraction: Key Frame Adaptive Selection based on Color Histogram Filtering*”, Computational Color Imaging Workshop at the International Conference on Image Analysis and Processing, Modena, Italy, 14 September 2007, (6 pages).
17. F. Deloule, D. Beauchene, P. Lambert, **B. Ionescu**: “*Data Fusion for the Management of Multimedia Documents*”, Fusion 2007 - The 10th International Conference on Information Fusion, Québec, Canada, 9-12 June, 2007, (7 pages).
18. R. Laganier, R. Bacco, A. Hocevar, P. Lambert, G. Pays, **B. Ionescu**, “*Video Summarization from Spatio-Temporal Features*”, ACM International Conference on Multimedia, Trecvid BBC Rushes Summarization Workshop, Vancouver, Canada, 27 October - 1 November, 2008 (5 pages).
19. C. Vertan, M. Zamfir, **B. Ionescu**, “*Non-Linear Color Image Processing by Color to Plane Polygon Association*”, IEEE ISSCS - International Symposium on Signals, Circuits and Systems, 9-10 July, Iași, Romania, 2009 (4 pages).
20. **B. Ionescu**, A. Păcureanu, P. Lambert, C. Vertan, “*Highlighting Action Content in Animated Movies*”, IEEE ISSCS - International Symposium on Signals, Circuits and Systems, special session "Action Recognition and Tracking in Multimodal Video", 9-10 July, Iași, Romania, 2009 (4 pages).

#### **Thematic seminars and speeches:**

1. **B. Ionescu**, Didier Coquin, Patrick Lambert: „*Reconnaissance d’un geste statique ou d’un geste dynamique de la main*”, GDR ISIS thematic seminary, Paris, France 2003.

2. **B. Ionescu:** „*Caracterisation Symbolique de Séquences d’Images: Application aux Films d’Animation*”, LISTIC seminar (research teams LTI and CONDILLAC), University of Savoie, Talloire-Annecy, France, 8-9 July 2005.
3. **B. Ionescu, P. Lambert, D. Coquin, V. Buzuloiu :** „*Caractérisation des séquences d’images*”, thematic seminar Journée Traitements Perceptifs Couleur Dédies à l’Image et à la Vidéo, organized by GFIC – Groupe Français de l’Image Numérique Couleur, EEA, ISIS, CNRS, at ENSEA Cergy-Pontoise, Paris, France, 24 November 2005.
4. **B. Ionescu, P. Lambert, D. Coquin:** „*Détection des cuts dans les films d’Animation*”, workshop ARGOS - Campagne d’Evaluation d’Outils de Surveillance de Contenus Vidéo, Techno Vision program, with partners Ministère Délégué à la Recherche, Ministère de la Défense, Paris, France, May 2006.
5. **B. Ionescu, P. Lambert, D. Coquin:** „*Vers la caractérisation sémantique du contenu de films d’animation*”, thematic seminar „Journée dédiée aux travaux de recherche du partenariat CITIA-LISTIC-IREGE” organized by Polytech’Savoie, CITIA – Cité de l’Image en Mouvement and IMUS – Institut de Management de l’Université de Savoie Annecy, France, June 2007.
6. **B. Ionescu, P. Lambert, D. Coquin, V. Buzuloiu:** „*Caractérisation symbolique de séquences d’images*”, thematic seminar „Journée Scientifique LIMA (Loisirs et Images)” of the regional project LIMA, cluster 2 ISLE of the Rhône-Alpes region, organized by University of Savoie, Polytech’Savoie, Région Rhône-Alpes, Imaginove and laboratory LISTIC at Annecy, France, July 2007.
7. **B. Ionescu:** “*Introduction to Video Indexing and Its Applications*”, thematic seminar at VIVA research laboratory, University of Ottawa, Canada, 22 september 2008.

## Research projects:

1. **researcher:** BQR project „*Poste de Travail Interactif: le Geste*”, owner University of Savoie, partners: laboratory LISTIC, ESIA, France and IMSE - Faculty of Engineering from Japan (2002-2003).
2. **researcher:** BQR project „*IODA – Indexation Ontologique de Documents Audiovisuels*”, owner University of Savoie, partners: laboratory LISTIC, ESIA, CICA – Centre International du Cinéma d’Animation, PUMMA, CITIA – Cité des Techniques de l’Image, de l’Interactivité et de l’Animation (2003-2004).
3. **researcher:** project „*Caracterisation Semantique de Films d’Animation*”, owner University of Savoie, partners: LISTIC, CONDILLAC-ESIA, Festival International du Film d’Animation d’Annecy, CICA – Cité de l’Image en Mouvement (2003-2007).
4. **researcher:** excellences project „*The Software Infrastructure for the Data Acquisition System of the ATLAS Experiment*”, Grant CEEX 17-06-19, owner „Horia Hulubei” Romanian National Institute for Nuclear Physics, partners CERN-Geneve and LAPI-Bucharest (2006-2008).
5. **researcher:** project “*Objective Quantification of Color Image Similarity and Quality Through the Modelisation of the Human Visual Perception System*”, Grant CNCSIS 17-03-04, EL10-04-07, LAPI—UPB, (2004-2005).



6. **researcher**: project “*Digital Radiologic Image Analysis for the Monitorization of Orthopaedic Prosthesis*”, LAPI-UPB, Grant CEEEX 17-06-14 (2006-2008).

7. **researcher**: project „*Using Dog Cancer Model as Clinical Pretrial for Human Oncology*”, PRECLIN, PNCDI 2, owner The Oncologic Institute Bucharest, 51-021.2/2007, UPB EL10-07-15.

8. **project director**: CNCSIS project “*Content-Based Semantic Retrieval of Video Documents, Application to Navigation, Research and Automatic Content Abstraction*”, Grant RP-2, owner LAPI, University „Politehnica” of Bucharest (2007-2009) (see <http://alpha.imag.pub.ro/VideoIndexing RP2/>). Project funds 140.000 Eur.

9. **researcher**: project “*Microchirurgical Transplant of Hematogenic and Vascularized Bone Marrow as Substitute Therapeutic Method for the Conventional Marrow Cell Transplant in the Treatment of the Hematological Diseases*” (2008-2011), CNMP Grant, owner University of Medicine and Pharmaceuticals “Carol Davila” from Bucharest. Project funds 560.000 Eur.

10. **in-charge with research** at UPB: project “*Integrated System for Real-Time Assistance During the Chirurgical Act Through Three-dimensional Image Reconstruction and Visual Synchronization with Voice Commands*” (2008-2011), CNMP Grant, owner University of Medicine and Pharmaceuticals “Carol Davila” from Bucharest. Project funds 560.000 Eur.

11. **implementing expert**: project „*Competitive Training of PhD Students in the Main Domains of Our Society based on Knowledge*”, FSE - European Structural Funds POSDRU project, owner University „Politehnica” of Bucharest, PhD Funds Program, ID7713, (2008-2010). Project funds 5.5 millions Eur.

12. **implementing expert**: project „*PhD Students Supporting the Innovation and Competition*”, FSE - European Structural Funds POSDRU project, owner University „Politehnica” of Bucharest, PhD Funds Program, ID5159, (2008-2010). Project funds 5.5 millions Eur.

### IT and informatics knowledge:

- advanced knowledge of computer hardware/software architecture;
- advanced knowledge of programming techniques and software development: Borland Pascal, Matlab, Maple, C/C++, C++ Builder, Visual Studio, Latex, Java, Matlab.
- advanced knowledge of computer software : Microsoft Office (Word, Excel, Power Point, Access), Adobe Photoshop, Adobe Premiere, Corel Draw, LabView.
- advanced knowledge of operating systems: Windows 9x, 2002, 2003 et XP, Unix, Linux.

### Foreign language knowledge:

Self-assessment <i>European level (*)</i>	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
<b>English</b>	C1	C1	B2	B2	C1
<b>French</b>	C2	C2	C2	C1	B2

(\*) *Common European Framework of Reference for Languages*

## **Other:**

- Member IEEE - Institute of Electrical and Electronics Engineers, IEEE Signal Processing Society membership;
- Member SPIE - International Society Advancing an Interdisciplinary Approach to the Science and Application of Light.
- Member ACM – Association for Computing Machinery.
- Member GDR-ISIS – Groupement de Recherche Information, Signal, Images et Vision, France;
- included in the Marquis Who's Who in Science and Engineering 2008 volume,
- awarded the title „IBC Leading Scientist of the World 2008” and “IBC Foremost Educators of the World 2008”, from IBC - The International Biographical Centre of Cambridge, England.
- Member of the CNCSIS revision board for the 2009 Human Resources Programme (research Grants RP, PD and FT).
- Member of the Research Center for Creative Development, Academy of Romanian Scientists, in charge with the Electronic Engineering department. Member and secretary of the Center for Innovation, Academy of Romanian Scientists.

## **Driving licence:**

- auto category B, international certificate for operators of pleasure crafts category D.

## **Hobbies:**

- mountain biking (cross-country, freeride, downhill, ex amateur player), power boating, archery (ex licensed amateur player Annecy), electric guitar (amateur player), ice hockey (ex licensed amateur player Albertville), exploring nature, computers, cars.