Curriculum Vitae

Fernando Manuel Bernardo Pereira

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Short CV

Fernando Pereira was born in Vermelha-Lisboa, Portugal, in October 1962. He was graduated in Electrical Engineering, by Instituto Superior Técnico (IST), Universidade Técnica de Lisboa, Portugal, in 1985. He received the M.Sc. and Ph.D. degrees in Electrical and Computers Engineering, by IST, in 1988 and 1991, respectively. He is currently Professor at the Electrical and Computers Engineering Department of IST. Prof. Pereira has been continuously incorporating results of his research into his teaching and was among the first to create a graduate level course on audiovisual communications. He won several awards for excellence in teaching at IST. He has participated in Ph.D. committees in more than 12 countries for several tens of theses. He is also responsible for the participation of IST in many national and international research projects. He acts often as project evaluator and auditor at the invitation of the European Commission and as evaluator for the national science agencies of several countries.

Prof. Pereira has been one of the pioneering researchers in the area of object-based multimedia representation making major technical, functional and strategic contributions which led to the introduction in the MPEG-4 standard of the object-based representation paradigm where a scene is represented as a composition of independently coded objects with natural or synthetic origin. He made major contributions in the areas of video segmentation, shape coding, error resilience, facial analysis and animation, and rate control. Prof. Pereira has provided the pioneering input and has been a major vision contributor to the MPEG-4 standard. He has also been one of the pioneering researchers in the area of multimedia description and indexing using a hybrid approach based on the integration of low-level, signal processing based features/descriptors, and high-level, text based features/descriptors. He was the first and major contributor to the vision and requirements which shaped the MPEG-7 standard, the first metadata standard to adopt an approach to multimedia description and indexing by integrating different types of descriptors, notably the new low-level descriptors and the classical text based descriptors. He made major contributions in the areas of shape description and matching, summary generation, and profiling. As MPEG Requirements Chair for many years, he had a major role in defining the set of MPEG standards which have nowadays a strong impact on the current multimedia landscape. Prof. Pereira is a co-editor of 'The MPEG-4 Book' and 'The MPEG-21 Book' which are reference books in their topics. More recently, Prof. Pereira and his team became a world reference in the area of distributed video coding with tens of papers published and largely referenced by the research community.

He is an Area Editor of the Signal Processing: Image Communication Journal, a member of the Editorial Board of the Signal Processing Magazine, and is or has been an Associate Editor of IEEE Transactions of Circuits and Systems for Video Technology, IEEE Transactions on Image Processing, IEEE Transactions on Multimedia, and IEEE Signal Processing Magazine. He is or has been a member of the IEEE Signal Processing Society Technical Committees on Image, Video and Multidimensional Signal Processing, and Multimedia Signal Processing, and of the IEEE Circuits and Systems Society Technical Committees on Visual Signal Processing and Communications, and Multimedia Systems and Applications. He was an IEEE Distinguished Lecturer in 2005 and elected as an IEEE Fellow in 2008 for contributions to object-based digital video representation technologies and standards. He has been elected to serve on the Signal Processing Society Board of Governors in the capacity of Member-at-Large for a 2012 term.

He has been a member of various committees of about 20 IEEE Conferences and member of the Program and Scientific Committees of many tens of international conferences and workshops. Prof. Pereira won the first Portuguese IBM Scientific Award and an "ISO award for Outstanding Technical Contribution" for his contributions to the MPEG-4 Visual Standard. He contributed more than 250 papers in international journals and conferences. His current areas of interest are video analysis, processing, segmentation, indexing, coding and adaptation, multimedia interactive services, and mobile and Internet multimedia communications.

Personal Data

- Born in Vermelha, Cadaval, Portugal, the 27th October 1962.

- Address: Vila Expo, Rossio do Levante, nº 1, 2ºA, 1990-374 Moscavide, Portugal.

- Telephone: + 351 21 8418460 and + 351 91 9236706

- E-mail: Fernando.Pereira@lx.it.pt or fp@lx.it.pt

- Mother tongue: Portuguese.

- Fluent in Italian, English, French, and Spanish.

Memberships

- Member of IEEE – nº 8847972; Fellow since 2008.

- Member of 'Ordem dos Engenheiros' (Portuguese Engineers Institute) - nº 27628.

- Member of EURASIP.

- Member of SPIE – nº 257959.

- Member of ACM – nº 7074458

- Member of the IET Visual Information Engineering Technical Advisory Panel since November 2003.

- Member of IEEE Image and Multiple Dimensional Signal Processing (IMDSP) Technical Committee, January 2004 to December 2009.

- Member of the IEEE Multimedia Signal Processing (MMSP) Technical Committee, January 2006 to December 2008 and from January 2010.

- Member of the IEEE Circuits and Systems Society Visual Signal Processing and Communications (VSPC) Technical Committee since June 2007.

- Member of the IEEE Circuits and Systems Society Multimedia Systems and Applications (MSA) Technical Committee since June 2008.

- IEEE Fellow in 2008 for contributions to object-based digital video representation technologies and standards.

1. Academic Activity

Academic Degrees

- Graduated (5 years graduation) in Electrical Engineering - Electronics and Telecommunications, by Instituto Superior Técnico, Universidade Técnica de Lisboa, Portugal, 1985.

- M.Sc. in Electrical and Computers Engineering - Telecommunications and Computers, by Instituto Superior Técnico, Universidade Técnica de Lisboa, Portugal, with the highest mark - 'Muito Bom', July 1988.

- Ph.D. on Electrical and Computers Engineering by Instituto Superior Técnico, Universidade Técnica de Lisboa, Portugal, with the highest mark - 'Aprovado com distinção e louvor', July 1991.

Academic Positions

- Lecturer at the Department of Mathematics, Section of Statistics and Applications of Instituto Superior Técnico, 1984/85.

- Lecturer at the Department of Electrical and Computer Engineering, Telecommunications Section of Instituto Superior Técnico, October 1985 to July 1991.

- Assistant Professor at the Department of Electrical and Computer Engineering, Telecommunications Section of Instituto Superior Técnico, July 1991 to July 1996.

- Professor at the Department of Electrical and Computer Engineering, Telecommunications Section of Instituto Superior Técnico, with a fixed position, since July 1996.

Courses

- Lecturer of the course "Probablidades e Estatística" (Probabilities and Statistics) at the Department of Mathematics, Section of Statistics and Applications of Instituto Superior Técnico, 1984/85.

- Lecturer of the courses "Sistemas de Telecomunicações II" (Telecommunication Systems) and "Comutação em Redes de Comunicação" (Switching in Communication Networks) at the Department of Electrical and Computer Engineering, Telecommunications Section of Instituto Superior Técnico, 1985/86 and 1986/87.

- Supervising Professor of the course "Sistemas de Telecomunicações II" (Telecommunication Systems) at the Department of Electrical and Computer Engineering, Telecommunications Section of Instituto Superior Técnico, 1991/92.

- Supervising Professor of the course "Sistemas de Telecomunicações Integrados" (Integrated Telecommunication Systems) at the Department of Electrical and Computer Engineering, Telecommunications Section of Instituto Superior Técnico, 1991/92.

- Creator and Supervising Professor of the course "Sistemas de Telecomunicações" (Telecommunication Systems) at the Department of Electrical and Computer Engineering, Telecommunications Section of Instituto Superior Técnico, since the first year in 1992/93.

- Creator and Supervising Professor of the course "Comunicação de Imagem" (Image Communications) at the Department of Electrical and Computer Engineering, Telecommunications Section of Instituto Superior Técnico, since its creation in 1992/93 until 2001/2002.

- Creator and Supervising Professor of the course "Comunicação de Áudio e Vídeo" (Multimedia Communications) at the Department of Electrical and Computer Engineering, Telecommunications Section of Instituto Superior Técnico, since its creation in 2001/2002.

- Invited Professor of the course "Audiovisual Compression: from Basics to Systems", Alpen-Adria Universitat, Klagenfurt, Áustria, October 2008.

- Invited Professor of the course "Advanced Topics on Multimedia Representation", Master in Applications of Signal Processing in Communications, Universidade de Vigo, Vigo, Spain, November 2008, 2009 and 2010.

Supervision of Thesis: M.Sc. Thesis

- "Codificação videotelefónica para comunicações móveis" (Video coding for mobile communications) by Diogo Dias Cortez Ferreira and Paulo Jorge Lourenço Nunes, 1991/92.

- "Codificação videotelefónica para comunicações móveis usando técnicas de segmentação" (Video coding for mobile communications based on segmentation tools) by Mário Jorge Macedo Pimentel and Manuel Sanssen Valadas Preto, 1991/92.

- "Descodificação e visualização de cartas meteorológicas radiodifundidas" (Decodign and visualization of broadcasted weather maps) by Carlos Ferreira Borges, José António Pereira Velez and António Hermínio Morais, 1991/92.

- "Desempenho de codecs videotelefónicos CCITT H.261 na presença de erros" (Performance evaluation of the error resilience of H.261 codecs) by Vitor Marques and Carlos Arede, 1992/93 (in collaboration with Portugal Telecom).

- "Objectos multimédia interactivos" (Interactive multimedia objects) by Luís Miguel Manso and José Augusto Rodrigues, 1992/93.

- "Equipamentos e redes de videoconferência" (Videoconference equipments and networks) by Rui Jorge Coutinho, José Carlos Aleixo and Jorge Oliveira, 1992/93 (in collaboration with Portugal Telecom).

- "Sistema de televisão de alta definição HDMAC: codificação e sensibilidade a erros" (HDMAC high definition television system: coding and error resilience) by Paulo David Pinto Simões, November 1993.

- "Simulação de uma comunicação audiovisual móvel" (Simulating a mobile multimedia communication) by Paulo Jorge Corado and João Manuel Maia, 1993/94.

- "MPEG-1: codificação de vídeo para gravação" (MPEG-1: coding video for storage) by Pedro Moreira Figueira Ortigão and Sara Maria Pinto Carrasqueiro, 1994/95.

- "Codificação de videotelefonia para a rede telefónica" (Video coding for the telephone network) by Paulo Pires de Melo and Nuno Filipe dos Santos Ribeiro, 1994/95.

- "Classificação e codificação de contornos" (Classification and coding of contours) by Diogo Dias Cortez Ferreira, September 1995.

- "Detecção de fronteiras em imagens texturadas" (Edge detection in textured images) by Paulo Jorge Lourenço Nunes, November 1995.

- "Síntese interactiva de faces humanas" (Interactive synthesis of human faces) by Bruno Lourenço Trindade and Mário Augusto Ferreira Godinho, 1995/96 (in collaboration with the Portuguese Police).

- "Codificação de sequências videotelefónicas baseada em modelos" (Model-based coding of videotelephony sequences) by Pedro Miguel Damásio Geada, October 1996.

- "Tecnologias para criação de conteúdo visual MPEG-4" (MPEG-4 visual content creation tools) by Miguel Alexandre Farinha Cabral and Rui Filipe Efigénio Gomes, 1996/97.

- "Sistema de simulação para codificação de imagem" (Image coding simulation system) by Pedro Alexandre Oliveira Fernandes, 1996/97.

- "Indexação de vídeo com base no conteúdo" (Content-based video indexing) by Carla Raquel Faria Lopes Zibreira, Eva Lúcia di Martino Serafim and Mónica Alexandra Simões dos Santos, 1997/98.

- "Reconhecimento automático de faces humanas" (Automatic recognition of human faces) by João Manuel Malveiro Valentim and João Miguel Duarte Ascenso, 1997/98.

- "Análise e síntese de faces humanas usando modelos tridimensionais" (Analysis and synthesis of human faces using 3D models) by Gabriel Antunes Abrantes, January 1999.

- "Resiliência a erros para comunicações móveis de vídeo baseadas na norma H.263+" (H.263+ error resilience for mobile video communications) by João Miguel Ribeiro Galhordas and Wilfrid Salvador Manhente, 1999/2000.

- "Estudo da conformidade para a norma MPEG-4 visual" (Conformance study of the MPEG-4 visual standard) by João Valentim, May 2001.

- "Análise e descrição de informação de forma" (Analysis and description of shape information) by Carla Zibreira, July 2001.

- "Sumarização automática de vídeo" (Automatic video summarization) by Pedro Miguel Ferreira dos Santos da Fonseca and Tiago Filipe Rodrigues de Carvalho, 2001/2002.

- "Universal access to multimedia content based on the MPEG-7 standard" by João Miguel da Costa Magalhães, June 2002. (This work won the Young Engineer Innovation Award from the Portuguese Engineers Institute in 2002).

- "Segurança baseada no reconhecimento de faces" (Face recognition based security) by Filipe Castro Fonseca Lopes and João Araújo Fonseca, 2002/2003.

- "Codificação escalável de vídeo com elevada granularidade" (Fine granulariry scalable video coding) by João Miguel Duarte Ascenso, December 2003.

- "Face detection and object tracking in the compressed domain" by. Pedro Miguel Ferreira dos Santos da Fonseca, May 2004.

- "Extracção automática de texto a partir de vídeo" (Automatic extraction of text from video) by Duarte Manuel da Conceição Palma, July 2004.

- "Attention based image to video transmoding" by Pedro Pinho and Joel Baltazar, 2004/2005.

- "Advances on distributed video coding" by Catarina Isabel Carvalheiro Brites, December 2005.

- "Generic video automatic summarization" by Nuno Frederico Costa Ferreira de Matos, November 2007.

- "Compressed domain H.264/AVC shot detection", Hugo Santos Varandas, October 2008.

- "Low delay distributed video coding", António Miguel dos Santos Francês Tomé, November 2009.

- "Low complexity video coding for sensor networks", Miguel Calhau Guerreiro Contente, November 2009.

- "Tiling slideshow: an audiovisual presentation method for consumer photos", Bruno Alexandre Conde Tomás, November 2009.

- "H.264/AVC perceptually controlled video coding", Ana Sofia Clemente Cabrita, July 2010.

- "Audiovisual coding simulation framework", Pedro Alexandre Oliveira Fernandes, October 2010.

- "Image compression with edge-based inpainting", Nuno Miguel Ventura Couto, November 2010.

- "H.264/AVC video coding: analysis and encoder control", Berto Oliveira Casquinha, November 2010.

- "Depth coding for multi-view plus depth 3D video", Gonçalo Nuno Silva do Carmo, November 2010.

- "Advances on transforms for high efficiency video coding", Miguel Lobato de Faria Pereira Capelo, April 2011.

Supervision of Thesis: Ph.D. Thesis

- "Video analysis for object-based coding and description" by Paulo Luís Serras Lobato Correia, December 2002.

- "Error resilience for advanced video coding systems" by Luís Eduardo de Pinho Ducla Soares, April 2004.

- "Rate control for object-based video coding" by Paulo Jorge Lourenço Nunes, January 2007.

- "Advances on efficient distributed video coding", Mestre João Miguel Duarte Ascenso, November 2010.

- "Rate control in distributed video coding systems", Mestre Catarina Isabel Carvalheiro Brites, March 2011.

Examination of Thesis: M.Sc. Thesis

- External examiner of the M.Sc. Thesis "Descodificador flexível de vídeo digital em tempo real" by Maria Teresa M. S. Pinto de Andrade, by invitation of University of Porto, March 1992.

- External examiner of the M.Sc. Thesis "Codificador H.261 para PC" by António José Nunes Navarro Rodrigues, by invitation of University of Coimbra, June 1993.

- External examiner of the M.Sc. Thesis "Codificação de vídeo para redes ATM compatível com a recomendação H.261" by Luís Alberto da Silva Cruz, by invitation of University of Coimbra, December 1993.

- External examiner of the M.Sc. Thesis "Compressão de vídeo MPEG - desenvolvimento de um simulador e sua caracterização" by Luís Miguel Lopes Teixeira, by invitation of University of Porto, September 1995.

- Internal examiner of the M.Sc. Thesis "Mecanismos hipermédia em sistemas de processamento de vídeo" by João Pedro das Neves Sousa Elvas Martins, at Instituto Superior Técnico, May 1998.

- Internal examiner of the M.Sc. Thesis "Suporte à descrição e pesquisa de imagem digital" by Artur Miguel Pereira Alves Caetano, at Instituto Superior Técnico, May 1999.

- External examiner of the M.Sc. Thesis "Meta-informação no armazenamento e recuperação de documentos multimédia" by Susana Maria Silva Santos Gaio, by invitation of University of Porto, July 2000.

- External examiner of the M.Sc. Thesis "Codificação de vídeo para sistemas de comunicação móveis" by Pedro Jorge de Oliveira Sá Vinhas, by invitation of University of Aveiro, March 2005.

- External examiner of the M.Sc. Thesis "Modelação de redes sem fios para comunicações multimédia" by João Paulo Nunes Rocha Angeja, by invitation of University of Aveiro, June 2006.

- External examiner of the M.Sc. Thesis "Caracterização, modelação e implementação de transformações cromáticas em imagens digitais para observadores com cromatopsia visual", Marco André Vieira Andrade Bernardo, Universidade da Beira Interior, December 2009.

- External examiner of the M.Sc. Thesis "Robust video coder solution for wireless streaming: applications in Gaussian channels", Ângelo Miguel Arrifano, Universidade da Beira Interior, November 2010.

- External examiner of the M.Sc. Thesis "Using least-Ssuares prediction for compression of colour and stereo images", Luís Filipe Rosário Lucas, Instituto Politécnico de Leiria, June 2011.

Examination of Thesis: Ph. D. Thesis

Portugal

- External examiner of the Ph.D. Thesis "Quantificação vectorial aplicada a vídeo digital de baixa cadência" by Luís António Pereira de Meneses Corte-Real, by invitation of University of Porto, February 1994.

- External examiner of the Ph.D. Thesis "Decomposição multi-resolução de sinais: aplicação à compressão de sequências de imagens" by Vitor Manuel Mendes da Silva, by invitation of Faculdade de Ciências e Tecnologia from University of Coimbra, March 1996.

- External examiner of the Ph.D. Thesis "Very low bit rate video coding using geometric transform motion compensation" by Sérgio Manuel Maciel de Faria, by invitation of Faculdade de Ciências e Tecnologia from University of Coimbra, March 1997.

- Internal examiner of the Ph.D. Thesis "Processamento semântico de informação multimédia" by Nuno Manuel Robalo Correia, at Instituto Superior Técnico, May 1998.

- External examiner of the Ph.D. Thesis "Video transcoding for matching network bandwidth constraints" by Pedro António Amado de Assunção, by invitation of Faculdade de Ciências e Tecnologia from University of Coimbra, May 1998.

- Internal examiner of the Ph.D. Thesis "Codificação fonética: codificação de fala baseada em segmentos classificados foneticamente" by Carlos Eduardo de Meneses Ribeiro, at Instituto Superior Técnico, February 2000.

- Internal examiner of the Ph.D. Thesis "Rigid structure from video" by Pedro Manuel Quintas Aguiar, at Instituto Superior Técnico, July 2000.

- Internal examiner of the Ph.D. Thesis "Seguimento de Pessoas e Grupos em Sinais de Vídeo com Redes Bayesianas" by Pedro Miguel Torres Mendes Jorge, at Instituto Superior Técnico, 2007.

- External examiner of the Ph.D. Thesis "Lossless compression of images with specific characteristics" by António José Ribeiro Neves, by invitation of Universidade de Aveiro, September 2007.

- Internal examiner of the Ph.D. Thesis "Transform domain transcoding systems for static and dynamic video composition" by Nuno Filipe Valentim Roma, at Instituto Superior Técnico, May 2008.

Abroad

- External examiner of the Ph.D. Thesis "Image compression based on perceptual coding techniques" by Josep R. Casas Pla, by invitation of Universitat Politècnica de Catalunya, Spain, March 1996.

- External examiner of the Ph.D. Thesis "Codificación de vídeo a baja velocidad basada en regiones y en estimación y compensación bidireccional del movimiento" by Luis Salgado Álvarez de Sotomayor, by invitation of Universitat Politècnica de Madrid, Spain, July 1998.

- External examiner of the Ph.D. Thesis "Error resilience for video coding services over packet-based networks" by Jian Zhang, by invitation of University of New South Wales, Canberra, Australia, July 1999.

- President of the Evaluation Commission for "Habilitation a Diriger des Recherches" entitled "Segmentation spatio-temporelle des images animeés. Application au codage efficace et a l'analyse de contenu de la video numerique" by Jenny Benois-Pineau, by invitation of École Polytechnique de l'Université de Nantes, Nantes, France, November 2000.

- External examiner of the Ph.D. Thesis "Indexation de vidéos et de maillages 3D dans le contexte MPEG-7" by Titus Bogdan Zaharia, by invitation of Université René Descartes - Paris V, Paris, France, December 2001.

- External examiner of the Ph.D. Thesis "Outils auteurs pour MPEG-4" by Souhila Boughoufalah, by invitation of École Nationale Supérieure des Télécommunications, Paris, France, June 2002.

- External examiner of the Ph.D. Thesis "Advanced virtual character animation within the MPEG-4 framework" by Marius Preda, by invitation of Université René Descartes - Paris V, Paris, France, December 2002.

- External examiner of the Ph.D. Thesis da Tese "Video indexing using multimodal information" by Alberto Albiol Colomber, by invitation of Universitat Politecnica de Valencia, Valencia, Spain, April 2003.

- External examiner of the Ph.D. Thesis "On image and video coding using region based and meta-representations" by Javier Ruiz Hidalgo, by invitation of Universidad Politècnica de Catalunya, Barcelona, Spain, April 2003.

- External examiner of the Ph.D. Thesis "Multiple description image and video coding for noisy channels" by Manuela Pereira, by invitation of Université de Nice Sophia-Antipolis, Nice, France, June 2004.

- External examiner of the Ph.D. Thesis "Adaptation de contenu multimédia avec MPEG-21: conversion de ressources et adaptation sémantique de scènes" by Mariam Kimiaei Asadi, by invitation of École Nationale Supérieure des Télécommunications, Paris, France, June 2005.

- External examiner of the Ph.D. Thesis "Automatic video segmentation employing object/camera modeling techniques" by Dirk Farin, by invitation of Technische Universiteit Eindhoven, Eindhoven, The Netherlands, December 2005.

- External examiner of the Ph.D. Thesis "Football on mobile phones: algorithms, architectures and quality of experience in streaming video" by Jiong Sun, by invitation of Umea University, Umea, Sweden, September 2006.

- External examiner of the following Ph.D. Thesis by invitation of Università degli Studi di Cagliari, Cagliari, Italy, March 2007.

   o "Studio e sperimentazione di algoritmi e infrastrutture per la bioinformatica" by Andrea Manconi

- o "Studio e sperimentazione di tecniche di apprendimento automatico finalizzate alla risoluzione di problemi complessi in ambito bioinformatico" by Massimiliano Saba

- o "High reliability text categorisation systems" by Ignazio Pillai

- o "Statistical pattern recognition techniques for intrusion detection in computer networks. challenges and solutions" by Roberto Perdisci

- o "A study on interpolation of images and video sequences using a new approach of fractal theory" by Giulio Soro

- o "Texture analysis for computed tomography images characterization" by Barbara Podda

- o "Evaluation framework for free/libre open source software" by Alessandra Cau

- o "Power-laws and fractal dimension in object-oriented software systems" by Ivana Turnu

- o "A framework for financial markets modeling and simulation" by por Alessio Setzu

- External examiner of the Ph.D. Thesis "Descriptions de scènes multimédia: représentations et optimisations" by Cyril Concolato, by invitation of École Nationale Supérieure des Télécommunications, Paris, France, July 2007.

- External examiner of the Ph.D. Thesis "Rate-distortion optimization for video communication in resource constrained IP networks" by Stian Johansen, by invitation of Norwegian University of Science and Technology, Trondheim, Norway, March 2008.

- External examiner of the Ph.D. Thesis "Advances on video coding algorithms for streaming applications" by Mehdi Rezaei, by invitation of Tampere University of Technology, Tampere, Finland, April 2008.

- External examiner of the Ph.D. Thesis "Advanced video coding" by Mo Wu, by invitation of Danish Technical University, Copenhagen, Denmark, June 2008.

- External examiner of the Ph.D. Thesis "Error-resilient communication using the H.264/AVC video coding standards" realizada por Miska M. Hannuksela, Tampere University of Technology, Tampere, Finland, March 2009.

- External examiner of the Ph.D. Thesis "Acquisition, compression and rendering of depth and texture for multi-view video" realizada por Yannick Morvan, Technische Universiteit Eindhoven, Eindhoven, The Netherlands, April 2009.

- External examiner of the Ph.D. Thesis "Contributions to side infromation generation for distributed video coding" realizada por Xavi Artigas, Universidad Politècnica de Catalunya, Barcelona, Spain, November 2009.

- External examiner of the Ph.D. Thesis "Complexity adaptation in video encoders for power limited platforms", Chanyul Kim, Dublin City University, Dublin, Ireland, December 2009.

- External examiner of the Ph.D. Thesis "On-line video abstraction", Victor Valdés López, Universidad Autonoma de Madrid, Madrid, Spain, May 2010.

- External examiner of the Ph.D. Thesis "Paradigms for real-time video communication and for video distribution", Ermin kozica, KTH-Royal Institute of Technology, Stockholm, Sweden, April 2011.

- External examiner of the Ph.D. Thesis "A rate control algorithm for scalable video coding", Sergio Sanz Rodriguez-Escalona, Universidad Carlos III de Madrid, Madrid, Spain, September 2011.

2. Scientific Activity

- Between June 1988 and September 1991, he made a stage at Centro Studi e Laboratori Comunicazioni (CSELT) - Turin (Italy), with a grant from Junta Nacional de Investigação Científica e Tecnológica. During this stage, he prepared his Ph.D. thesis on variable bitrate video coding.

- He participated in the project and implementation of the first prototype of an MPEG-1 codec dedicated to the coding of video at 1.1 Mbit/s.

- Since 1992, he has an intense European and worldwide activity in projects and standardization bodies addressing multimedia representation methods for various multimedia applications.

- He has been one of the pioneering researchers in the area of object-based multimedia representation making major technical, functional and strategic contributions which led to the general acceptance of the object-based representation paradigm where a scene is represented as a composition of independently coded objects with natural or synthetic origin.

- Since 1993, he has been making major contributions to the MPEG-4 standard, notably in the areas of video segmentation, shape coding, error resilience, facial analysis and animation, and rate control. He was one of those who provided the pioneering input and been a major vision contributor to the MPEG-4 standard.

- He has also been one of the pioneering researchers in the area of multimedia description and indexing using a hybrid approach based on the integration of low-level, signal processing based features/descriptors, and high-level, text based features/descriptors.

- He has made major contributions to the MPEG-7 standard, notably in the areas of shape description and matching, summary generation, and profiling. He was the first and major contributor to the vision and requirements which shaped the MPEG-7 standard, the first metadata standard to adopt an approach to multimedia description and indexing by integrating different types of descriptors, notably the new low-level descriptors and the classical text based descriptors.

- He has made major contributions major contributions to the MPEG-21 standard, notably in the areas of adaptation and profiling.

- His scientific interests include image analysis and processing, advanced methods for video representation, coding, indexing, retrieval and adaptation of multimedia data, multimedia applications requirements, multimedia standardization, mobile and Internet multimedia services, and evolution strategies for multimedia services.

Participation in National Projects

- Leader of the project "Codificação de Sinais Vídeo", sponsored by Junta Nacional de Investigação Científica e Tecnológica, between 1990 and 1992.

- Leader of the project "Normalização de Comunicações de Imagem", sponsored by Junta Nacional de Investigação Científica e Tecnológica, between 1992 and 1995. This project sponsored his participation in the MPEG meetings where he had a relevant role in the definition and implementation of the MPEG-4 standard plan.

- Leader of the participation of Instituto de Telecomunicações in the project "Processamento Digital de Áudio e Vídeo", integrated in the Program 'Projectos de Investigação Científica e Tecnológica de Pequena e Média Dimensão' from PRAXIS XXI, between 1995 and 1998. This project, which partners are Instituto de Telecomunicações, INESC and Grundig, intends to stimulate the collaboration of Portuguese teams in the field of audio-visual processing and coding.

- Leader of the project "Normalização de Métodos Avançados de Representação de Vídeo", sponsored by Junta Nacional de Investigação Científica e Tecnológica, between 1995 and 1998. This project has the main objective to sponsor the participation of Instituto Superior Técnico in MPEG meetings.

Participation in International Projects

- Leader of the participation of Instituto Superior Técnico in the activities of projects COST 211 ter, COST 211 ter and COST 292 related to video analysis, coding, and indexing.

- Leader of the participation of Instituto Superior Técnico in the RACE Project 2072 MAVT - Mobile Audiovisual Terminal - sponsored by the CEC, between 1992 and 1995. This project, started in January 1992, was one of the first projects in the world to address mobile audio-visual communications and it had a central role in the definition of MPEG-4 vision and roadmap. The partners included important companies such as Bosch, Siemens, Philips, Thomson and Daimler Benz.

- Leader of the participation of Instituto Superior Técnico in the research network "Motion analysis for advanced image communications systems - MANADIX", supported by CCE - DGXII, in the framework of the program 'Human Capital and Mobility', between 1993 and 1996. This network intended to promote the collaboration among European laboratories working in the area of motion analysis.

- Leader of the participation of Instituto Superior Técnico in the European Project M 1005 ACCOPI - Access Control and Copyright Protection for Images - sponsored by the CEC, in 1995. The main objective of the project was to pave the way for future implementations of multimedia services distribution through broadcasting networks. The participation of Instituto Superior Técnico was mainly related to the compliance analysis of MPEG2 streams.

- Leader of the 'Acção Integrada' (Integrated Project) between Instituto Superior Técnico and Universidade Politécnica di Cataluna entitled "Codificação de Vídeo para Terminais Audio-visuais Móveis", in 1995.

- Leader of the participation of Instituto Superior Técnico in the European Project ACTS MOMUSYS - Mobile Multimedia Systems, since September 1995. This project included 20 of the more relevant

European companies and universities and was recognized as the European platform for the participation in the development of the MPEG-4 standard.

- Leader of the 'Acção Integrada' (Integrated Project) between Instituto Superior Técnico and Universidade Politécnica di Cataluna entitled "Representação, Codificação e Manipulação de Objectos Visuais", in 1997.

- Leader of the participation of Instituto Superior Técnico in the European Project ACTS DICEMAN - Distributed Internet Content Exchange with MPEG-7 and Agent Negotiations, started in May 1998 (2 years). This project includes 8 companies and European universities - IBM (D), CSELT (I), KPN Research (NL), INA (F), and UPC (SP) – and targeted the development of a solution for the identification and trading of audiovisual data using the MPEG-7 standard.

- Leader of the participation of Instituto Superior Técnico in the FP6 European Network of Excellence (NoE) sponsored by the European Union "Networked audiovisual media technologies" (VISNET), started in December 2003 for 2 years. This network integrated 15 European research groups of recognized excellence in the area of multimedia processing technologies.

- Leader of the participation of Instituto Superior Técnico in the European Project DISCOVER, "Distributed coding for video services", started in September 2005 for 2 years. This project integrates 6 research groups with the objective to explore and propose new video coding schemes and tools in the area of Distributed Video Coding with a strong potential for new applications, targeting new advances in coding efficiency, error resiliency, scalability, and model based-video coding thus paving the way for a breakthrough regarding the next video coding generation.

- Leader of the participation of Instituto Superior Técnico in the FP6 European Network of Excellence sponsored by the European Union "Networked audiovisual media technologies" (VISNET II), restarted in July 2006 for 3 years. VISNET II builds on the success and achievements of VISNET to continue the progress towards achieving the NoE mission of creating a sustainable world force in Networked Audiovisual (AV) Media Technologies. The research activities within VISNET II cover 3 major thematic areas related to networked D/3D AV systems and home platforms, notably video coding, audiovisual media processing, and security.

- Leader of the participation of Instituto Superior Técnico in the project COST IC1003, "European Network on Quality of Experience in Multimedia Systems and Services" (QUALINET), started in November 2010 for 4 years. This project targets the development of algorithms, metrics and methodologies for the evaluation of multimedia user experience for various applications.

Evaluation and Audit of Projects

Evaluator of projects for several national and international organizations, notably Junta Nacional de Investigação Científica e Tecnológica (Portugal), Agência de Inovação (Portugal), Ministery of Economy (Portugal), European Commission, Siemens (Germany), Hong Kong Research Grants Council (Hong Kong), Swiss National Science Foundation (Switzerland), and Science Foundation Ireland (Ireland).

Activity in Standardization Bodies

- Chairman of the MPEG Ad Hoc Group on Test/Evaluation Procedures, November 1994 and July 1995.

- Editor of the document "MPEG-4 Testing and Evaluation Procedures Document" which defined the testing and evaluation procedures for the MPEG-4 first round of tests well known for its dimension and the innovation in the used testing methodologies for the first time addressing object-based content.

- Chairman of the MPEG Ad Hoc Group on the Creation of the MPEG WWW Page, March to July 1996.

- Chairman of the MPEG Ad Hoc Group on MPEG-4 and MPEG-7 Requirements, February to April 1997.

- Chairman of the MPEG Ad Hoc Group on MPEG-7 Requirements, April to October 1997.

- Chairman of the MPEG Ad Hoc Group on Object Content Information (OCI), July to October 1997.

- Co-Chairman of the MPEG Ad Hoc Group on MPEG-7 Testing and Evaluation, March to July 1998.

- Team leader during the MPEG-7 evaluation process held in Lancaster – UK, February 1999.

- Chairman of the MPEG Ad Hoc Group on MPEG-7 Requirements, March to October 1999.

- Co-Chairman of the MPEG Ad Hoc Group on Lossless Audio Coding, March to May 2002.

- Chairman of the MPEG Requirements Group between March 2002 and March 2003 and again from January 2005 to July 2007. As MPEG Requirements Chair, he had a major role in defining the set of MPEG standards which have a strong impact on the current multimedia landscape.

Patents

- Author of the Patent "Improvements to video signal hybrid-coding systems" - n.91102997.3 - EEC, USA, Canada and Japan.

Awards and Recognitions

- 1990 IBM Scientific Award with a work entitled "Estudo da codificação de sinais video com débitos binários variáveis".

- First place in 14º Essay Contest sponsored by Japanese Embassy, with a work entitled "Europe and Japan: the future is together", July 1992.

- "ISO Award for Outstanding Technical Contribution" for his contributions to the MPEG-4 Visual Standard, October 1998.

- IEEE Distinguished Lecturer, 2005.

- IEEE Fellow for "contributions to object-based digital video representation technologies and standards", 2008.

- IEEE Certificate of Merit 'for dedication and leadership in organizing the 2010 IEEE International Conference on Image Processing (ICIP)', September 2010.

- Honorable Mentions of UTL/Santander Totta Award in the area of Electrical Engineering, 2009, 2010 and 2011.

- IST Excellent Professor as scored by the students, 2006/2007, 2007/2008, 2008/2009 and 2009/2010.

- Elite Professor of the IST Department of Electrical and Computers, 2008/2009 and 2009/2010.

- Quality Reviewer' Award from the IEEE International Conference on Multimedia and Expo (ICME'2011), Barcelona, Spain, July 2011.

3. Collaboration with Journals

National Committees

- Member of the Technical and Scientific Council of the journal Tendências XXI published by 'Associação Portuguesa para o Desenvolvimento das Comunicações'.

International Committees

- Reviewer for many journals including IEEE Transactions on Circuits and Systems for Video Technology, IEEE Journal on Selected Areas in Communications, Proceedings of IEEE, IEEE Transactions on Pattern Analysis & Machine Intelligence, IEEE Transactions on Multimedia, IEEE Transactions on Image Processing, and IEEE Signal Processing Magazine.

- Member of the Editorial Board of the Signal Processing: Image Communication since March 1994.

- Associate Editor of IEEE Transactions on Circuits and Systems for Video Technology, April 1997 to December 2005.

- Area Editor for Image/Video Compression of the Signal Processing: Image Communication, since April 1999.

- Associate Editor of IEEE Transactions on Image Processing, January 2002 to December 2006.

- Associate Editor of IEEE Transactions on Multimedia, April 2002 to December 2004.

- Associate Editor of the Signal Processing Magazine, January 2007 to December 2008.

- Editorial Board Member of the Signal Processing Magazine since January 2009.

- Associate Editor of the IEEE Transactions on Multimedia, January 2009 to December 2010.

- Associate Editor of the International Journal of Image and Video Processing since July 2011.

Guest Editor

- Special issue on MPEG-4 of IEEE Transactions on Circuits and Systems for Video Technology, February 1997.

- Two special issues on MPEG-4 of Signal Processing: Image Communication, May and June 1997.

- Special issue on Object-based Video Coding and Description of IEEE Transactions on Circuits and Systems for Video Technology, December 1999.

- Tutorial issue on the MPEG-4 Standard of Signal Processing: Image Communication, December 1999.

- Special issue on MPEG-7 Technology of Signal Processing: Image Communication, September 2000.

- Special issue on Multimedia Adaptation of Signal Processing: Image Communication, September 2003.

- Special issue on the MPEG-21 Standard of IEEE Transactions on Multimedia, June 2005.

- Special issue on Object-based Video Coding and Description of IEEE Transactions on Circuits and Systems for Video Technology, December 1999.

- Special issue on Image and Video Processing Technologies of IEE Proceedings on Vision, Image and Signal Processing, June 2005.

- Special issue on Analysis and Understanding for Video Adaptation of IEEE Transactions on Circuits and Systems for Video Technology, October 2005.

- Special issue on European Projects on Visual Representation Systems and Services of Signal Processing: Image Communication, October 2005.

- Special issue on Distributed Video Coding, Signal Processing: Image Communication, June 2008.

- Special issue on Video Surveillance of IEEE Transactions on Circuits and Systems for Video Technology, August 2008.

- Special issue on Multimedia Quality Assessment, Signal Processing Magazine, November 2011.

4. Collaboration with Conferences and Workshops

National Committees

- Member of the Scientific Committee of the 10th Portuguese Conference on Pattern Recognition (RECPAD'98), Lisbon, Portugal, March 1998.

- Member of the Organizing Committee of the III Conferência de Telecomunicações (CONFTELE'99), Sesimbra, Portugal, April 1999.

- Member of the Program Committee of the 10º Encontro Português de Computação Gráfica, Lisbon, Portugal, October 2001.

- Member of the Program Committee of the Conferência de Redes de Computadores (CRC'2002), Faro, Portugal, September 2002.

- Member of the Program Committee of the Conferência de Redes de Computadores (CRC'2003), Bragança, Portugal, September 2003.

- Member of the Program Committee of the 12º Encontro Português de Computação Gráfica, Porto, Portugal, October 2003.

- Member of the Technical Committee of the 6ª Conferência de Telecomunicações (CONFTELE'07), Peniche, Portugal, May 2007.

- Member of the Program Committee of the 15º Encontro Português de Computação Gráfica, Porto Salvo, Portugal, October 2007.

- Member of the Technical Committee of the 7ª Conferência de Telecomunicações (CONFTELE'09), Santa Maria da Feira, Portugal, May 2009.

- Member of the Program Committee of the 17º Encontro Português de Computação Gráfica, Covilhã, Portugal, October 2009.

International Committees

- Member of the International Scientific Committee of the Picture Coding Symposium (PCS'96), Melbourne, Australia, March 1996.

- Member of the Program Committee of IMAGECOM'96, Bordeaux, France, May 1996.

- Member of the Program Committee of the First European European Conference on Multimedia Applications, Services and Techniques (ECMAST'96), Louvain-la-Neuve, Belgium, May 1996.

- Member of the International Scientific Committee of the European Signal Processing Conference (EUSIPCO' 96), Trieste, Italy, September 1996.

- Member of the Program Committee of the European Conference on Multimedia Applications, Services and Techniques (ECMAST'97), Milan, Italy, May 1997.

- Membe of the Steering Committee of the Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'97), Louvain-la-Neuve, Belgium, June 1997.

- Member of the Organizing Committee of the 1st Multimedia Technical Exposition, Fribourg, Switzerland, November 1997.

- Member of the Program Committee of the European Conference on Multimedia Applications, Services and Techniques (ECMAST'98), Berlin, Germany, May 1998.

- Member of the International Scientific Committee of the European Signal Processing Conference (EUSIPCO' 98), Rhodes, Greece, September 1998.

- Member of the International Scientific Committee of the International Workshop on Very Low Bitrate Video Coding (VLBV'98), Urbana, IL, USA, October 1998.

- Member of the Program Committee of the Visual Communications and Image Processing Conference (VCIP'99), San Jose, CA, USA, January 1999.

- Member of the Program Committee of the 2nd Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'99), Berlin, Germany, May 1999.

- Member of the Program Committee of the Third International Conference on Visual Information Systems (VISUAL'99), Amsterdam, The Netherlands, June 1999.

- Member of the Program Committee of the IEEE International Conference on Multimedia Computing and Systems (ICMCS'99), Florence, Italy, June 1999.

- Member of the Program Committee of the Workshop on Content-Based Multimedia Indexing (CBMI'99), Toulouse, France, October 1999.

- Member of the International Scientific Committee of the International Workshop on Very Low Bitrate Video Coding (VLBV'99), Kyoto, Japan, October 1999.

- Member of the Program Committee of the Visual Communications and Image Processing conference (VCIP'2000), Perth, Australia, June 2000.

- Member of the Scientific Committee of the International Symposium on Image/Video Communication over Fixed and Mobile Network, Rabat, Morocco, April de 2000.

- Member of the Technical Committee of the 10th International Packet Video Workshop, Cagliari, Italy, May 2000.

- Member of the Organizing Committee of the 1st Workshop and Exhibition on MPEG-4, together with ISCAS'2000, Geneva, Switzerland, May 2000.

- Member of the Program Committee of the Visual Communications and Image Processing Conference (VCIP'2001), San Jose, CA, USA, January 2001.

- Member of the International Scientific Committee of the Picture Coding Symposium (PCS'2001), Seoul, Korea, April 2001.

- Member of the Technical Committee of the 11th International Packet Video Workshop, Taejon, Korea, April 2001.

- Chairman of the Program Committee of the International Conference on Media Futures, Florence, Italy, May 2001.

- Member of the Program Committee of the Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2001), Tampere, Finland, May 2001.

- Member of the Organizing Committee of the Second Workshop and Exhibition on MPEG-4 as Tutorials Chairman, San Jose, CA, USA, June 2001.

- Member of the Program Committee of the 3rd Symposium on Advanced Concepts for Intelligent Vision Systems, Baden-Baden, Germany, July 2001.

- Member of the Program Committee of the EURASIP Conference on Digital Signal Processing for Multimedia Communications and Services, Budapest, Hungary, September 2001.

- Member of the Program Committee of the International Workshop on Interactive Distributed Multimedia Systems, Lancaster, UK, September 2001.

- Member of the Program Committee of the International Conference on Image Processing (ICIP'2001), Thessaloniki, Greece, October 2001.

- Member of the International Scientific of the International Workshop on Very Low Bitrate Video Coding (VLVB'2001), Athens, Greece, October 2001.

- Member of the Program Committee of the International Conference on Visual Information Systems (VIS'2002), Hsin Chu City, Taiwan, March 2002.

- Member of the Technical Committee of the 12th International Packet Video Workshop, Pittsburgh, PA, USA, April 2002.

- Member of the Organizing Committee of the Second Workshop and Exhibition on MPEG-4 as Tutorials Chairman, San Jose, CA, USA, June 2002.

- Member of the Organizing Committee of the 13th IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'2002), Lisbon, Portugal, September 2002.

- Member of the Organizing of the International Conference on Image Processing (ICIP'2002) as European Liaison, Rochester, NY, USA, September 2002.

- Member of the Program Committee of the 4th Symposium on Advanced Concepts for Intelligent Vision Systems (ACIVS'2002), Ghent, Belgium, September 2002.

- Member of the Program Committee of the Joint International Workshop on Interactive Distributed Multimedia Systems / Protocols for Multimedia Systems (IDMS/PROMS'2002), Coimbra, Portugal, November 2002.

- Member of the International Scientific Committee of the Picture Coding Symposium (PCS'2003), Saint Malo, France, April 2003.

- Member of the Technical Committee of the 13th International Packet Video Workshop, Nantes, France, April 2003.

- Member of the Program Committee of the Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2003), London, UK, April 2003.

- Member of the Program Committee of the Seventh International Symposium on Signal Processing and its Applications (ISSPA'2003), Paris, France, May 2003.

- Member of the Program Committee of the 4th EURASIP Conference focused on Video/Image Processing and Multimedia Communications (EC-VIP-MC 2003), Zagreb, Croatia, July 2003.

- Member of the Program Committee of the 6th IEEE International Conference on High Speed Networks and Multimedia Communications, Estoril, Portugal, July 2003.

- Track chair of the IEEE International Conference on Multimedia and Expo (ICME'2003), Baltimore, MD, USA, July 2003.

- Global chair of the topic Distributed Systems and Distributed Multimedia at the International Conference on Parallel and Distributed Computing (Euro-Par 2003), Klagenfurt, Austria, August 2003.

- Member of the Organizing Committee of the International Conference on Image Processing (ICIP'2003), as Tutorials Chairman, Barcelona, Spain, September 2003.

- Member of the International Scientific Committee of the International Workshop on Very Low Bitrate Video Coding (VLVB'2003), Madrid, Spain, September 2003.

- Member of the Program Committee of the 5th Symposium on Advanced Concepts for Intelligent Vision Systems (ACIVS'2003), Ghent, Belgium, September 2003.

- Member of the Program Committee of the International Conference on Visual Information Systems (VIS'2003), Miami, FL, USA, September 2003.

- Member of the Program Committee of the International Workshop on Multimedia Interactive Protocols and Systems (MIPS'2003), Naples, Italy, November 2003.

- Member of the Program Committee of the International Conference on Information, Communications and Signal Processing (ICICS'2003), Singapore, December 2003.

- General Chairman of the International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2004), Lisbon, Portugal, April 2004.

- Member of the Program Committee of the IEEE International Conference on Multimedia and Expo (ICME'2004), Taipei, Taiwan, June 2004.

- Member of the Scientific Committee of the 2nd International Symposium on Image/Video Communications over Fixed and Mobile Networks (ISIVC'04), Brest, France, July 2004.

- Member of the Program Committee of the International Conference on Pattern Recognition (ICPR'2004), Cambridge, UK, August 2004.

- Member of the Program Committee of the 6th Symposium on Advanced Concepts for Intelligent Vision Systems (ACIVS'2004), Brussels, Belgium, August-September 2004.

- Member of the Program Committee of the International Conference on Visual Information Systems (VIS'2004), San Francisco, CA, USA, September 2004.

- Member of the Program Committee of the European Signal Processing Conference (EUSIPCO' 2004), Vienna, Austria, September 2004.

- Member of the Program Committee of the 11th International Workshop on Systems, Signals and Image Processing (IWSSIP'04), Poznan, Poland, September 2004.

- Member of the Program and Advisory Committees of the International Conference on Image Analysis and Recognition (ICIAR'2004), Porto, Portugal, September-October 2004.

- Member of the Program Committee of the International Conference on Image Processing (ICIP'2004), Singapore, October 2004.

- Member of the Technical Committee of the European Workshop on the Integration of Knowledge, Semantic and Digital Media Technologies, London, UK, November 2004.

- Member of the International Scientific Committee of the Picture Coding Symposium (PCS'2004), San Francisco, CA, USA, December 2004.

- Member of the Technical Committee of the 14th International Packet Video Workshop, Irvine, CA, USA, December 2004.

- Member of the Program Committee of the IASTED International Conference on Internet and Multimedia Systems and Applications (EuroIMSA'2005), Grindelwald, Switzerland, February 2005.

- Member of the Program Committee of the Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2005), Montreux, Switzerland, April 2005.

- Member of the Program Committee of the Fourth International Workshop on Content-Based Multimedia Indexing (CBMI'2005), Riga, Latvia, June 2005.

- Member of the Program Committee of the First International Conference on Multimedia Services Access Networks (MSAN'2005), Orlando, FL, USA, June 2005.

- Member of the Reviewing Committee of the 2nd Iberian Conference on Pattern Recognition and Image Analysis (IbPRIA'2005), Estoril, Portugal, June 2005.

- Track chair of the IEEE International Conference on Multimedia and Expo (ICME'2005), Amsterdam, The Netherlands, July 2005.

- Member of the Program Committee of the International Conference on Visual Information Systems (VIS'2005), Amsterdam, The Netherlands, July 2005.

- Chairman of the Program Committee of the Visual Communications and Image Processing Conference (VCIP'2005), Beijing, China, July 2005.

- Member of the Program Committee of the Eigth International Symposium on Signal Processing and its Applications (ISSPA'2005), Sydney, Australia, August 2005.

- Chairman of the Technical Committee of the International Workshop on Very Low Bitrate Video Coding (VLVB'2005), Cagliari, Italy, September 2005.

- Member of the Program Committee of the International Conference on Image Processing (ICIP'2005), Genoa, Italy, September 2005.

- Member of the Program and Advisory Committees of the International Conference on Image Analysis and Recognition (ICIAR'2005), Toronto, Canada, September 2005.

- Member of the Program Committee of the 12th International Workshop on Systems, Signals and Image Processing (IWSSIP'05), Chalkida, Greece, September 2005.

- Member of the Program Committee of the 7th Symposium on Advanced Concepts for Intelligent Vision Systems (ACIVS'2005), Antwerp, Belgium, September 2005.

- Member of the Program Committee of the 5th International Conference on Information, Communications & Signal Processing (ICICS'2005), Bangkok, Thailand, December 2005.

- Member of the Technical Committee of the Second International Workshop on Video Processing and Quality Metrics for Consumer Electronics (VPQM'06), Scottsdale, AZ, USA, January 2006.

- Member of the Technical Committee of the Second International Symposium on Communications, Control and Signal Processing (ISCCSP'2006), Marrakech, Morocco, March 2006.

- Member of the Technical Committee of the 15th International Packet Video Workshop, Hangzhou, China, April 2006.

- Member of the International Scientific of the Picture Coding Symposium (PCS'2006), Beijing, China, April 2006.

- Member of the Program Committee of the Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2006), Seoul, Korea, April 2006.

- Member of the Program Committee of the International Conference on Telecommunications (ICT'2006), Funchal, Portugal, May 2006.

- Member of the Program Committee of the Workshop on Visual Computing and Multimedia, Glasgow, Scotland, May 2006.

- Member of the Program Committee of the First International Workshop on Semantic Web Annotations for Multimedia (SWAMM'2006), Edinburgh, Scotland, May 2006.

- Member of the Program Committee of the IEE Visual Information Engineering (VIE'2006), Bangalore, India, September 2006.

- Member of the Program Committee of the International Conference on Image Analysis and Recognition (ICIAR'2006), Póvoa de Varzim, Portugal, September 2006.

- Member of the Program Committee of the 8th Symposium on Advanced Concepts for Intelligent Vision Systems (ACIVS'2006), Antwerp, Belgium, September 2006.

- Member of the Program Committee of the Second International Mobile and Multimedia Communications Conference (MobiMedia'2006), Alghero, Italy, September 2006.

- Member of the Program Committee of the International Conference on Image Processing (ICIP'2006), Atlanta, GA, USA, October 2006.

- Member of the Technical Committee of the Third International Workshop on Video Processing and Quality Metrics for Consumer Electronics (VPQM'07), Scottsdale, AZ, USA, January 2007.

- Member of the Technical Committee of the 9th International Conference on Visual Information Systems (VISUAL'2007), Shanghai, China, June 2007.

- Member of the Program Committee of the Fifth International Workshop on Content-Based Multimedia Indexing (CBMI'2007), Bordeaux, France, June 2007.

- Member of the Program Committee of the Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2007), Santorini, Greece, June 2007.

- Track chair of the IEEE International Conference on Multimedia and Expo (ICME'2007), Beijing, China, July 2007.

- Member of the Program Committee of the Third International Mobile and Multimedia Communications Conference (MobiMedia'2007), Nafpaktos, Greece, August 2007.

- Member of the Program Committee of the International Conference on Image Analysis and Recognition (ICIAR'2007), Montreal, Canada, August 2007.

- Member of the Program Committee of the 9th Symposium on Advanced Concepts for Intelligent Vision Systems (ACIVS'2006), Delft, The Netherlands, August 2007.

- Member of the Scientific Committee of the 14th International Conference on Image Analysis and Processing (ICIAP'2007), Modena, Italy, September2007.

- Member of the Program Committee of ACM Multimedia, Augsburg, Germany, September 2007.

- Member of the Program Committee of the International Conference on Image Processing (ICIP'2007), San Antonio, TX, USA, September 2007.

- Member of the Technical Committee of the 16th International Packet Video Workshop, Lausanne, Switzerland, November 2007.

- General Chair of the Picture Coding Symposium (PCS'2007), Lisbon, Portugal, November 2007.

- Member of the Technical Committee of the 16th International Packet Video Workshop, Lausanne, Switzerland, November 2007.

- Member of the Scientific Committee of the 12th Iberoamerican Congress on Pattern Recognition (CIARP'2007), Viña del Mar, Valparaiso, Chile, November 2007.

- Member of the Steering Committee of the IEEE International Conference on Signal Processing and Communications, Dubai, United Arab Emirates, November 2007.

- Member of the Technical Committee of the Pacific-Rim Conference on Multimedia (PCM'07), Hong-Kong, December 2007.

- Member of the Technical Committee of the Second International Conference on Ubiquitous Information Management and Communication (ICUIMC'08), Suwon, South Korea, January 2008.

- Member of the Program Committee of the Visual Communications and Image Processing Conference (VCIP'2008), San Jose, CA, USA, January 2008.

- Member of the Program Committee of the International Workshop on Signal Processing and its Applications (WoSPA'2008), Sharjah, United Arab Emirates, March 2008.

- Member of the Program Committee of the IEEE International Symposium on Consumer Electronics (ISCE'2008), Albufeira, Portugal, April 2008.

- President of the Technical Program Committee of the Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2008), Klagenfurt, Austria, May 2008.

- Member of the Supervising Committee of the IEEE International Conference on Multimedia and Expo (ICME'2008) in representation of the IEEE Signal Processing Society, Hannover, Germany, June 2008.

- Member of the Technical Committee of the ACM International Conference on Image and Video Retrieval (CIVR'2008), Niagara Falls, Canada, July 2008.

- Area chair of Image & Multidimensional Signal Processing at the European Signal Processing Conference (EUSIPCO' 2008), Lausanne, Switzerland, August 2008.

- Member of the Program Committee of the 2nd IEEE International Workshop on Multimedia Analysis and Processing (IMAP), St. Thomas, Virgin Island, USA, August 2008.

- Member of the Program Committee of the Workshop on Activity Monitoring by Multi-Camera Surveillance Systems (AMMCSS'2008), Stanford, CA, USA, September 2008.

- Member of the Technical Committee of the 9th International Conference on Visual Information Systems (VISUAL'2008), Salerno, Italy, September 2008.

- Member of the Technical Committee of the International Workshop on Multimedia Signal Processing (MMSP'08), Cairns, Australia, October 2008.

- Member of the Program Committee of the 9th Symposium on Advanced Concepts for Intelligent Vision Systems (ACIVS'2008), Juan-les-Pins, France, October 2008.

- Member of the Program Committee of the 15th International Multimedia Modeling Conference (MMM'2009), Sophia-Antipolis, France, January 2009.

- Member of the Program Committee of the Visual Communications and Image Processing Conference (VCIP'2009), San Jose, CA, USA, January 2009.

- Member of the Technical Committee of the Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2009), London, UK, May 2009.

- Member of the Scientific Committee of the Picture Coding Symposium (PCS'2009), Chicago, IL, USA, May 2009.

- Member of the Steering Committee of the International Packet Video Workshop (PV'2009), Seattle, WA, USA, May 2009.

- Member of the Program Committee of the Workshop on Content-Based Multimedia Indexing (CBMI'09), Chania, Crete, Greece, June 2009.

- Member of the Organizing Committee of the 1st International Workshop on Quality of Multimedia Experience (QoMex'2009), San Diego, CA, USA, July 2009.

- Member of the Program Committee of the International Conference on Image Analysis and Recognition (ICIAR'2009), Halifax, Canada, July 2009.

- Member of the Supervising Committee of the IEEE International Conference on Multimedia and Expo (ICME'2009) in representation of the IEEE Signal Processing Society, New York, NY, USA, July 2009.

- Area chair for Image & Multidimensional Signal Processing at the European Signal Processing Conference (EUSIPCO' 2009), Glasgow, Scotland, August 2009.

- Member of the Technical Committee of the IEEE International Conference on Advanced Video and Signal based Surveillance (AVSS'2009), Genoa, Italy, September 2009.

- Member of the Program Committee of the 5th International Mobile and Multimedia Communications Conference (MobiMedia'2009), London, UK, September 2009.

- Member of the Scientific Committee of the 15th International Conference on Image Analysis and Processing (ICIAP'2009), Salerno, Italy, September 2009.

- Member of the Program Committee of the Symposium on Advanced Concepts for Intelligent Vision Systems (ACIVS'2009), Bordeaux, France, September-October 2009.

- Member of the Technical Committee of the International Workshop on Multimedia Signal Processing (MMSP'09), Rio de Janeiro, Brazil, October 2009.

- Member of the Program Committee of the ACM Multimedia (Content track), Beijing, China, October 2009.

- Member of the Program Committee of the IEEE Pacific-Rim Conference on Multimedia, Bangkok, Thailand, December 2009.

- Member of the Program Committee of the Visual Information Processing and Communication Conference (VIPC'2010), San Jose, CA, USA, January 2010.

- Member of the Program Committee of the 16th International Multimedia Modeling Conference (MMM'2010), Chongqing, China, January 2010.

- Member of the Technical Committee of the Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2010), Desenzano del Garda, Italy, April 2010.

- Member of the Program Committee of the 15th IEEE Mediterranean Electrotechnical Conference (MELECON'2010), La Valleta, Malta, April 2010.

- Member of the Program Committee of the do 2nd International Workshop on Quality of Multimedia Experience (QoMex'2010), Trondheim, Norway, June 2010.

- Member of the Program Committee of the Fourth International Workshop on Content-Based Multimedia Indexing (CBMI'2010), Grenoble, France, June 2010.

- Member of the Technical Committee of the IEEE International Conference on Multimedia and Expo (ICME'2010), Singapura, June 2010.

- Member of the Program Committee of the International Conference on Image Analysis and Recognition (ICIAR'2010), Póvoa de Varzim, Portugal, June 2010.

- Member of the Program Committee of the 17th International Conference on Systems, Signals and Image Processing (IWSSIP'2010), Rio de Janeiro, Brazil, June 2010.

- Member of the Organizing Committee of the Visual Communications and Image Processing Conference (VCIP'2009), Huang Shan, China, July 2010.

- Member of the Program Committee of the Workshop on Activity Monitoring by Multi-Camera Surveillance Systems (AMMCSS'2010), Boston, MA, USA, August 2010.

- Member of the Program Committee of the IEEE Pacific-Rim Conference on Multimedia, Shanghai, China, September 2010.

- President of the Technical Committee of the IEEE International Conference on Image Processing (ICIP'2010), Hong Kong, September 2010.

- Member of the Technical Committee of the 6th International Mobile Multimedia Communications Conference (MobiMedia'2010), Lisbon, Portugal, September 2010.

- Member of the Program Committee of the International Telecommunications Symposium (ITS'2010), Manaus, Amazonas, Brazil, September 2010.

- Member of the Technical Committee of the International Workshop on Multimedia Signal Processing (MMSP'10), Saint-Malo, France, October 2010.

- Member of the Technical Committee of the International Symposium on Image/Video Communications and Mobile Networks (ISIVC'2010), Rabat, Morocco, October 2010.

- Member of the Program Committee of the ACM Multimedia (Applications, Systems e Short tracks), Florence, Italy, October 2010.

- Member of the Scientific Committee of the Picture Coding Symposium (PCS'2010), Nagoya, Japan, December 2010.

- Member of the Program Committee of the 11st Symposium on Advanced Concepts for Intelligent Vision Systems (ACIVS'2010), Sydney, Australia, December 2010.

- Member of the Program Committee of the International Multimedia Modeling Conference (MMM'2011), Taiwan, January 2011.

- Member of the Technical Committee of the International Conference on Computer as a Tool (EUROCON'2011), Lisbon, Portugal, April 2011.

- Member of the Technical Committee of the Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2011), Delft, The Netherlands, April 2011.

- Member of the Program Committee of the Workshop on Content-Based Multimedia Indexing (CBMI'11), Madrid, Spain, June 2011.

- Member of the Program Committee of the International Conference on Image Analysis and Recognition (ICIAR'2011), Burnaby, Canada, June 2011.

- Member of the Technical Committee of the International on Digital Signal Processing (DSP'2011), Corfu, Greece, July 2011.

- Member of the Technical Committee of the IEEE International Conference on Multimedia and Expo (ICME'2011), Barcelona, Spain, July 2011.

- Member of the Technical Committee of the International Conference on Internet Multimedia Computing and Service (ICIMCS'2011), Chengdu, China, August 2011.

- Member of the Program Committee of the Symposium on Advanced Concepts for Intelligent Vision Systems (ACIVS'2011), Gent, Belgium, August 2011.

- Member of the Technical Committee of the IEEE International Conference on Advanced Video and Signal based Surveillance (AVSS'2011), Klagenfurt, Austria, September 2011.

- Member of the Technical Committee of the 6th International Mobile Multimedia Communications Conference (MobiMedia'2011), Cagliari, Italy, September 2011.

- Member of the Program Committee of the European Signal Processing Conference (EUSIPCO' 2011), Barcelona, Spain, September 2011.

- Member of the Program Committee of the do International Workshop on Quality of Multimedia Experience (QoMex'2011), Mechelen, Belgium, September 2011.

- Member of the Program Committee of the International Conference on Image Processing (ICIP'2011), Brussels, Belgium, September 2011.

- Member of the Technical Committee of the International Workshop on Multimedia Signal Processing (MMSP'11), Hangzhou, China, October 2011.

- Member of the Program Committee of the Conference on Electronics, Telecommunications and Computers (CETC'2011), Lisbon, Portugal, November 2011.

- Track chair at the IEEE International Conference on Multimedia and Expo (ICME'2012), Melbourne, Australia, July 2012.

Session Chairman

- Chairman of the session "Object-based coding using 2D models" at the European Workshop on New Techniques for Coding of Video Signals at Very Low Bitrates, Hannover, Germany, December 1993.

- Chairman of the session "Services and applications" at the RACE Mobile Telecommunications Workshop, Amsterdam, The Netherlands, May 1994.

- Chairman of the session "Very low bitrate coding" at Picture Coding Symposium, Melbourne, Australia, March 1996.

- Chairman of the special session by invitation on "Very low bit rate image coding" at the First European Conference on Multimedia Applications, Systems and Technologies (ECMAST'96), Louvain-la-Neuve, Belgium, May 1996.

- Chairman of the session "Model based coding", at Int. Workshop on Coding Techniques for Very Low Bit-rate Video, Linkoping, Sweden, July 1997.

- Chairman of the session "Image coding", at RECPAD'98, Lisbon, Portugal, March 1998.

- Chairman of the special session by invitation on "Multimedia Standards and Graphics" at EUROGRAPHICS'98, Lisbon, Portugal, September 1998.

- Chairman of the session on "Telecomunicações" at the 4º Encontro Nacional do Colégio de Engenharia Electrotécnica, Lisboa, Portugal, May 1999.

- Chairman of the special session by invitation "Multimedia standards" at IEEE International Conference on Multimedia Computing and Systems (ICMCS'99), Florence, Italy, June 1999.

- Chairman of the MPEG-4 Seminar, Vancouver, Canada, July 1999.

- Chairman of the session "Object-based coding" at International Conference on Image Processing (ICIP'2002), Rochester, NY, USA, September 2002.

- Chairman of the session "Standards and related issues" at Joint International Workshop on Interactive Distributed Multimedia Systems / Protocols for Multimedia Systems (IDMS/PROMS'2002), Coimbra, Portugal, December 2002.

- Chairman of the session "Content based & model based coding" at Picture Coding Symposium (PCS'2003), St.Malo, France, April 2003.

- Chairman of the session "Multimodal interfaces" at IEEE International Conference on Multimedia and Expo (ICME'2003), Baltimore, MD, USA, July 2003.

- Chairman of the session "Face analysis" at IEEE International Conference on Image Processing (ICIP'2003), Barcelona, Spain, September 2003.

- Chairman of the session "Video coding standards" at IEEE International Conference on Image Processing (ICIP'2004), Singapore, October 2004.

- Chairman of the session "Image processing" at 5th Conference on Telecommunications (CONFTELE'2005), Tomar, Portugal, April 2005.

- Chairman of the session "Video streamings" at IEEE International Conference on Multimedia and Expo (ICME'2005), Amsterdam, The Netherlands, July 2005.

- Chairman of the session "Video coding algorithms" at Visual Communications and Image Processing Conference (VCIP'2005), Beijing, China, July 2005.

- Chairman of the session "Video networking" at IEEE International Conference on Image Processing (ICIP'2005), Genoa, Italy, September 2005.

- Chairman of the session "Video processing" at IEEE Workshop on Multimedia Signal Processing (MMSP'2005), Shanghai, China, October-November 2005.

- Chairman of the session "Next generation video coding" at Picture Coding Symposium (PCS'2006), Beijing, China, April 2006.

- Chairman of the session "Motion analysis" at International Conference on Image Analysis and Recognition (ICIAR'2006), Póvoa de Varzim, Portugal, September 2006.

- Chairman of the session "Remote sensing and video coding" at IEEE Workshop on Multimedia Signal Processing (MMSP'2006), Victoria, Canada, October 2006.

- Chairman of the session "Image and video coding" at IEEE International Conference on Image Processing (ICIP'2006), Atlanta, GA, USA, October 2006.

- Chairman of the session "H.264 video coding" at IEEE International Conference on Image Processing (ICIP'2007), San Antonio, TX, USA, September 2007.

- Chairman of the session "Best paper award special session" at Picture Coding Symposium (PCS'2007), Lisbon, Portugal, November 2007.

- Chairman of the special session "Distributed video coding" at IEEE International Conference on Multimedia and Expo (ICME'2008), Hannover, Germany, June 2008.

- Chairman of the session "Image and video coding and encryption" at International Conference on Image Analysis and Recognition (ICIAR'2008), Póvoa de Varzim, Portugal, June 2008.

- Chairman of the session "Distributed video coding" at IEEE International Conference on Image Processing (ICIP'2008), San Diego CA, USA, October 2008.

- Chairman of the session "Distributed video coding" at IEEE International Conference on Image Processing (ICIP'2008), San Diego, CA, USA, October 2008.

- Chairman of the session "Image Processing" at International Telecommunications Symposium (ITS), Manaus, Brazil, September 2010.

- Chairman of the special session "Best Student Paper Award" at IEEE International Conference on Image Processing (ICIP'2010), Hong Kong, September 2010.

- Chairman of the session "Face Recognition and Understanding" at IEEE International Conference on Image Processing (ICIP'2010), Hong Kong, September 2010.

- Chairman of the session "Wireless Communications IV" at International Conference on Computer as a Tool (EUROCON'2011), Lisbon, Portugal, April 2011.

Panels Participation

- Member of the final panel at Picture Coding Symposium (PCS'96), Melbourne, Australia, March 1996.

- Member of the final panel at International Workshop on Coding Techniques for Very Low Bitrate Video (VLVB'97), Linkoping, Sweden, July 1997.

- Member of the panel on "Video representation, coding and indexing" at International Workshop on Very Low Bitrate Video Coding (VLBV'98), Urbana, IL, USA, October 1998.

- Member of the panel on MPEG-7 at 2nd MPEG-7 Awareness Event, Singapore, March 2001.

- Member of the panel on "MPEG-7 and MPEG-21: developments and prospects" at International Workshop on Very Low Bitrate Video Coding (VLBV'2001), Athens, Greece, October 2001.

- Chairman of the panel on "Content adaptation" at International Workshop on Very Low Bitrate Video Coding (VLBV'03), Madrid, Spain, September 2003.

- Member of the panel on "Scalable video coding" at Visual Communications and Image Processing Conference (VCIP'2005), Beijing, China, July 2005.

- Member of the panel on "Past and future of picture coding" at Picture Coding Symposium (PCS'2006), Beijing, China, April 2006.

- Member of the panel on "Distributed video coding" at Picture Coding Symposium (PCS'2006), Beijing, China, April 2006.

- Member of the panel on "Similarities and differences of processing techniques in audio/speech and image/video processing" at IEEE Workshop on Multimedia Signal Processing (MMSP'2006), Victoria, Canada, October 2006.

- Chairman of the panel on "Quality of experience: tools, targets and trends", 1st IEEE International Workshop on Quality of Multimedia Experience (QoMEX'09), San Diego, CA, USA, July 2009.

- Chairman of the panel on "Quality of experience: tools, targets and trends", 3rdt IEEE International Workshop on Quality of Multimedia Experience (QoMEX'11), Mechelen, Belgium, September 2011.

5. Publications

Thesis

- F.Pereira, "Redução de redundância e resistência a erros em telecópia" (Redundancy reduction and error resilience for facsimile), M.Sc. Thesis, Instituto Superior Técnico, Technical University of Lisbon, July 1988.

- F.Pereira, "Variable bit rate video coding", Ph.D. Thesis, Instituto Superior Técnico, Technical University of Lisbon, July 1991.

Books

- F.Pereira, T.Ebrahimi (editors), "The MPEG-4 Book", Prentice Hall, 2002.

- I. Burnett, F.Pereira, R. Van de Walle, R. Koenen (editors), "The MPEG-21 Book", John Wiley & Sons, 2006.

- F.Pereira (editor), "Comunicações Audiovisuais: Tecnologias, Normas e Aplicações", IST Press, ISBN: 978-972-8469-81-8, July 2009.

Chapters in Books

- F.Pereira, R.Koenen, "MPEG-7: status and directions", chapter in the book "Multimedia systems, standards and networks" edited by A.Puri and T.Chen, Marcel Dekker, Inc., 1999.

- F.Pereira, R.Koenen, "Context, goals, and procedures", chapter in the book "Introduction to MPEG-7: Multimedia Content Description Language" edited by B.S.Manjunath, P.Salembier and T.Sikora, John Wiley & Sons, 2002.

- F.Pereira, "Context, objectives and process", chapter 1 in the book "The MPEG-4 Book", edited by F.Pereira and T.Ebrahimi, Prentice Hall, 2002.

- O.Avaro, R.Koenen, F.Pereira, "MPEG-4 overview", chapter 2 in the book "The MPEG-4 Book", edited by por F.Pereira and T.Ebrahimi, Prentice Hall, 2002.

- R.Koenen, F.Pereira, "Profiling and conformance: approach and overview", chapter 13 in the book "The MPEG-4 Book", edited by Fernando Pereira and Touradj Ebrahimi, Prentice Hall, 2002.

- L.Contin, V.Baroncini, F.Pereira, "Video testing for validation", chapter 15 in the book "The MPEG-4 Book", edited by F.Pereira and T.Ebrahimi, Prentice Hall, 2002.

- F.Pereira, P.Nunes, "Levels for visual profiles", appendix A in the book "The MPEG-4 Book", edited by F.Pereira and T.Ebrahimi, Prentice Hall, 2002.

- F.Pereira, "Levels for audio profiles", appendix B in the book "The MPEG-4 Book", edited by F.Pereira and T.Ebrahimi, Prentice Hall, 2002.

- F.Pereira, "Levels for graphics profiles", appendix C in the book "The MPEG-4 Book", edited by F.Pereira and T.Ebrahimi, Prentice Hall, 2002.

- F.Pereira, "Levels for scene graph profiles", appendix D in the book "The MPEG-4 Book", edited by F.Pereira and T.Ebrahimi, Prentice Hall, 2002.

- F.Pereira, Rik Van de Walle, "Multimedia content description in MPEG-7 and MPEG-21", chapter in the book "Multimedia Content and Semantic Web: Methods, Standards and Tools", edited by G.Stamou and S.Kollias, John Wiley & Sons, 2005.

- F.Pereira, R. Koenen, "MPEG: context, goals and working methodologies", chapter in the book "The MPEG-21 Book", edited by I. Burnett, F.Pereira, R. Van de Walle, and R. Koenen, John Wiley & Sons, 2006.

- F.Pereira, I. Burnett, "Future MPEG developments", chapter in the book "The MPEG-21 Book", edited by I. Burnett, F.Pereira, R. Van de Walle, and R. Koenen, John Wiley & Sons, 2006.

- I. Burnett, F.Pereira "An introduction to MPEG-21", chapter in the book "The MPEG-21 Book", edited by I. Burnett, F.Pereira, R. Van de Walle, and R. Koenen, John Wiley & Sons, 2006.

- P. Correia, F. Pereira, "Objective evaluation of video segmentation quality", chapter in the book "Advances in image and video segmentation", edited by Yu-Jin Zhang, Idea-Group Inc., 2006.

- F. Pereira, C. Brites, J. Ascenso, "Distributed video coding: basics, codecs and performance", chapter in the book "Distributed source coding: theory, algorithms and applications", edited by Michael Gastpar and Pier Luigi Dragotti, Academic Press, ISBN: 978-0-12-374485-2, 2009.

- F.Pereira, "Introdução", chapter in the book "Comunicações audiovisuais: tecnologias, normas e aplicações", edited by F.Pereira, IST Press, ISBN: 978-972-8469-81-8, July 2009.

- A.Ferreira, I.Trancoso, F.Pereira, C.Salema, "Mecanismos humanos de produção e percepção audiovisual", chapter in the book "Comunicações audiovisuais: tecnologias, normas e aplicações", edited by F. Pereira, IST Press, ISBN: 978-972-8469-81-8, July 2009.

- F.Pereira, S.Faria, "Codificação de imagem", chapter in the book "Comunicações audiovisuais: tecnologias, normas e aplicações", edited by F. Pereira, IST Press, ISBN: 978-972-8469-81-8, July 2009.

- S.Faria, F.Pereira, "Codificação de vídeo", chapter in the book "Comunicações audiovisuais: tecnologias, normas e aplicações", edited byr F. Pereira, IST Press, ISBN: 978-972-8469-81-8, July 2009.

- F.Pereira, "Descrição de conteúdos audiovisuais", chapter in the book "Comunicações audiovisuais: tecnologias, normas e aplicações", edited by F. Pereira, IST Press, ISBN: 978-972-8469-81-8, July 2009.

Paper in Books

- F.Pereira, L.Masera, "Bitrate optimization for fixed picture transmissions with an ATM adapted CCITT H.261 algorithm", in "New trends in communications, control and signal processing", Elsevier International, pp. 1483-1489, July 1990.

- F.Pereira, L.Masera, "An ATM adapted video coding algorithm using knowledge based techniques", in "Signal Processing VI", Elsevier International, pp. 781-784, September 1990.

- F.Pereira, "HDTV image coding with constant quality in an Asynchronous Transfer Mode network", in "Signal Processing of HDTV, 2", Elsevier International, 1990.

- F.Pereira, C.Salema, "Cell loss resilience for B-ISDN video communications", in "Broadband Communications", North-Holland, pp. 239-250, June 1992.

- C.Zibreira, F.Pereira, "Image description and retrieval using MPEG-7 shape descriptors", in "Research and Advanced Technology for Digital Libraries" from the collection Lectures Notes in Computer Science, Springer, pp. 332-335, September 2000.

- F.Pereira, "The MPEG-21 standard: why an open multimedia standard ?", in "Interactive Distributed Multimedia Systems", from the collection Lecture Notes in Computer Science, Springer, pp. 219-220, 2001.

- F.Pereira, "Content adaptation: the panacea for usage diversity ?", in "Visual Content Processing and Representation", from the collection Lectures Notes in Computer Science, Springer, pp. 9-12, 2003.

- D. Palma, J.Ascenso, F.Pereira, "Automatic text extraction in digital video based on motion analysis", in "Image Analysis and Recognition", from the collection Lecture Notes in Computer Science, Springer-Verlag Heidelberg, vol. 3211, pp. 588-596, 2004.

- F.Pereira, J. Ascenso, C. Brites, P. Fonseca, P. Pinho, J. Baltazar, "Evolution and challenges in multimedia representation technologies", in "A portrait of state-of-the-art research at the Technical University of Lisbon", Springer, 2007.

Papers in Journals: National by Invitation

- F.Pereira, "A step further on image communications: the CCITT H.261 standard", in Técnica, July 1993.

- F.Pereira, "A digitalização e a compressão na era da convergência", in 'Convergência XXI' published by Associação Portuguesa para o Desenvolvimento das Comunicações, nº 1, pp. 56-71, March 1996.

- F.Pereira, "Tele-visões: novas tecnologias, novos serviços", in 'Tendências XXI', published by Associação Portuguesa para o Desenvolvimento das Comunicações, nº 2, pp. 6-18, September 1997.

- F.Pereira, "A revolução multimédia: o papel da normalização", in 'Informação & Informática' published by Instituto de Informática do Ministério das Finanças.

- F.Pereira, "Televisão digital: a revolução já começou !", in 'O mercado das telecomunicações em Portugal', published by Maxitel, 1999.

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- F. Pereira, "MPEG-4: what should it do for us ?", ACcenTS Newsletter, Vol.1, nº2, May 1996.

- F. Pereira, "MPEG-4: the representation framework for a new content paradigm", ACcenTS Newsletter, Vol.2, nº1, February 1997.

- F.Pereira, T.Alpert, "MPEG-4 Video Subjective Tests Procedures and Results", Special Issue on MPEG-4 from IEEE Transactions on Circuits and Systems for Video Technology, vol.7, nº1, February 1997.

- T.Alpert, V.Baroncini, D.Choi, L.Contin, R.Koenen, F.Pereira, H.Peterson, "Subjective evaluation of MPEG-4 video codec proposals: methodological approach and test procedures", Special Issue on MPEG-4 from Signal Processing: Image Communication, vol. 9, nº 4, May 1997.

- R. Koenen, F. Pereira, L. Chiariglione, "MPEG-4: Context and Objectives", Special Issue on MPEG-4 from Signal Processing: Image Communication, vol. 9, nº 4, May 1997.

- P.Correia, F. Pereira, "IST video analysis framework?", ACcenTS Newsletter, vol.2, nº3, December 1997.

- F. Pereira, R. Koenen, "MPEG-4: opening new frontiers to broadcasting", EBU Technical Review, nº 279, pp. 28 – 35, Spring 1999.

- F. Pereira, "MPEG-4: why, what, how and when ?", Tutorial Issue on the MPEG-4 Standard from Signal Processing: Image Communication, vol. 15, nº 4-5, December 1999.

- R.Koenen, F.Pereira, "MPEG-7: a standardised description of audiovisual content", Signal Processing: Image Communication, Special Issue on MPEG-7 Technologies, vol. 16, nº 1-2, pp. 5-13, September 2000.

- F.Pereira, "MPEG-4: concepts, tools and applications", Journal de Réseaux et systèmes répartis - calculateurs paralleles, Special Issue on Image and Video, vol. 12, nº 3-4, pp. 299-313, 2000.

- F.Pereira, R.Koenen, "MPEG-7: a standard for multimedia content description", International Journal of Image and Graphics, Special Issue on Image and Video Databases, vol. 1, nº 3, August 2001.

- J.M.Martínez, R.Koenen, F.Pereira, "MPEG-7: the generic multimedia content description standard", IEEE Multimedia, vol. 9, nº 2, pp. 78-87, April-June 2002.

- F.Pereira, I.Burnett, "Universal multimedia experiences for tomorrow", IEEE Signal Processing Magazine, Special Issue on Universal Multimedia Access, vol.20, nº 2, pp. 63-73, March 2003.

- I.Burnett, R.Van De Walle, K.Hill, J.Bormans, F.Pereira, "MPEG-21: goals and achievements", IEEE Multimedia, vol.10, nº 4, pp.60-70, October-December 2003.

- J.Ostermann, J.Bormans, P.List, D.Marpe, M.Narroschke, F.Pereira, T.Stockhammer, T.Wedi, "Video coding with H.264/AVC: tools, performance, and complexity", IEEE Circuits and Systems Magazine, vol.4, nº 1, pp. 7-28, January-March 2004.

- K. Diepold, F. Pereira, W. Chang, "MPEG-A: multimedia application formats", IEEE Multimedia, vol. 12, nº 4, pp. 34 – 41, October-December 2005.

- F. Pereira, "Technologies for digital multimedia communications: an evolutional analysis of MPEG standards", China Communications Journal, vol. 3, nº 5, pp. 8 – 19, October 2006.

- C. Guillemot, F. Pereira, L. Torres, T. Ebrahimi, R. Leonardi, J. Ostermann, "Distributed monoview and multiview video coding", IEEE Signal Processing Magazine, vol. 24, nº 5, pp. 67 – 76, September 2007

- F. Pereira, A. Vetro, T. Sikora, "Multimedia retrieval and delivery: essential metadata challenges and standards", Proceedings of the IEEE, vol. 96, nº 4, pp. 721-744, April 2008.

- J. Ascenso, C. Brites, F. Pereira, "A flexible side information generation framework for distributed video coding", Special Issue on Distributed Video Coding do Journal of Multimedia Tools and Applications, Springer Netherlands, vol. 48, nº 3, pp. 381 – 409, July 2010.

Papers in Journals: International after Submission

- F.Pereira, M.Quaglia, "Extension of the CCITT visual communication coding algorithm for operation in ATM networks", Signal Processing: Image Communication Journal, vol.2, n.1, May 1990.

- F.Pereira, L.Contin, M.Quaglia, P.Delicati, "A CCITT compatible coding algorithm for digital recording of moving images", Signal Processing: Image Communication Journal, Special Issue on 1 Mbit/s Video Coding, vol.2, n.2, August 1990.

- D.Cortez, P.Nunes, M.Sequeira, F.Pereira, "Image segmentation towards new image representation methods", Signal Processing: Image Communication Journal, vol.6, n.6, pp. 485- 498, February 1995.

- F.Pereira, R.Koenen, "Very low bitrate audio-visual applications", Signal Processing: Image Communication, vol.9, nº.1, pp. 55-77, November 1996.

- P.Correia, F.Pereira, "The role of analysis in content-based video coding and indexing", Signal Processing, Special Issue on Video Sequence Segmentation for Content-Based Processing and Manipulation, vol. 66, nº2, pp. 125-142, April 1998.

- G.Abrantes, F.Pereira, "MPEG-4 facial animation technology: survey, implementation and results", IEEE Transactions on Circuits and Systems for Video Technology, Special Issue on Synthetic/natural hybrid video coding, vol.9, nº 2, pp. 290 – 305, March 1999.

- L.Ducla Soares, F.Pereira, "Error resilience and concealment performance for MPEG-4 frame-based video coding", Signal Processing: Image Communication, Special Issue on Error Resilience, vol. 14, nº 6-8, pp. 447-472, May 1999.

- P.Nunes, F.Marques, F.Pereira, A.Gasull, "A contour-based approach to binary shape coding using a multiple grid chain code", Signal Processing: Image Communication, Special Issue on Shape Coding, vol. 15, nº 7-8, pp. 585-599, May 2000.

- P.Correia, F.Pereira, "Standalone objective segmentation quality evaluation", Journal on Applied Signal Processing, vol. 2002, nº 4, pp. 389-400, April de 2002.

- J.Valentim, P.Nunes, F.Pereira, "Evaluating MPEG-4 video decoding complexity for an alternative video verifier complexity model", IEEE Transactions on Circuits and Systems for Video Technology, vol. 12, nº 11, pp. 1034-1044, November 2002.

- P. Correia, F.Pereira, "Objective evaluation of video segmentation quality", IEEE Transactions on Image Processing, vol. 12, nº 2, pp. 186-200, February 2003.

- L.Ducla Soares, F.Pereira, "Refreshment need metrics for improved shape and texture object-based resilient video coding", IEEE Transactions on Image Processing, vol. 12, nº 3, pp. 328-340, March 2003.

- L.Ducla Soares, F.Pereira, "Spatial shape error concealment for object-based image and video coding", IEEE Transactions on Image Processing, vol. 13, nº 4, pp. 586-599, April 2004.

- L.Ducla Soares, F.Pereira, "Adaptive shape and texture intra refreshment schemes for improved error resilience in object-based video", IEEE Transactions on Image Processing, vol. 13, nº 5, pp. 662-676, May 2004.

- P.Correia, F.Pereira, "Classification of video segmentation application scenarios", IEEE Transactions on Circuits and Systems for Video Technology, Special Issue on Audio and Video Analysis for Multimedia Interactive Services, vol. 14, nº 5, pp. 735-741, May 2004.

- J.Magalhães, F.Pereira, "Using MPEG standards for multimedia customization", Signal Processing: Image Communication, vol. 19, nº. 5, pp. 437-456, May 2004.

- P.Fonseca, F.Pereira, "Automatic video summarization based on MPEG-7 descriptions", Signal Processing: Image Communication, vol.19, nº 8, pp. 685-699, September 2004.

- L.Ducla Soares, F.Pereira, "Temporal shape error concealment by global motion compensation with local refinement", IEEE Transactions on Image Processing, vol. 15, nº 6, pp. 1331 – 1348, June 2006.

- P.Correia, F.Pereira, "Video object relevance metrics for overall segmentation quality evaluation", Journal on Applied Signal Processing, vol. 2006, pp. 1-11.

- C. Brites, J. Ascenso, J. Pedro, F. Pereira, "Evaluating a Feedback Channel Based Transform Domain Wyner-Ziv Video Codec", Signal Processing: Image Communication, vol. 23, no. 4, pp. 269-297, April 2008.

- F. Pereira, L. Torres, C. Guillemot, T. Ebrahimi, R. Leonardi, S. Klomp, "Distributed Video Coding: Selecting the Most Promising Application Scenarios", Signal Processing: Image Communication, vol. 23, nº 5, pp. 339 - 352, June 2008.

- N. Matos, F. Pereira, "Automatic creation and evaluation of MPEG-7 compliant summary descriptions for generic audiovisual content", Signal Processing: Image Communication, vol. 23, nº 8, pp. 581-598, September 2008.

- C. Brites, F.Pereira, "Correlation noise modeling for efficient pixel and transform domain Wyner-Ziv video coding", IEEE Transactions on Circuits and Systems for Video Technology, vol. 18, nº 9, pp. 1177-1190, September 2008.

- J. Ascenso, F. Pereira, "Advanced side information creation techniques and framework for Wyner–Ziv video coding", Journal of Visual Communication and Image Representation, Special Issue on Resource-Aware Adaptive Video Streaming, vol. 19, nº 8, pp. 600-613, December 2008.

- R. Martins, C. Brites, J. Ascenso, and F. Pereira, "Refining side information for improved transform domain Wyner-Ziv video coding", IEEE Transactions on Circuits and Systems for Video Technology, vol. 19, nº 9, pp. 1327-1341, September 2009.

- P. Nunes, F.Pereira, "Joint rate control algorithm for low-delay MPEG-4 object-based video encoding", IEEE Transactions on Circuits and Systems for Video Technology, vol. 19, nº 9, pp. 1274-1288, September 2009.

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6. Communications in Conferences

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- F.Pereira, "Digital image communication: what, how and when", Workshop on Dynamics and Complexity, Lisbon, Portugal, September 1994.

- F.Pereira, "A invasão da imagem", 5º Congresso das Comunicações, Lisbon, Portugal, November 1994.

- F.Pereira, "Multimedia representation technology: a new generation is already coming", Forum Multimédia, Lisbon, Portugal, November 1995.

- F.Pereira, "New trends on image and video coding", Invited Speech at 10th Portuguese Conference on Pattern Recognition (RECPAD'98), Lisbon, Portugal, March 1998.

- F.Pereira, "Televisão digital: tecnologias e serviços", 4º Encontro Nacional do Colégio de Engenharia Electrotécnica, Ordem dos Engenheiros, Lisbon, Portugal, May 1999.

- F.Pereira, "The new MPEG standards for coding and description of audiovisual content", Jornadas de Engenharia de Telecomunicações e Computadores (JETC'99), Lisbon, Portugal, October 1999.

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- D.Cortez, M.M.Sequeira, F.Pereira, "Classification and coding of contour information", 7th Portuguese Conference on Pattern Recognition, Aveiro, Portugal, March 1995.

- P.Correia, P.Nunes, F.Pereira, "Video analysis and coding for the emerging MPEG-4 standard", 8th Portuguese Conference on Pattern Recognition, Guimarães, Portugal, March 1996.

- P.Nunes, F.Marqués, F.Pereira, "Binary Shape Coding Using Multi-Grid Chain Code With Motion Compensation", 9th Portuguese Conference on Pattern Recognition, Coimbra, Portugal, March 1997.

- L.Ducla-Soares, F.Pereira, "Protecção de informação de vídeo através de códigos entrópicos bidireccionalmente descodificáveis", I Conferência Nacional de Telecomunicações, Aveiro, Portugal, April 1997.

- P.Geada, F.Pereira, "Codificação de imagens videotelefónicas baseada em modelos", I Conferência Nacional de Telecomunicações, Aveiro, Portugal, April 1997.

- P.Nunes, P.Correia, F.Pereira, "Coding video objects with the emerging MPEG-4 standard", I Conferência Nacional de Telecomunicações, Aveiro, Portugal, April 1997.

- P.Correia, F.Pereira, "The IST video analysis framework", 10th Portuguese Conference on Pattern Recognition (RECPAD'98), Lisbon, Portugal, March 1998.

- P.Fernandes, F.Pereira, "Ambiente de simulação para sistemas de comunicação de imagem", 1º Workshop Computação Gráfica Multimédia Ensino, Leiria, Portugal, February 1999.

- G.Abrantes, F.Pereira, "The IST MPEG-4 facial animation system", II Conferência Nacional de Telecomunicações, Sesimbra, Portugal, April 1999.

- J.Ascenso, J.Valentim, F.Pereira, "Reconhecimento automático de faces usando informação de textura e de geometria 3D", 4º Encontro Nacional do Colégio de Engenharia Electrotécnica, Lisbon, Portugal, May 1999.

- J.Ascenso, P.Correia, F.Pereira, "A face detection solution integrating automatic and user assisted tools", 11th Portuguese Conference on Pattern Recognition (RECPAD'2000), Porto, Portugal, May 2000.

- L.Ducla Soares, F.Pereira, "MPEG-7 based spatial shape concealment difficulty", III Conferência de Telecomunicações, Figueira da Foz, Portugal, April 2001.

- J.Valentim, P.Nunes, F.Pereira, "IST MPEG-4 video compliant framework", III Conferência de Telecomunicações, Figueira da Foz, Portugal, April 2001.

- J.Ascenso, P.Correia, F.Pereira, "A video segmentation toolbox with support for user interaction", III Conferência de Telecomunicações, Figueira da Foz, Portugal, April 2001.

- C.Zibreira, F.Pereira, "A study of similarity measures for a turning angles-based shape descriptor", III Conferência de Telecomunicações, Figueira da Foz, Portugal, April 2001.

- J.Magalhães, F.Pereira, "MPEG-7 based color temperature customization", IV Conferência de Telecomunicações, Aveiro, Portugal, June 2003.

- J.Magalhães, F.Pereira, "A system for universal access to multimedia content based on the MPEG-7 standard", IV Conferência de Telecomunicações, Aveiro, Portugal, June 2003.

- C.Brites, F.Pereira, "Distributed video coding: bringing new applications to life", V Conferência de Telecomunicações, Tomar, Portugal, April 2005.

- P.Correia, F.Pereira, "Visual technologies for advanced applications: contributions by the IST-IT image group", V Conferência de Telecomunicações, Tomar, Portugal, April 2005.

- L. Ducla Soares, F. Pereira, "An integrated error resilient object-based video coding architecture", VI Conferência de Telecomunicações, Peniche, Portugal, May 2007.

- R. Almeida, F. Pereira, "H.264/AVC low complexity encoding: a novel fast coding mode selection solution", VI Conferência de Telecomunicações, Peniche, Portugal, May 2007.

- J. Pedro, C. Brites, J. Ascenso, F. Pereira, "Studying the feedback channel in transform domain wyner-ziv video coding", VI Conferência de Telecomunicações, Peniche, Portugal, May 2007.

- P. Nunes, F. Pereira, "Rate control architecture for joint object-based MPEG-4 video encoding", VI Conferência de Telecomunicações, Peniche, Portugal, May 2007.

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- R.Koenen, F.Pereira, "MPEG-4 requirements", Very Low Bitrate Coding & MPEG-4 Workshop, Brussels, Belgium, July 1994.

- F.Pereira, "MPEG-4 testing", MPEG-4 Workshop, Brussels, Belgium, July 1995.

- F.Pereira, "MPEG-4 - The new kid on the block", Second Annual European Video and Image Compression Conference, London, UK, November 1995.

- F.Pereira, "MPEG-4: a new challenge for the representation of audio-visual information", keynote speech at Picture Coding Symposium'96, Melbourne, Australia, March 1996.

- F. Pereira, "The MPEG-4 standard: evolution or revolution ?", Survey lecture at Radio Science and Telecommunications' 96, Sweden, June 1996.

- F.Pereira, "Very low bitrate video coding and MPEG-4: still a good relation", VIII European Signal Processing Conference, Trieste, Italy, September 1996.

- F.Pereira, "MPEG-7: a standard for content-based audiovisual description", invited speech at Sec. Int. Conference on Visual Information Systems (VISUAL'97), San Diego, USA, December 1997.

- "MPEG-4: a new approach to audiovisual coding", MUST'98, Paris, France, May 1998.

- "MPEG-4: the key for a new generation of multimedia applications", invited tutorial at 5th International Workshop on Interactive Distributed Multimedia Systems and Telecommunication Services, Oslo, Norway, September 1998.

- "MPEG-4 and MPEG-7: coding and describing multimedia objects", invited speech at Information Society Technologies Conference, Vienna, Austria, December 1998.

- F.Pereira, "MPEG-7: a standard for describing audiovisual information", Workshop on Multimedia Databases and MPEG-7, London, UK, January 1999.

- F.Pereira, "MPEG-4 and MPEG-7: technologies and functionalities", plenary speech at VIII Simposium Nacional de Reconocimiento de Formas y Analisis de Imagenes, Bilbao, Spain, May 1999.

- F.Pereira, "The MPEG-7 standard: a challenge to describe multimedia information", invited speech no European Workshop on Content-Based Multimedia Indexing (CBMI'99), Toulouse, France, October 1999.

- F.Pereira, "MPEG-4: concepts, tools and applications", International Symposium on Image/Video Communications over Fixed and Mobile Networks, Rabat, Morocco, April 2000.

- F.Pereira, "MPEG-7: multimedia content description standard", invited speech at Korea Telecom International Symposium 2000, Seoul, South Korea, October 2000.

- F.Pereira, "MPEG-21 standard: why an open multimedia framework ?", invited speech at 8th International Workshop on Interactive Distributed Multimedia Systems, Lancaster, UK, September 2001.

- F.Pereira, "MPEG-4 and MPEG-7: audiovisual standards for the XXIst century ?", invited speech at IMAGINA'2002, Monte-Carlo, Monaco, February 2002.

- F.Pereira, "MPEG-21 framework: more than just multimedia technologies", invited talk at European Symposium on Intelligent Technologies, Hybrid Systems and their implementation on Smart Adaptive Systems, Albufeira, Portugal, September 2002.

- F.Pereira, "Trends on visual representation for multimedia communications", plenary speech at 6th IEEE International Conference on High Speed Networks and Multimedia Communications, Estoril, Portugal, July 2003.

- F.Pereira, "Audiovisual content adaptation", plenary speech at Sixth Baiona Workshop on Signal Processing in Communications, Baiona, Spain, September 2003.

- F.Pereira, "Overview on multimedia compression standards", area review talk at 17th International Conference on Pattern Recognition (ICPR'2004), Cambridge, UK, August 2004.

- F.Pereira, "MPEG-21 standard: towards the integration of multimedia technologies", plenary talk no 11th Int. Workshop on Systems, Signals and Image Processing, Poznan, Poland, September 2004.

- F.Pereira, "Multimedia content adaptation: may one fit all ?", invited talk at Int. Conference on Computer Vision and Graphics, Warsaw, Poland, September 2004.

- F.Pereira, "MPEG-21 standard: developing and integrating multimedia technologies", invited talk at 7th COST 276 Workshop, Ankara, Turkey, November 2004.

- F.Pereira, "Sensations, perceptions and emotions: towards quality of experience evaluation for consumer electronics video adaptations", invited talk at First International Workshop on Video Processing and Quality Metrics for Consumer Electronics, Scottsdale, AZ, USA, January 2005.

- F.Pereira, "Multimedia representation technologies: from coding to personalization", plenary talk at 5th Conference on Telecommunications, Tomar, Portugal, April 2005.

- F. Pereira, "From coding to personalization using MPEG standards", invited talk as IEEE Distinguished Lecturer at 12th IEEE Technical Exchange Meeting (TEM), Dahran, Saudi Arabia, May 2005.

- F.Pereira, "MPEG-21 standard: defining an open multimedia framework", plenary talk at 47th International Symposium ELMAR-2005 focused on Multimedia Systems and Applications, Zadar, Croatia, June 2005.

- F. Pereira, "Content and context: two worlds to bridge", keynote talk at Fourth International Workshop on Content-Based Multimedia Indexing (CBMI'2005), Riga, Latvia, June 2005.

- F.Pereira, "Processing challenges in intelligent video adaptation", plenary talk as IEEE Distinguished Lecturer at Advanced Concepts for Intelligent Vision Systems (ACIVS'2005), Antwerp, Belgium, September 2005.

- F. Pereira, "Content adaptation: a metadata challenge", invited talk as IEEE Distinguished Lecturer at IEEE Workshop on Multimedia Compression, Bangalore, India, October 2005.

- F. Pereira, "Distributed video coding - basics and trends", invited talk at Second MPEG Workshop on Future Directions in Video Compression, Nice, France, October 2005.

- F. Pereira, "Multimedia representation in MPEG standards: achievements and challenges", keynote lecture at 1st International Conference on Signal Processing and Multimedia Applications (SIGMAP), Setúbal, Portugal, August 2006.

- F. Pereira, "Developments and trends on video coding: is there a xVC virus ?", invited talk at The Second International Conference on Ubiquitous Information Management and Communication (ICUIMC'08), Suwon, South Korea, February 2008.

- F. Pereira, "Analysis for video coding: moving it from the encoder to the decoder", invited talk at the International Conference on Image Analysis and Recognition (ICIAR), Póvoa de Varzim, Portugal, June 2008.

- F. Pereira, "Video compression: still evolution or time for revolution?", keynote speech at International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS), London, UK, May 2009.

- F. Pereira, "Distributed video coding: basics, main solutions and trends", ICME Workshop on Multimedia Signal Processing and Novel Parallel Computing, New York, NY, USA, July 2009.

- F. Pereira, "Video compression: discussing the next steps", ICME Workshop on Emerging Multimedia Circuits and Systems Technologies, New York, NY, USA, July 2009.

- F. Pereira, "Video compression: enabling more exciting experiences …", invited talk at International Telecommunications Symposium (ITA), Manaus, Brazil, September 2010.

- F. Pereira, "Video compression: an evolving technology for better user experiences …", invited talk at II National Conference on Telecommunications (CONATEL), Arequipa, Peru, May 2011.

- F. Pereira, "Visual compression: the foundational technology for better TV experiences", EUROITV'2011, Lisbon, Portugal, June 2011.

International after Submission

- F.Pereira, C.Salema, "Error sensitivity of the Modified Huffman Code", MELECON'89, Lisbon, Portugal, April 1989.

- F.Pereira, "HDTV image coding with constant quality in an asynchronous transfer mode network", Third International Workshop on HDTV, Turin, Italy, August 1989.

- F.Pereira, L.Masera, "An ATM adapted video coding algorithm operating at low bitrates", Second International Workshop on 64 kbit/s Coding of Moving Video, Hannover, Germany, September 1989.

- F.Pereira, L.Masera, "Constant quality coding in ATM networks: from videophone to HDTV", Workshop Technology for ATD, Paris, France, October 1989.

- F.Pereira, M.Quaglia, P.Delicati, "A VBR video coding algorithm for digital storage media", Third International Workshop on Packet Video, Morristown, NJ, USA, March 1990.

- F.Pereira, L.Masera, "High quality still picture mode embedded into a hybrid coding scheme", Picture Coding Symposium (PCS'90), Cambridge, MA, USA, March 1990.

- F.Pereira, L.Masera, "Constant quality video coding in ATM networks: an Iterative Algorithm", Latvian International Signal Processing Conference, Riga, USSR, April 1990.

- F.Pereira, "Constant quality video coding on the CCITT H.261 algorithm", IASTED International Conference on Signal Processing and Digital Filtering, Lugano, Switzerland, June 1990.

- F.Pereira, L.Masera, "Bitrate optimization for fixed picture transmissions with an ATM adapted CCITT H.261 algorithm", 1990 Bilkent International Conference on New Trends in Communications, Control and Signal Processing, Ankara, Turkey, July 1990.

- F.Pereira, L.Masera, "Two-layers knowledge based videophone coding", Third International Workshop on 64 kbit/s Coding of Moving Video, Rotterdam, The Netherlands, September 1990.

- F.Pereira, L.Masera, "An ATM adapted video coding algorithm using knowledge based techniques", V European Signal Processing Conference (EUSIPCO'90), Barcelona, Spain, September 1990.

- C.Pires, F.Pereira, "The emerging JPEG coding standard: performance analysis", V Simposium de la Union Cientifica Internacional de Radio, Vigo, Spain, September 1990.

- F.Pereira, "The variable bitrate video coding challenge", V Simposium de la Union Cientifica Internacional de Radio, Vigo, Spain, September 1990.

- F.Pereira, L.Masera, "Two-layers constant quality video coding for ATM environments", Visual Communications and Image Processing (VCIP'90), Lausanne, Switzerland, October 1990.

- F.Pereira, L.Masera, "Broadband video communications: the constant quality coding question", International Conference on Integrated Broadband Services and Networks, London, UK, October 1990.

- C.Pires, J.Afonso, F.Pereira, "Progressive still image coding: transform analysis", MELECON'91, Ljubljana, Yugoslavia, May 1991.

- J.Afonso, C.Pires, F.Pereira, C.Salema, "Efficient ordering of block transform coefficients for image compression techniques", VI Simposium de la Union Cientifica Internacional de Radio, Cáceres, Spain, September 1991.

- F.Pereira, "Video communications in the broadband-integrated services digital network", International Conference on Computer Communications, Beijing, China, October 1991.

- F.Pereira, C.Salema, "Cell loss resilience for B-ISDN video communications", Workshop on Broadband Communications, Estoril, Portugal, January 1992.

- C.Pires, S.Battista, F.Pereira, C.Salema, "MPEG picture coding standards: an evolution towards computer image applications", Second. Int. Conf. on Computational Graphics and Visualization Techniques (COMPUGRAPHICS'92), Lisbon, Portugal, December 1992.

- D.Lappe, S.Panis, F.Pereira, M.Roser, D.Schinkel, D.Thoreau, "A proposal for a reference model for mobile video communication", Picture Coding Symposium (PCS'93), Lausanne, Switzerland, March 1993.

- F.Seytter, F.Pereira, M.Roser, F.Dervaux, "Applications and services for a mobile audiovisual environment", Picture Coding Symposium (PCS'93), Lausanne, Switzerland, March 1993.

- C.Pires, S.Battista, F.Pereira, "Adaptive coding of motion compensated CCIR 601 images", IMAGE'COM 93, Bordeaux, France, March 1993.

- F.Pereira, D.Cortez, P.Nunes, "Mobile videotelephone communications: the CCITT H.261 chances", Conference on Image Communications and Video Compression (EUROPTO), Berlin, Germany, April 1993.

- M.M.Sequeira, F.Pereira, "Global motion compensation and motion vector smoothing in an extended H.261 recommendation", Conference on Image Communications and Video Compression (EUROPTO), Berlin, Germany, April 1993.

- F. Seytter, F.Pereira, M.Roser, F.Dervaux, "Services and requirements for a mobile audio-visual terminal", Workshop on Mobile Communications, Metz, France, June 1993.

- M.M.Sequeira, F.Pereira, "Knowledge-based videotelephone sequence segmentation", Visual Communications and Image Processing (VCIP'93), Cambridge, USA, November 1993.

- F.Pereira, "A mobile audio-visual terminal for the DECT system", MELECON'94, Antalya, Turkey, April 1994.

- F.Pereira, "What is happening with very low bitrate audio-visual coding", RACE Mobile Workshop, Amsterdam, The Netherlands, May 1994.

- F.Pereira, R.Koenen, "New trends on the standardization of multimedia information", International Conference on Multimedia Communications, Southampton, UK, April 1995.

- R. Koenen, F.Pereira, "MPEG-4: a new way towards multimedia mobile communications", RACE Mobile Telecommunications Summit, Cascais, Portugal, November 1995.

- P.Nunes, F.Pereira, "Boundary detection in textured images using Markov random fields modelling", IMAGECOM'96, Bordeaux, France, May 1996.

- P.Correia, F.Pereira, "Video analysis for coding: objectives, features and methods", 2cd Erlangen Symposium 'Advances in Digital Image Communication', Erlangen, Germany, April 1997.

- G.Abrantes, F.Pereira, "3D facial animation using the MPEG-4 SNHC verification model", ECMAST'97 Workshop on SNHC, Milan, Italy, May 1997.

- P.Correia, F.Pereira, "Segmentation of video sequences in a video analysis framework", Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'97), Louvain-La-Neuve, Belgium, June 1997.

- F.Pereira, "Very low bitrate video: the content-based approach", Workshop on Coding Techniques for Very Low Bit-rate Video (VLVB'97), Linkoping, Sweden, July 1997.

- G.Abrantes, F.Pereira, "An MPEG-4 SNHC compatible implementation of a 3D facial animation system", Int. Workshop on Synthetic-Natural Hybrid Coding and Three Dimensional Imaging, Rhodes, Greece, September 1997.

- P.Nunes, F.Pereira, "Rate control for scenes with multiple arbitrarily shaped video objects", Picture Coding Symposium (PCS'97), Berlin, Germany, September 1997.

- P.Nunes, F.Pereira, F.Marqués, "Multi-grid chain coding of binary shapes", Int. Conf. on Image Processing (ICIP'97), Santa Barbara, CA, USA, October 1997.

- L. Ducla Soares, F.Pereira, "MPEG-4: a flexible coding standard for the emerging mobile multimedia applications", IEEE International Symposium on Personal, Indoor and Mobile Radio Communications, Boston, MA, USA, September 1998.

- P.Correia, F.Pereira, "User interaction in content-based video coding and indexing", European Conference on Signal Processing, Rhodes, Greece, September 1998.

- G. Abrantes, F.Pereira, "Interactive analysis for MPEG-4 facial models configuration", EUROGRAPHICS'98, Lisbon, Portugal, September 1998.

- P.Correia, F.Pereira, "Proposal for an integrated video analysis framework", Int. Conf. on Image Processing (ICIP'98), Chicago, IL, USA, October 1998.

- L. Ducla Soares, F.Pereira, "An alternative to the MPEG-4 object-based error resilient video syntax", Int. Conf. on Image Processing (ICIP'98), Chicago, IL, USA, October 1998.

- P.Nunes, F.Pereira, "Object-based rate control for the MPEG-4 visual simple profile", Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'99), Berlin, Germany, May 1999.

- P. Salembier, N. O'Connor, P. Correia, F. Pereira, "Hierarchical visual description schemes for still images and video sequences", Int. Conference on Image Processing (ICIP'99), Kobe, Japan, October 1999.

- F. Pereira, "Visual data representation: recent achievements and future developments", European Conference on Signal Processing (EUSIPCO'2000), Tampere, Finland, September 2000.

- P. Correia, F. Pereira, "Estimation of video object's relevance", European Conference on Signal Processing (EUSIPCO'2000), Tampere, Finland, September 2000.

- L.Ducla Soares, F.Pereira, "Influence of encoder parameters on the decoded video quality for MPEG-4 over W-CDMA mobile networks", Int. Conf. on Image Processing (ICIP'2000), Vancouver, Canada, September 2000.

- P.Correia, F.Pereira, "Objective evaluation of relative segmentation quality", Int. Conf. on Image Processing (ICIP'2000), Vancouver, Canada, September 2000.

- C.Zibreira, F.Pereira, "Image description and retrieval using MPEG-7 shape descriptors", Fourth European Conference on Research and Advanced Technology for Digital Libraries, Lisbon, Portugal, September 2000.

- P.Nunes, F.Pereira, "MPEG-4 compliant video encoding: analysis and rate control strategies", Asilomar 2000 Conference on Signal and Image Processing, Pacific Grove, CA, USA, October 2000.

- P.Nunes, F.Pereira, "Scene level rate control algorithm for MPEG-4 video coding", Visual Communications and Image Processing (VCIP'2001), San Jose, CA, USA, January 2001.

- P.Correia, F.Pereira, "Standalone objective evaluation of segmentation quality", Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2001), Tampere, Finland, May 2001.

- J.Valentim, P.Nunes, F.Pereira, "Evaluating MPEG-4 video decoding complexity", 2nd Workshop and Exhibition on MPEG-4, San Jose, CA, USA, June 2001.

- J.Valentim, P.Nunes, F.Pereira, "An alternative complexity model for the MPEG-4 video verifier mechanism", Int. Conf. on Image Processing (ICIP'2001), Thessaloniki, Greece, October 2001.

- L.Ducla Soares, F.Pereira, "Texture refreshment need metric for resilient object-based video coding", IEEE International Conference on Multimedia (ICME'2002), Lausanne, Switzerland, August 2002.

- L.Ducla Soares, F.Pereira, "Shape refreshment need metric for object-based resilient video coding", Int. Conf. on Image Processing (ICIP'2002), Rochester, NY, USA, September 2002.

- L.Ducla Soares, F.Pereira, "Adaptive shape-texture intra coding refreshment for error resilient object-based video", IEEE International Workshop on Multimedia Signal Processing (MMSP'2002), St. Thomas, Virgin Islands, USA, December 2002.

- P.Correia, F.Pereira, "A proposal for the classification of video segmentation application scenarios", Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2003), London, UK, April 2003.

- P.Fonseca, F.Pereira, "Automatic video summarization system based on MPEG-7 descriptions", Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2003), London, UK, April 2003.

- P.Fonseca, F.Pereira, "Skin colour detection based on MPEG-7 dominant colour descriptor", Picture Coding Symposium (PCS'2003), St. Malo, France, April 2003.

- P.Fonseca, F.Pereira, P.Correia, "Using MPEG-7 descriptions to create video summaries", Workshop on Transmitting, Processing and Watermarking Multimedia Contents, Bordeaux, France, March 2003.

- L.Ducla Soares, F.Pereira, "Temporal shape error concealment by global motion compensation", Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2004), Lisbon, Portugal, April 2004.

- P. Correia, F.Pereira, "Change detection-based video segmentation for surveillance applications", Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2004), Lisbon, Portugal, April 2004.

- P. Nunes, F.Pereira, "Rate and distortion modeling analysis for mpeg-4 video intra coding", Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2004), Lisbon, Portugal, April 2004.

- J. Ascenso, F.Pereira, "H.264/AVC fine grain scalability using bitplane coding", Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2004), Lisbon, Portugal, April 2004.

- L.Ducla Soares, F.Pereira, "Temporal shape error concealment for object-based video", 2nd International Symposium on Image/Video Communications over Fixed and Mobile Networks (ISIVC'2004), Brest, France, July 2004.

- P. Nunes, F. Pereira, "Rate and distortion models for MPEG-4 video encoding", SPIE's 49th Annual Symposium on Optical Science and Technology, Applications of Digital Image Processing, Denver, CO, USA, August 2004.

- W.Skarbek, A.Buchowicz, A.Pietrowcew, F.Pereira, "Bit-rate control for video compression with ROI", Int. Conference on Computer Vision and Graphics, Warsaw, Poland, September 2004.

- D.Palma, J. Ascenso, F.Pereira, "Automatic text extraction in digital video based on motion analysis", Int. Conf. on Image Analysis and Recognition (ICIAR'2004), Porto, Portugal, September 2004.

- L.Ducla Soares, F.Pereira, "Motion-based shape error concealment for object-based video", Int. Conf. on Image Processing (ICIP'2004), Singapore, October 2004.

- J. Ascenso, F.Pereira, "Drift reduction for a H.264/AVC fine grain scalability with motion compensation architecture", Int. Conf. on Image Processing (ICIP'2004), Singapore, October 2004.

- L.Ducla Soares, F.Pereira, "Combining space and time processing for shape error concealment", Picture Coding Symposium (PCS'2004), San Francisco, CA, USA, December 2004.

- L.Natário, F.Pereira, "Bringing adaptive GOP size to the MPEG-4 scalable video coding standard", 5th EURASIP Conference on Speech and Image Processing, Multimedia Communications and Services, Smolenice, Slovak Republic, June 2005.

- L.Ducla Soares, F.Pereira, "Spatial texture error concealment for object-based image and video coding", 5th EURASIP Conference on Speech and Image Processing, Multimedia Communications and Services, Smolenice, Slovak Republic, June 2005.

- J.Ascenso, C.Brites, F.Pereira, "Improving frame interpolation with spatial motion smoothing for pixel domain distributed video coding", 5th EURASIP Conference on Speech and Image Processing, Multimedia Communications and Services, Smolenice, Slovak Republic, June 2005.

- J.Ascenso, C.Brites, F.Pereira, "Motion compensated refinement for low complexity pixel based distributed video coding", IEEE International Conference on Advanced Video and Signal-Based Surveillance, Como, Italy, September 2005.

- L. Natário, C. Brites, J. Ascenso, F. Pereira, "Extrapolating side information for low-delay pixel-domain distributed video coding", Int. Workshop on Very Low Bitrate Video Coding (VLVB'2005), Sardinia, Italy, September 2005.

- A. Trapanese, M. Tagliasacchi, S. Tubaro, J. Ascenso, C. Brites, F. Pereira, "Embedding a block-based intra mode in frame-based pixel domain Wyner-Ziv video Coding", Int. Workshop on Very Low Bitrate Video Coding (VLVB'2005), Sardinia, Italy, September 2005.

- A. Trapanese, M. Tagliasacchi, S. Tubaro, J. Ascenso, C. Brites, F. Pereira, "Improved correlation noise statistics modeling in frame-based pixel domain Wyner-Ziv video coding", Int. Workshop on Very Low Bitrate Video Coding (VLVB'2005), Sardinia, Italy, September 2005.

- F. Pereira, "A triple user characterization model for video adaptation and quality of experience evaluation", Int. Workshop on Multimedia Signal Processing (MMSP'2005), Shanghai, China, November 2005.

- L. Ducla Soares, F.Pereira, "Spatial scene level shape error concealment for segmented video", Picture Coding Symposium (PCS'2006), Beijing, China, April 2006.

- C. Brites, J. Ascenso, F.Pereira, "Modeling correlation noise statistics at decoder for pixel based Wyner-Ziv video coding", Picture Coding Symposium (PCS'2006), Beijing, China, April 2006.

- J. Baltazar, P. Pinho, F.Pereira, "Visual attention driven image to video transmoding", Picture Coding Symposium (PCS'2006), Beijing, China, April 2006.

- C. Brites, J. Ascenso, F.Pereira, "Improving transform domain Wyner-Ziv video coding performance", International Conference on Acoustics, Speech, and Signal Processing (ICASSP'2006), Toulouse, France, May 2006.

- A. Trapanese, M. Tagliasacchi, S. Tubaro, J. Ascenso, C. Brites, F. Pereira, "Intra mode decision based on spatio-temporal cues in pixel domain Wyner-Ziv video coding", International Conference on Acoustics, Speech, and Signal Processing (ICASSP'2006), Toulouse, France, May 2006.

- M. Dalai, R. Leonardi, F. Pereira, "Improving turbo codec integration in pixel-domain distributed video coding", International Conference on Acoustics, Speech, and Signal Processing (ICASSP'2006), Toulouse, France, May 2006.

- C. Brites, J. Ascenso, F. Pereira, "Feedback channel in pixel domain Wyner-Ziv video coding: myths and realities", 14th European Signal Processing Conference (EUSIPCO'2006), Florence, Italy, September 2006.

- P. Pinho, J. Baltazar, F. Pereira, "Integrating low-level and semantic visual cues for improved image-to-video experiences", International Conference on Image Analysis and Recognition (ICIAR'2006), Póvoa de Varzim, Portugal, September 2006.

- C. Brites, J. Ascenso, F. Pereira, "Studying temporal correlation noise modeling for pixel based Wyner-Ziv video coding", Int. Conf. on Image Processing (ICIP'2006), Atlanta, GA, USA, October 2006.

- J. Ascenso, C. Brites, F. Pereira, "Content adaptive Wyner-Ziv video coding driven by motion activity", Int. Conf. on Image Processing (ICIP'2006), Atlanta, GA, USA, October 2006.

- L. Ducla Soares, F. Pereira, "Spatio-temporal scene level error concealment for shape and texture data in segmented video content", Int. Conf. on Image Processing (ICIP'2006), Atlanta, GA, USA, October 2006.

- M. Tagliasacchi, A. Trapanese, S. Tubaro, J. Ascenso, C. Brites, F. Pereira, "Exploiting spatial redundancy in pixel domain Wyner-Ziv video coding", Int. Conf. on Image Processing (ICIP'2006), Atlanta, GA, USA, October 2006.

- C. Brites, F. Pereira, "Encoder rate control for transform domain Wyner-Ziv video coding", Int. Conf. on Image Processing (ICIP'2007), San Antonio, TX, USA, September 2007.

- P. Nunes, F. Pereira, "Improved feedback compensation mechanisms for multiple video object encoding rate control", Int. Conf. on Image Processing (ICIP'2007), San Antonio, TX, USA, September 2007.

- J. Ascenso, F. Pereira, "Adaptive hash-based side information exploitation for efficient Wyner-Ziv video coding", Int. Conf. on Image Processing (ICIP'2007), San Antonio, TX, USA, September 2007.

- M. Tagliasacchi, J. Pedro, F. Pereira, S. Tubaro, "An efficient request stopping method at the turbo decoder in distributed video coding," European Signal Processing Conference (EURASIP'2007), Poznan, Poland, September 2007.

- J. D. Areia, C. Brites, J. Ascenso, F. Pereira, "Wyner-Ziv stereo video coding using a side information fusion approach", Int. Workshop on Multimedia Signal Processing (MMSP'07), Chania, Greece, October 2007.

- P. Nunes, G. Pastuszak, A. Pietrasiewicz, F. Pereira, "Joint bit-allocation for multi-sequence H.264/AVC video coding rate control", Picture Coding Symposium (PCS'07), Lisbon, Portugal, November 2007.

- M. Naccari, G. Bressan, M. Tagliasacchi, F. Pereira, S. Tubaro, "Unequal error protection based on flexible macroblock ordering for robust H.264/AVC video transcoding", Picture Coding Symposium (PCS'07), Lisbon, Portugal, November 2007.

- J. Pedro, L. Ducla Soares, C. Brites, J. Ascenso, F. Pereira, C. Bandeirinha, S. Ye, F. Dufaux, T. Ebrahimi, "Studying error resilience performance for a feedback channel based transform domain Wyner-Ziv video codec", Picture Coding Symposium (PCS'07), Lisbon, Portugal, November 2007.

- F. Pereira, J. Ascenso, C. Brites, "Studying the GOP size impact on the performance of a feedback channel-based Wyner-Ziv video codec", IEEE Pacific Rim Symposium on Image Video and Technology, Santiago, Chile, December 2007.

- J. Ascenso, F. Pereira, "Hierarchical motion estimation for side information creation in Wyner-Ziv video coding", The Second International Conference on Ubiquitous Information Management and Communication (ICUIMC'08), Suwon, South Korea, February 2008.

- N. Matos, F. Pereira, "Using MPEG-7 for generic audiovisual content automatic summarization", Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2008), Klagenfurt, Austria, May 2008.

- F. Pereira, C. Brites, J. Ascenso, M. Tagliasacchi, "Wyner-Ziv video coding: a review of the early architectures and relevant developments", IEEE International Conference on Multimedia & Expo (ICME), Hannover, Germany, June 2008.

- J. D. Areia, J. Ascenso, C. Brites, F. Pereira, "Low complexity hybrid rate control for lower complexity Wyner-Ziv video decoding", European Signal Processing Conference (EUSIPCO'2008), Lausanne, Switzerland, August 2008.

- J. D. Areia, F. Pereira, W.A.C. Fernando, "Impact of the key frames quality on the overall Wyner-Ziv video coding performance", 50th International Symposium ELMAR-2008, Zadar, Croatia, September 2008.

- J. Ascenso, C. Brites, F. Pereira, "Design and performance of a novel low-density parity-check code for distributed video coding", Int. Conf. on Image Processing (ICIP'2008), San Diego, CA, USA, October 2008.

- P. Nunes, L. Ducla Soares, F. Pereira, "Error resilient macroblock rate control for H.264/AVC video coding", Int. Conf. on Image Processing (ICIP'2008), San Diego, CA, USA, October 2008.

- M. Naccari, M. Tagliasacchi, F. Pereira, S. Tubaro, "No-reference modeling of the channel induced distortion at the decoder for H.264/AVC video coding", Int. Conf. on Image Processing (ICIP'2008), San Diego, CA, USA, October 2008.

- X. Huang, C. Brites, J. Ascenso, F. Pereira, S. Forchhammer, "Distributed video coding with multiple side information", Picture Coding Symposium (PCS'09), Chicago, IL, USA, May 2009.

- J. Ascenso, F. Pereira, "Low complexity intra mode selection for efficient distributed video coding", IEEE International Conference on Multimedia & Expo (ICME'2009), New York, NY, USA, July 2009.

- J. Ascenso, F. Pereira, "Complexity efficient mechanism for LDPC based Wyner-Ziv video decoding", 5th International Mobile Multimedia Communications Conference, London, UK, September 2009.

- P. Nunes, L. Ducla Soares, F. Pereira, "Automatic and adaptive network-aware macroblock intra refresh for error-resilient H.264/AVC video coding", Int. Conf. on Image Processing, Cairo, Egypt, November 2009.

- J. Ascenso, C. Brites, F. Pereira, "Compression efficiency analysis of Wyner-Ziv video coding with motion compensated side information interpolation", Visual Information Processing and Communication Conference, San Jose, CA, USA, January 2010.

- M. Naccari, F. Pereira, "Comparing spatial masking modeling in just noticeable distortion controlled H.264/AVC video coding", Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS'2010), Desenzano del Garda, Italy, April 2010.

- J. Ascenso, C. Brites, F. Dufaux, A. Fernando, T. Ebrahimi, F. Pereira, S. Tubaro, "The VISNET II DVC codec: architecture tools and performance", European Signal Processing Conference (EUSIPCO'2010), Aalborg, Denmark, August 2010.

- M. Naccari, F. Pereira, "Decoder side just noticeable distortion model estimation for efficient H.264/AVC based perceptual video coding", Int. Conf. on Image Processing (ICIP'2010), Hong Kong, September 2010.

- C. Brites, F. Pereira, "Probability updating for decoder and encoder rate control turbo based Wyner-Ziv video coding", Int. Conf. on Image Processing (ICIP'2010), Hong Kong, September 2010.

- A. Cabrita, M. Naccari, F. Pereira, "Perceptually driven coefficients pruning and quantization for the H.264/AVC standard", International Conference on Computer as a Tool (EUROCON'2011), Lisbon, Portugal, April 2011.

- M. Naccari, F. Pereira, "Integrating a spatial just noticeable distortion model in the under development HEVC codec", International Conference on Acoustics, Speech, and Signal Processing (ICASSP'2011), Prague, Check Republic, May 2011.

- G. Carmo, M. Naccari, F. Pereira, "Binary tree decomposition depth coding for 3D video applications", IEEE International Conference on Multimedia and Expo (ICME'2011), Barcelona, Spain, July 2011.

- M. Naccari, C. Brites, J. Ascenso, F. Pereira, "Low complexity deblocking filter perceptual optimization for the HEVC codec", Int. Conf. on Image Processing (ICIP'2011), Brussels, Belgium, September 2011.

- J. Ascenso, C. Brites, F. Pereira, "A denoising approach for iterative side information creation in distributed video coding", Int. Conf. on Image Processing (ICIP'2011), Brussels, Belgium, September 2011.

- G. Cernigliaro, M. Naccari, F. Jaureguizar, J. Cabrera, F. Pereira, N. García, "A new fast motion estimation and mode decision algorithm for H.264 depth maps encoding in free viewpoint TV", Int. Conf. on Image Processing (ICIP'2011), Brussels, Belgium, September 2011.

- J. Ascenso, C. Brites, F. Pereira, "Augmented LDPC graph for distributed video coding with multiple side information", Int. Workshop on Multimedia Signal Processing (MMSP'11), Hangzhou, China, October 2011.

Tutorials

- F.Pereira, "MPEG-4: the key for a new generation of multimedia applications", invited tutorial no 5th International Workshop on Interactive Distributed Multimedia Systems and Telecommunication Services, Oslo, Norway, September 1998.

- F.Pereira, "Applications of MPEG-4", MPEG-4 and MPEG-7 IAB Tutorial Workshop, International Academy of Broadcasting, Montreux, Switzerland, March 2000.

- F.Pereira, "MPEG-4: media objects and scenes", Tutorial day on Multimedia and MPEG, University of Klagenfurt, Klagenfurt, Austria, July 2002.

- F.Pereira, "Media representation standards for the new millenium", invited tutorial at Joint International Workshop on Interactive Distributed Multimedia Systems / Protocols for Multimedia Systems (IDMS/PROMS'2002), Coimbra, Portugal, December 2002.

- F.Pereira, "MPEG standards: media technology for advanced applications", tutorial at IV Conferência de Telecomunicações, Aveiro, Portugal, June 2003.

- F.Pereira, "MPEG-based audiovisual content adaptation", tutorial at Workshop Moumir, Porto, Portugal, June 2003.

- R. Van de Walle, I. Burnett, F. Pereira, "Integration of multimedia technologies and MPEG-21", tutorial na IEEE International Conference on Multimedia and Expo (ICME'2003), Baltimore, MD, USA, July 2003.

- F. Pereira, H. Hellwagner, "MPEG-4/7/21: a family of standards", tutorial at International Conference on Parallel and Distributed Computing (Euro-Par 2003), Klagenfurt, Austria, August 2003.

- F. Pereira, "MPEG visual representation standards", tutorial as IEEE Distinguished Lecturer at IEEE Workshop on Multimedia Compression, Bangalore, India, October 2005.

- F. Pereira, "Multimedia representation standards: the MPEG case", Summer School on Multimedia Digital Libraries: Machine Learning and Cross-Modal Technologies for Access and Retrieval, San Vincenzo, Italy, June 2006.

- F. Pereira, "Multimedia application formats: why, how and what", tutorial at Workshop on Advanced Multimedia Standards, Hangzhou, China, October 2006.

- F. Pereira, O. Au, "MPEG multimedia standards: evolution and recent developments", tutorial at IEEE International Conference on Multimedia and Expo (ICME'2007), Beijing, China, July 2007.

- F. Pereira, "MPEG multimedia standards: evolution and future developments", tutorial at ACM Multimedia, Augsburg, Germany, September 2007.

- F. Pereira, "Video coding technologies: past, present and future", tutorial at IEEE Asia Pacific Conference on Circuits and Systems (APCCAS'2008), Macau, China, December 2008.

- F. Pereira, "Recent achievements on video coding", VISNET II Summer School, Istanbul, Turkey, June 2009.

- F. Pereira, "Mobile video compression", tutorial at 5th International Mobile Multimedia Communications Conference, London, UK, September 2009.

7. Invited Talks

- "Redução de redundância em imagem digital", Seminar 'A Imagem e o Computador', Lisbon, Portugal, March 1986.

- "Image communication systems standardization - from the camel to the dromedary", Universitat Politècnica de Catalunya, Barcelona, Spain, July 1993.

- "Very low bitrate video coding", Universitat Politècnica de Catalunya, Barcelona, Spain, July 1993.

- "Video on demand: afinal o que pode ser ?", Video on Demand Workshop, Lisbon, Portugal, May 1994.

- "MPEG-4 requirements", Very Low Bitrate Coding/MPEG-4 Workshop, Brussels, Belgium, July 1994.

- "MPEG-4 testing", MPEG-4 Workshop, Brussels, Belgium, July 1995.

- "Codificação de vídeo: novos conceitos, novas aplicações", Summer School on Inteligência Computacional Aplicada à Análise de Imagem e Visão por Computador, Instituto Superior Técnico, Lisbon, Portugal, September 1995.

- "Normalização de codificação de vídeo", TV-Cabo Portugal, Lisbon, Portugal, February 1998.

- "O desafio da comunicação de imagem no limiar do século XXI", Companhia Portuguesa Rádio Marconi, Lisbon, Portugal, March 1998.

- "Image compression algorithms", Workshop on Particle Image Velocimetry, Lisbon, Portugal, July 1998.

- "Normas MPEG: da passividade à interactividade", Instituto Superior de Ciências do Trabalho e da Empresa, Lisbon, Portugal, January 2000.

- "The MPEG-4 and MPEG-7 visual standards", Seminar on Digital TV, Aveiro, Portugal, January 2000.

- "The MPEG-4 standard: what role in MPEG-21 ?", Workshop on MPEG-21, Noordwijkerhout, The Netherlands, March 2000.

- "Técnicas de compressão de vídeo", Jornadas de Engenharia Electrotécnica, Instituto Politécnico de Castelo Branco, Castelo Branco, Portugal, May 2000.

- "New trends on visual information representation", Hanyang University, Seoul, South Korea, October 2000.

- "MPEG-4: enabling new broadcasting experiences", Workshop on Digital Television and New Interactive Services, Expo'2000, Hannover, Germany, October 2000.

- "Visual data representation: fast, present and future", University of Klagenfurt, Klagenfurt, Austria, July 2001.

- "Trends on visual data representation", University of Wollongong, Wollongong, Australia, July 2001.

- "Televisão digital interactiva", I Jornadas de Engenharia Electrotécnica, Instituto Politécnico de Tomar, Tomar, Portugal, April 2002.

- "Televisão digital interactiva", Jornadas de Engenharia Electrotécnica, Instituto Politécnico de Castelo Branco, Castelo Branco, Portugal, Maio 2002.

- "Shape and texture adaptive intra refreshment based on refreshment need metrics", Universitat Politècnica de Catalunya, Barcelona, Spain, July 2002.

- "MPEG-21 standard: why an open multimedia framework ?", Universitat Politècnica de Catalunya, Barcelona, Spain, July 2002.

- "Representação audiovisual: novas tecnologias e aplicações", Instituto Politécnico de Leiria, Leiria, Portugal, June 2003.

- "MPEG-7: quem descreve sempre alcança", Audio Engineers Association, Universidade de Trás-Os-Montes e Alto Douro, Vila Real, Portugal, June 2004.

- "MPEG standards for advanced multimedia experiences", Universidade Lusófona, Lisbon, Portugal, October 2004.

- "Visual representation for advanced applications: trends and challenges", University of Sarjah as IEEE Distinguished Lecturer, Sharjah, United Arab Emirates, May 2005.

- "Bringing emotions to adapted multimedia experiences", University of Surrey, Guildford, UK, June 2005.

- "Distributed video coding: achievements and plans", Purdue University, Laffayette, IL, USA, December 2005

- "MPEG standards: an overview on recent achievements and trends", Thomson Consumer Electronics, Indianapolis, IL, USA, December 2005.

- "MPEG-21: a standard for a multimedia framework", European Patent Office, Munich, Germany, September 2006.

- "Distributed video coding: developments and challenges", University of Umea, Umea, Sweden, September 2006.

- "MPEG-7: Multimedia Content Description Interface", Workshop on MPEG Technologies, Marrakech, Morocco, January 2007.

- "Distributed video coding: basics, developments and challenges", Universitat Politécnica de Madrid, Madrid, Spain, January 2007.

- "Bringing emotions to adapted multimedia experiences", Universitat Autónoma de Madrid, Madrid, Spain, February 2007.

- "Processing challenges in intelligent video adaptation", Università degli Studi di Cagliari, Cagliari, Italy, March 2007.

- "Multimedia application formats: why, how and what ?", Università degli Studi di Cagliari, Cagliari, Italy, March 2007.

- "Metadata: the key for powerful multimedia personalization", Universidade Nova de Lisboa, Lisbon, Portugal, May 2007.

- "DISCOVER monoview video codec", Workshop on Recent Advances in Distributed Video Coding, Instituto Superior Técnico, Lisbon, Portugal, November 2007.

- "Recent trends on video coding: from predictions to estimations", Norwegian University of Science and Technology (NTNU), Trondheim, Norway, March 2008.

- "Recent trends on video coding: from predictions to estimations", University of Klagenfurt, Klagenfurt, Austria, October 2008

- "Distributed video coding: developments and challenges", The Hong Kong Polytechnic University, Hong Kong, December 2008

- "Video coding: achievements, trends and challenges", Chinese University of Hong Kong, Hong Kong, December 2008

- "Video compression: will it ever be enough ?", invited speech at Spanish Network of Excellence on Coding and Transmission of Multimedia Contents, Universitat Politècnica de Catalunya, Barcelona, Spain, February 2009.

- "Video compression: trends and challenges", Thales Meeting, Vila Franca de Xira, Portugal, May 2009.

- "Video Coding: a Look to its Evolution", CEFET, Petrópolis, Brazil, October 2009.

- "Distributed Video Coding: Status Quo and Perspectives", Danmarks Tekniske Universitet, Copenhagen, Denmark, October 2009.

- "Distributed Video Coding: an Alternative Paradigm", Faculdade de Engenharia da Universidade do Porto, Porto, October 2010.

- "Trends on Visual Coding", Summer School on Advances in Image, Motion and Video Coding and Processing, Danmarks Tekniske Universitet, Copenhagen, Denmark, August 2011.

- "Distributed Video Coding: Basics, Solutions and Trends", Summer School on Advances in Image, Motion and Video Coding and Processing, Danmarks Tekniske Universitet, Copenhagen, Denmark, August 2011.