

CURRICULUM VITÆ

2009

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1 Personal Information

Name Maria Manuela Areias da Costa Pereira de Sousa

Date of Birth February 10th, 1972.

Place of Birth V.N.Famalicão, Portugal.

Citizenship Portuguese.

Current Position Assistant Professor at the Department of Computer Science, University of Beira Interior.

2 Office

Address Department of Informatics
University of Beira Interior
Rua Marquês d'Ávila e Bolama
6201-001 Covilhã, Portugal.

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3 Research Affiliation

Member of the Network and Multimedia Computing Group (NMCG)
- <http://floyd.di.ubi.pt/nmcg/>.

Researcher at Communications and Multimedia Laboratory at IT-UC/UBI - <http://www.it.ubi.pt/it>.

Invited researcher at INESC-ID Lisboa.

4 Academic Preparation

Ph.D. in Signal and Image Processing in 2004

Dissertation Multiple Description Image and Video Coding for Noisy Channels;

Brief Description We propose a robust joint source channel MDC method that is adapted to the transmission of images and videos on non stationary channels. The main advantage of this method is that it is well adapted for applications implying transmissions using unreliable and variable channels. Moreover, for its compression and synchronization capabilities it is appropriate for real time transmissions. We show that the proposed method present the best results, in terms of signal to noise ratio and of visual quality, when compared with other multiple description methods existing in the state of the art. Moreover, it is well adapted for applications where the standard methods of error control cannot easily adapt to the characteristics of the channel. The method is validated on various channel models (BSC, AWGN, Internet, UMTS, satellite) when considering image and video transmissions.

Keywords MDC, adaptability scalability, robust coding, non stationary channels, wavelets, multiresolution analysis, bit allocation.

School CREATIVE Group of I3S laboratory, CNRS/UNSA, Nice-Sophia Antipolis;

Advisers Michel BARLAUD, Full Professor at University of Nice-Sophia Antipolis, France. Marc ANTONINI, Researcher at CNRS, France.

Jury Antonio ORTEGA, Professor at University of Southern California, USA; Ferran MARQUÉS, Professor at Technical University of Catalonia, Spain; Christine GUILLEMOT, Directeur de Recherche at INRIA, France and Fernando PEREIRA, Associate Professor at Instituto Superior Técnico, Portugal.

M.Sc in Computational Mathematics in 1999.

Thesis “Ôndulas no Intervalo”;

Brief Description One excellent construction of orthogonal wavelet bases on the interval $[0; 1]$ was given by Cohen, Daubechies and Vial by adapting the famous Daubechies orthogonal wavelets on the real line to the interval $[0; 1]$. In this thesis we aim to implement the method proposed by Cohen, Daubechies and Vial and compare the results when using their method or the standard methods (mirror, padding,...) for image compression.

Keywords Wavelets, multiresolution analysis, image compression.

School University of Minho, Braga, Portugal;

Advisor Dra. Joana Soares.

5-Year B.S. (Licenciatura) in Mathematics and Computer Sciences in 1994

School University of Minho, Braga, Portugal.

5 Professional Experience

1994 - 1997 Informatics teacher at Alberto Sampaio High School, Braga.

1993 - 1994 Training at EISIS, Matosinhos, Porto;

6 Lectures

Lectures

2008 - 2009 Assistant Professor of the Department of Computer Science, University of Beira Interior.

Undergraduate courses

- Multimedia technologies (principal lecturer and course developer).
Web page: <http://www.di.ubi.pt/cursos/licenciaturas/lei/disciplinas/2817/>.
Lecture Notes: [.../disciplinas/2817/fichs/Central.pdf](http://www.di.ubi.pt/cursos/licenciaturas/lei/disciplinas/2817/fichs/Central.pdf).
- Multimedia Applications (principal lecturer and course developer).
- Pedagogic Training Committee (training for the future teachers).

Master courses

- Multimedia Processing and Communication (principal lecturer and course developer).

Web page:

<http://www.di.ubi.pt/cursos/mestrados/mei/5052/>.

Lecture Notes: [.../mei/5052/fichs/Central.pdf](http://www.di.ubi.pt/cursos/mestrados/mei/5052/fichs/Central.pdf).

2007 - 2008 Assistant Professor of the Department of Computer Science, University of Beira Interior.

Undergraduate courses

- Multimedia technologies (principal lecturer and course developer).
- Image Communication (principal lecturer and course developer).

Web Page:

<http://www.di.ubi.pt/cursos/licenciaturas/lei/disciplinas/2862/>.

- Multimedia Applications (principal lecturer and course developer).
- Pedagogic Training Committee (training for the future teachers).

Master courses

- Multimedia Processing and Communication (principal lecturer and course developer).

2006 - 2007 Assistant Professor of the Department of Computer Science, University of Beira Interior.

Undergraduate courses

- Multimedia technologies (principal lecturer and course developer).
- Image Communication (principal lecturer and course developer).
- Pedagogic Training Committee (training for the future teachers).

Master courses

- Multimedia Processing and Communication (principal lecturer and course developer).

2005 - 2006 Assistant Professor of the Department of Computer Science, University of Beira Interior.

Undergraduate courses

- Multimedia technologies (principal lecturer and course developer).
- Image Communication (principal lecturer and course developer).
- Programming (assistant lecturer).
- Pedagogic Training Committee (training for the future teachers).

Master courses

- Multimedia Processing and Communication (principal lecturer and course developer).
- Multimedia Processing and Communication - Master of Informatic Engeneireing of IESIG - "Instituto de Estudos Superiores Isidoro da Graça", São Vicente - Cabo Verde. (principal lecturer and course developer).

2004 - 2005 Assistant Professor of the Department of Computer Science, University of Beira Interior.

Undergraduate courses

- Programming (principal lecturer and course developer).
- Pedagogic Training Committee (training for the future teachers).

2003 - 2004 Assistant Lecturer of the Department of Computer Science, University of Beira Interior.

Undergraduate courses

- Programming (principal lecturer and course developer).
Lecture Notes: <http://www.di.ubi.pt/~mpereira/ProgT.pdf>
and <http://www.di.ubi.pt/~mpereira/AulasP.pdf>.

1999 - 2000 Assistant Lecturer of the Department of Computer Science, University of Beira Interior.

Undergraduate courses

- Programming (principal lecturer and course developer);
- Informatics for the teaching of mathematics (principal lecturer and course developer).

1998 - 1999 Lecturer of the Department of Computer Science, University of Beira Interior.

Undergraduate courses

- Programming (assistant lecturer);
- Informatics for the teaching of mathematics (principal lecturer and course developer).

1997 - 1998 Lecturer of the Department of Computer Science, University of Beira Interior.

Undergraduate courses

- Programming (assistant lecturer).

7 Supervisions

- 2008 -** MSc in Computer Science and Engineering. Student: Angelo Arrifano. Research Topic: Joint Source-Channel Robust Coding for Multimedia Communications.
- 2008 -** MSc in Computer Science and Engineering. Student: Rui Pedro Quaresma Brás. Research Topic: Multiple Description Image and Video Coding for Channels in Optical Fibre Networks (co-supervised with Prof. Mário Freire).
- 2008 -** MSc in Computer Science and Engineering. Student: Marco Bernardo. Research Topic: "Caracterização, modelação e implementação de transformações cromáticas em imagens digitais para observadores com cromatopsia visual". (co-supervised with Prof. Paulo Fiadeiro, Dept. Physics).

- 2008 -** MSc in Computer Science and Engineering - Student: Marisa Raposo Quaresma; Research Topic: Multiple Description Image and Video Coding for Peer-to-Peer Networks. (co-supervised with Prof. Mário Freire).
- 2007 -** MSc in Computer Science and Engineering - Student: Richard Guise. Research Topic: Medical image analysis for breast cancer diagnosis.
- 2007 -** Researcher of Microsoft Portugal: Przemyslaw Lenkiewicz, . Research Topic: High Performance Computing for 3D Medical Image Analysis.
- 2007 - 2008** Researcher of Siemens SA - Medical Solutions: Pawel Andruskiewicz, Research. Topic: Segmentation of Medical Images Using Active Contours: Application to Automatic Detection of Cancer.
- 2008 - 2009** Undergraduate project. Student: Fernando Geraldês. Topic: "Segmentação e análise de imagens de TAC para estudo de patologias do Fígado".
- 2007 - 2008** Undergraduate project. Student: Rui Brás. Topic: "Plataforma para o processamento de vídeo e imagem e o seu ensino".
- 2007 - 2008** Undergraduate project. Student: Marco Bernardo. Topic: "Caracterização do daltonismo".
- 2007 - 2008** Undergraduate project. Student: Angelo Arrifano. Topic: "Codificador robusto de imagem".
- 2006 - 2007** Undergraduate project. Student: Rui Agostinho. Topic: "Bases de dados de imagens de grande dimensão: armazenamento, transmissão e pesquisa".

- 2005 - 2006** Undergraduate project. Student: Pawel Andruszkiewicz .
Topic: Streaming video over the internet and wireless IP networks.
- 2005 - 2006** Undergraduate project. Student: Pedro Ussman. Topic: Image and Video Segmentation using Active Contours.
- 2004 - 2005** Undergraduate project. Student: Marco Igreja. Topic: Arithmetic Coding and Decoding.
- 2004 - 2005** Undergraduate project. Student: Andreia Sousa. Topic: Channel Coding for Video Transmission.
- 2008 - 2009** Monograph. Student: Susana Mota. Topic: "Ferramentas Síncronas e Assíncronas para Sistemas e-learning".
- 2008 - 2009** Monograph. Student: Isabel Rebelo. Topic: "O E-Learning no ensino Especial".
- 2008 - 2009** Monograph. Student: Goreti Brás. Topic: "Vantagens e desvantagens das diferentes plataformas de e-learning".
- 2006 - 2007** Monograph. Student: Ricardo Bichinho. Topic: "Plataforma de Monitorização e Avaliação - Escola Mais".
- 2006 - 2007** Monograph. Student: Patrícia Nabais. Topic: "A Informática no Ensino Especial".
- 2006 - 2007** Monograph. Student: Paulo Silva. Topic: "Internet na educação".

8 Management Tasks

- 2006 - Vice president of the Department of Computer Science of UBI.
- 2007 - Member and Secretary of the Scientific and Pedagogical Committee of the PhD in Engineering.
- 2007 - Member of the Scientific and Pedagogical Committee of the PhD in Computer Science.
- 2007 - Member of the Scientific and Pedagogical Committee of the MSc in Technologies and Information Systems - (<https://www.di.ubi.pt/agomes/tsi/>).
- 2006 - Director of the MSc in Computer Science and Engineering - (<https://www.di.ubi.pt/cursos/mestrados/mei/>).
- 2004 - 2006 Secretary of the Scientific Departmental Committee of the Informatics Department.

9 Pedagogic Interests

Multimedia technologies;
Multimedia Communication;
Coding Theory;
Multimedia indexing and retrieval.

10 Research Interests

Multiple Description Coding (MDC);
Joint source/channel coding;
Image and Video Coding;
Wavelet analysis;

Signal Processing for Telecommunications;

Information theory;

Real-time video streaming;

Medical Imaging.

11 Participation in R&D Projects

Project Leadership

Robust Joint Source/Channel Coding for Multimedia Communications

Brief Description The MDC makes it possible to control easily the amount of redundancy introduced in the transmitted signal while maintaining good quality decoding whatever the state of the channel. However, in the case of non stationary noisy channel, few works have been dedicated to the tuning of the redundancy according to the noise level. The goal of this project is to design a MDC that controls automatically this redundancy between the descriptors according to the channel state. Furthermore, in case of embedded devices we also propose to introduce distributed coding to move the complexity from the coder to the decoder. The proposed framework includes a wavelet transform and an optimal bit allocation process of the binary resource across the different descriptors and the different wavelet subbands. Our model will take into account both the knowledge of the channels characteristics (heterogeneity, non stationarity, ...) and the propagation conditions encountered in a real environment.

Duration 2008-2011.

Portuguese Leader Manuela PEREIRA.

French Leader Marc ANTONINI.

Other Participants Mario Freire (UBI), Michel Barlaud (University of Nice Sophia-Antipolis). Angelo Arrifano (UBI)

Funding Agency GRICES - CNRS (Portugal-France). Reference: PICS07.

HIPERCAMBIO - High Performance Computing Applied to Medical Data and Bioinformatics

Brief Description This project aims to develop parallel and scalable algorithms for processing a huge volume of medical data, associated with breast cancer in Portuguese women, in the Microsoft Portugal High Performance Computing Lab. Algorithms for segmentation of 2D objects are taken into account and new algorithms for 3D and 4D image segmentation will be investigated in order to allow the automatic identification of breast cancer. The project also explores the problem of 2D and 3D object reconstruction from ultrasound data regarding breast cancer, based on parallel algorithms.

Duration 2007-2009.

Project Leaders Manuela Pereira (UBI), Mário Freire (UBI) and Vítor Santos (Microsoft - MSFT).

Other Participants José Fernandes (Microsoft - MSFT) and Przemek Lenkiewicz (UBI/Microsoft-MSFT).

Reference HIPERCAMBIO.

Funding Agency Microsoft - MSFT.

Multiple Description Coding for image and video transmission using unreliable channels

Brief Description We propose to develop an MDC method robust to noise and adapted to the transmission of images and videos using non stationary channels (Internet, Mobile, WiFi). This method, that is based on wavelet transform and in an optimal bit allocation, will be a scalable solution and will allow data transmission over heterogeneous channels. This method should be well adapted for applications using transmission over unreliable and time variable channels, moreover, it will allow real time transmissions.

Duration 2005-2007.

Portuguese Leader Manuela PEREIRA.

French Leader Marc ANTONINI (CNRS).

Other Participants Mario Freire (University of Beira Interior), Michel Barlaud (University of Nice Sophia-Antipolis).

Funding Agency GRICES - CNRS (Portugal-France). Reference: 4.1.1/GRICES/CNRS.

Project Membership

TRAMANET - Traffic and Trust Management in Peer-to-Peer Networks

Brief Description The objectives of this project are the following: 1) Development of a methodology to detect P2P file-sharing traffic in local area networks for further blocking of its source. As far as we know only limited solutions for this problem are available, which lead to large performance degradations even at moderate network speeds (e.g. 100 Mbits/s). The methodology to be developed might be validated in an experimental environment. It is expected that the method and apparatus for the detection of P2P traffic should result in an international patent. 2) Proposal of a new trust mechanism for P2P system, taking into account the dynamic properties of peers and avoiding a large traffic overload. A trust model addressing both problems is lacking. The new trust model based on dynamic weights for P2P networks will be investigated in order to overcome both problems. 3) Development of a framework for vulnerability assessment of peers and their trust mechanisms. This work is pioneer and will study the effects of system and trust mechanism vulnerabilities and threats in P2P communities.

Duration 2008-2010.

Leader Mário M. Freire (UBI).

Other Participants Manuela Pereira (UBI), Rui Cardoso (UBI), Simão Melo de Sousa (UBI), João Gomes (Nokia Siemens Networks), Pedro Inácio (Nokia Siemens Networks), Nuno Garcia (Nokia Siemens Networks), Paulo Monteiro (Nokia Siemens Networks).

Reference FCT PTDC/EIA/73072/2006.

Funding Agency FCT - Fundação para a Ciência e a Tecnologia (Portugal).

CONDENSA - IPv4/IPv6-Compliant Optical Burst Switching Network Design with Enhanced Signaling Architectures

Brief Description Up to now, research work on optical burst switching (OBS) networks has been concentrated on packets of version 4 of Internet Protocol (IPv4), called IPv4 datagrams. However, due to the exhaustion of the IPv4 addressing space, it is expected that a transition from IPv4 to IPv6 (Internet Protocol - version 6) will occur before the maturity of a scalable optical packet switching technology. This project addresses several issues of OBS networks in a transition scenario from IPv4 to IPv6. This project is organized into four tasks addressing: 1) new burst assembly algorithms for edge routers to natively support IPv4/IPv6 datagrams and IPv6 jumbograms; 2) the specification of an enhanced version of the Just-in-Time (EJIT) signalling protocol for core routers; 3) IPv4/IPv6 - compliant QoS Support using prioritised burst segmentation and composite burst-assembly techniques 4) the development of a testbed of an IPv4/IPv6-compliant OBS network.

Duration 2005-2007.

Project Leader Mário M. Freire (UBI).

Other Participants Manuela Pereira (UBI), Joel Rodrigues (UBI), Nuno Garcia (Nokia Siemens Networks, SA), Paulo Monteiro (Nokia Siemens Networks SA), Henrique José Almeida da Silva (University of Coimbra), Przemyslaw Lenkiewicz (IT).

Reference FCT POSC/EEA- CPS/60247/2004.

Funding Agency FCT - Fundação para a Ciência e a Tecnologia.

COdage conjoint SOurce-CANal pour la Transmission d'Images (COSOCATI)

Brief Description The project is related to the application of techniques of joint source-channel coding for transmission of images in the case of systems of telecommunications using channels of the radio-mobile type and satellite, and also in the case of systems of space observation per satellite.

Duration 1999-2002.

Project Partnership France Télécom CNET; ALCATEL SPACE INDUSTRIES; CNES; NST Bretagne; ENST PARIS; Université de Nice, Laboratoire I3S.

Funding Agency RNRT - Réseau National de Recherche en Télécommunications.

12 Journal and Conference Services

Journal Technical Programme Committee

Electronics Letters, IEE Publishing and Information Services, Institution of Electrical Engineers.

Information Sciences, Elsevier.

Signal Processing, Elsevier Science Publishers.

Special issue on Recent Advances in Wireless Video, EURASIP Signal Processing:Image Communication, Guest Editor, Prof. Yucel Altunbasak.

International Journal of Wavelets, Multiresolution and Information Processing (IJWMIP) - 2006

IEEE Journal on Selected Topics in Signal Processing - 2006

Annals of Telecommunications - 2006

Conference Technical Programme Committee

Member

IEEE International Conference on Multimedia & Expo - ICME, 2008, 2009.

International Conference on Wavelet Analysis and Pattern Recognition - ICWAPR, 2008, 2009.

First International Workshop on Medical Applications Networking, 2009.

International Workshop on High Performance Computing Applied to Medical Data and Bioinformatics - HPC-Bio, 2008.

International Conference on Multimedia and Ubiquitous Engineering - MUE, 2008, 2009.

Multimedia Communications and Home Services Symposium, ICC, 2007.

Visual Computing and Multimedia Workshop, VCM 2006.

EURASIP European Signal Processing Conference, EUSIPCO 2006.

IEEE Consumer Communications and Networking Conference, IEEE CCNC2006.

IEEE Wireless Communications and Networking Conference, IEEE WCNC 2006.

Parallel Computing and Visualization Workshops 2006, AICT'06.

IEE Mobility Conference 2006.

IEEE International Symposium on Multimedia, IEEE ISM, 2005, 2006.

5th Conference on Telecommunications, CONFTELE 2005, 2009.

International Conference on Computer Graphics Science and Applications, ICCSA2005.

Co-Chair

ACM Symposium on Applied Computing. Volume I: Distributed Systems & Engineering. Computer Networks Track, 2009.

ACM Symposium on Applied Computing. Volume III: Artificial Intelligence and Agents & Distributed Systems. Computer Networks Track, 2008.

International Conference on Systems and Networks Communications, 2007

International Conference on Communications, Circuits And Systems, 2006.

Scientific And Programme Committee

“Grande Prémio de Programação”- GPPUBI’09 (local contest of “Torneio de Programação Inter-Universitário” - TIUP), University of Beira Interior, Covilhã, Portugal, 2009.

“Grande Prémio de Programação”- GPPUBI’06 (local contest of “Torneio de Programação Inter-Universitário” - TIUP), University of Beira Interior, Covilhã, Portugal, 2006.

“Grande Prémio de Programação” - GPPUBI’05 (local contest of “Torneio de Programação Inter-Universitário” - TIUP), University of Beira Interior, Covilhã, Portugal, 2005.

13 Participation in Jury

Principal Jury. M. Sc Thesis: "**Segmentação de imagem em sistemas de visão estéreo para orientação de deficientes visuais**" by Andreia Maria Sardinha Penedo. University of Trás de Montes e Alto Douro, January 2009.

President of the Jury. M. Sc Thesis: "**Avaliação da Qualidade de Páginas Web por Análise de Ausência de Opiniões**" by Sebastião Pais. University of Beira Interior, November 2008.

President of the Jury. M. Sc Thesis: "**Ficheiros para armazenamento e processamento de imagem**" by Filipe Quinaz. University of Beira Interior, November 2008.

Member of the Jury. PhD. Thesis: **Architectures and Algorithms for IPv4/IPv6-Compliant Optical Burst Switching Networks**, by Nuno Manuel Garcia dos Santos. University of Beira Interior, November 2008.

Member of the Jury. PhD. Thesis: **Performance Assessment of One-way Resource Reservation Protocols for IP Over Optical Burst Switched Networks** by Joel José Puga Coelho Rodrigues. University of Beira Interior, July 2006.

14 Invited Talks

M. Pereira, **Multiple Description Image and Video Coding for Noisy Channels**, “Instituto de Engenharia de Sistemas e Computadores Investigação e Desenvolvimento” - INESC-ID Lisboa, 2006.

M. Pereira, **Multiple Description Image and Video Coding for Noisy Channels**, Lab of Networks and Multimedia at IT-UC/UBI. University of Beira Interior, Portugal 2005.

M. Pereira and M. Antonini and M. Barlaud, **Channel adapted Multiple Description Coding Scheme using Scan-based Wavelet Transform**, COSOCATI workshop, Nice-Sophia Antipolis France, November 2002.

15 Publications

Thesis

M. Pereira, **Multiple description image and video coding for noisy channels**. PhD Thesis. I3S Laboratory of CNRS (Centre National de la Recherche Scientifique) and UNSA (University of Nice Sophia Antipolis), June 2004.

M. Pereira, **Ondulas no Intervalo**. M. Sc Thesis. University of Minho, 1999.

Edited Books

Manuela Pereira e Mário Freire (Eds.), **Biomedical Diagnostics and Clinical Technologies: Applying High-Performance Cluster and Grid Computing**, (2009).

Dongwan Shin, Mario Freire, Edmundo Monteiro, Manuela Pereira, Teresa Vazão Vasques, Brent Auernheimer, Shih-Hsi Liu, Hong Va Leong, Alvin Chan, Artur Caetano, Jose Tribolet, Robert Winter, Jiman Hong, Tei-Wei Kuo, Maria Lencastre, Sung Y. Shin, Chang Sung, W. Eric Wong, Tamara Rezk, Davide Rossi, Fabio Vitali. **Volume I: Distributed Systems & Engineering**. Proceedings of the 2009

ACM Symposium on Applied Computing, Honolulu, Hawaii, USA, March 8-12, 2009. ACM Press, New York, 2009, ISBN: 978-1-60558-166-8.

Roger L. Wainwright, Hisham Haddad, Umesh Bellur, Rajiv Ramnath, Rafael Santos, José Demisio Simões da Silva, Tei-Wei Kuo, Jiman Hong, Chih-Cheng Hung, Agostinho da Rosa, Bryant A. Julstrom, Pascal Schreck, Xiao-Shan Gao, Dominique Michelucci, Shahram Rahimi, Costin Badica, Maria Ganzha, Marcin Paprzycki, Yung-Chuan Alex Lee, Hong Va Leong, Alvin Chan, Marco Mamei, Justin Werfel, Virgílio Almeida, Jean-Marc Seigneur, Mário Freire, Teresa Vazão, Edmundo Monteiro, Manuela Pereira, Giampaolo Bella, Karl M. Goeschka, Svein O. Hallsteinsen, Rui Oliveira, Alexander Romanovsky, Hyoil Han, Youakim Badr, Djamal Benslimane, Zakaria Maamar (Co-Editors). **Volume III: Artificial Intelligence and Agents & Distributed Systems**. Proceedings of the 2008 ACM Symposium on Applied Computing, Fortaleza, Ceará, Brazil, March 16-20, 2008. ACM Press, New York, 2008, ISBN: 1-59593-753-7.

Mário Freire and Manuela Pereira (Eds.), **Encyclopedia of Internet Technologies and Applications**, Idea Group Reference, 2008.

Oana Dini, Ronny Fehling, Manuela Pereira, Moon Ho Lee, Abdelhamid Mellouk, Manuela Popescu, and Savola Reijo (Eds.). **Proceedings of Third International Conference on Systems and Networks Communications**. (ICSNC 2007), Cap Esterel, France, August 25-31, 2007. IEEE Computer Society Press, Los Alamitos, CA, July 2007, ISBN: 0-7695-2938-0.

Book Chapters

João V. P. Gomes, Pedro R. M. Inácio, Mário M. Freire, Manuela Pereira, and Paulo P. Monteiro **Chapter 39: The Nature of Peer-to-Peer Traffic**. Handbook of Peer-to-Peer Networking, Xuemin Shen, Heather Yu, John Buford, and Mursalin Akon (Eds.). Springer, Berlin Heidelberg, April 2009, ISBN: 978-0-387-09750-3.

Manuela Pereira. **Peer-to-Peer Computing**. Encyclopedia of Information Science and Technology, 2nd Edition (8 volumes), Mehdi

Khosrow-Pour (Ed.). Information Science Reference, IGI Global, Hershey, New York, 2008, ISBN: 978-1-60566-026-4, Volume VI.

Manuela Pereira and Mário M. Freire. **Proxy Caching Strategies for Internet Media Streaming**, Encyclopedia of Information Science and Technology, 2nd Edition (8 volumes), Mehdi Khosrow-Pour (Ed.). Information Science Reference, IGI Global, Hershey, New York, 2008, ISBN: 978-1-60566-026-4, Volume VI.

Journals

M. Pereira, M. Antonini, and M. Barlaud. **Multiple description image and video coding for wireless channels**. Session spéciale EURASIP : Image Communication Special Issue on Recent Advances in Wireless Video, 18(10):925-945, novembre 2003.

International Conferences

Przemyslaw Lenkiewicz, Manuela Pereira, Mário M. Freire, and José Fernandes. **The Whole Mesh Deformation Model for 2D and 3D Image Segmentation**, Submitted.

Przemyslaw Lenkiewicz, Manuela Pereira, Mário M. Freire, and José Fernandes. **A New Approach to Medical Image Segmentation Based on Topological Active Volumes: The Whole Mesh Deformation Model**, Submitted.

Marisa Quaresma, Angelo Arrifano, Manuela Pereira, Mário Freire, **Adapted Multiple Description Coding for P2P streaming**, Submitted.

Angelo Arrifano, Manuela Pereira, Mário Freire, **Multiple Description Coding based on JPEG 2000 MQ-Coder Registry**, Submitted.

Przemyslaw Lenkiewicz, Manuela Pereira, Mário M. Freire, and José Fernandes, **A New 3D Image Segmentation Method for Parallel Architectures**. Proceedings of 2009 IEEE International Conference

on Multimedia and Expo (ICME 2009), Workshop on Multimedia Signal Processing and Novel Parallel Computing, Cancun, Mexico, June 28 - July 3, 2009. IEEE Press, New York, June 2009, in press.

Ângelo M. Arrifano, Manuela Pereira, Marc Antonini, and Mário M. Freire. **JPEG 2000 MQ-Coder Registry Based Error Detection for Lossy Transmission Channels**. Conference on Visual Communications and Image Processing 2009, part of the 21st Annual IS&T/SPIE Symposium on Electronic Imaging, San Jose, CA, January 18-22 2009. Proceedings of SPIE, Volume 7257.

Przemyslaw Lenkiewicz, Manuela Pereira, Mário M. Freire, and José Fernandes. **Accelerating 3D Medical Image Segmentation with High Performance Computing**. First International Workshops on Image Processing Theory, Tools & Applications, Sousse, Tunisia, November 24-26, 2008. IEEE Press, New York, November 2008.

João V. P. Gomes, Pedro R. M. Inácio, Mário M. Freire, Manuela Pereira, and Paulo P. Monteiro. **Analysis of Peer-to-Peer Traffic Using a Behavioural Method Based on Entropy**. Proceedings of the 27th IEEE International Performance Computing and Communications Conference (IPCCC 2008), Austin, Texas, USA, December 7-9, 2008. IEEE Computer Society Press, Los Alamitos, CA, ISBN: 978-1-4244-3367-4, pp. 201-208.

Pedro R. M. Inácio, Mário M. Freire, Manuela Pereira, and Paulo P. Monteiro. **Analysis of the Impact of Intensive Attacks on the Self-Similarity Degree of the Network Traffic**. Proceedings of the Second International Conference on Emerging Security Information, Systems and Technologies (SECURWARE 2008), Cap Esterel, France, August 25-31, 2008. IEEE Computer Society Press, Los Alamitos, CA, ISBN: 978-0-7695-3329-2, pp. 107-113.

Pedro R. M. Inácio, João V. P. Gomes, Mário M. Freire, Manuela Pereira, and Paulo P. Monteiro. **Zombie Identification Port**. Proceedings of the Third International Conference on Internet Monitoring and Protection (ICIMP 2008), Bucharest, Romania, June 29-July 5, 2008. IEEE Computer Society Press, Los Alamitos, CA, ISBN: 978-0-7695-3189-2, pp. 67-73.

Filipe Soares, Pawel Andruszkiewicz, Mário Freire, Paulo Cruz, and Manuela Pereira. **Self-Similarity Analysis Applied to 2D Breast Cancer Imaging**. International Workshop on High Performance Computing Applied to Medical Data and Bioinformatics (HPC-Bio 2007). Proceedings of Second International Conference on Systems and Networks Communications (ICSNC 2007), Cap Esterel, France, 25-31 August 2007. IEEE Computer Society Press, Los Alamitos CA, August 2007, ISBN: 0-7695-2938-0.

Rui Agostinho, Manuela Pereira, and Mário Freire. **Advanced Querying Architecture for DICOM Systems**. Proceedings of Second International Conference on Systems and Networks Communications (ICSNC 2007), Cap Esterel, France, 25-31 August 2007. IEEE Computer Society Press, Los Alamitos CA, August 2007, ISBN: 0-7695-2938-0.

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