



ANEXO

Lista de Resultados  
da Actividade

## A1 Unidade de Engenharia de Sistemas de Produção

### A1.1 Resultados da actividade de investigação dos membros da Unidade (Results of the research activities of the team members)

#### A1.1.1 Lista de Publicações (List of Publications)

Teses (Theses)	0
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Livros-Autor (Books-Author)	0
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Livros-Editor (Books-Editor)	2
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Resende, M.G., Sousa, J.P. (editors), "Metaheuristics - Computer Decision-Making", Kluwer Academic Publishers, Boston, ISBN 1-4020-7653-3, November 2003.

Pinto Ferreira, J.J., "E-Manufacturing: Business Paradigms and Supporting Technologies", Kluwer Academic Publishers, Boston, ISBN 1-4020-7654-1, October 2003.

Capítulos em Livros (Chapter in Books)	5
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Soares, A. L., "E-manufacturing: the tools we need to deal with relationships and networks", in "E-Manufacturing: Business Paradigms and Supporting Technologies", *Kluwer Academic Publishers*, Boston, ISBN 1-4020-7654-1, October 2003.

Caldeira, J.C., "Joint Ventures for Innovation & Competitiveness", in "E-Manufacturing: Business Paradigms and Supporting Technologies", *Kluwer Academic Publishers*, Boston, ISBN 1-4020-7654-1, October 2003.

Soares, A.L., Carneiro, L.M., Carneiro, D., "Making Effective the Introduction of e-Business in SME's: A Reference Model Approach" (revised version), in "E-Manufacturing: Business Paradigms and Supporting Technologies", *Kluwer Academic Publishers*, Boston, ISBN 1-4020-7654-1, October 2003.

Ferreira, D., Pinto Ferreira, J.J., "Essential Services for P2P e-marketplaces" (revised version), in "E-Manufacturing: Business Paradigms and Supporting Technologies", *Kluwer Academic Publishers*, Boston, ISBN 1-4020-7654-1, October 2003.

Martins, A, Pinto Ferreira, J.J., Mendonça, J.M., "Quality Certification in the Virtual Enterprise" (revised version), in "E-Manufacturing: Business Paradigms and Supporting Technologies", *Kluwer Academic Publishers*, Boston, ISBN 1-4020-7654-1, October 2003.

Artigos em Revistas Internacionais com Revisores (International Journals with scientific referees)	2
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Carravilla, M.A., Ribeiro, C., Oliveira, J.F., "Solving Nesting Problems with Non-Convex Polygons by Constraint Logic Programming", *International Transactions in Operational Research*, Vol. 10, nº 6, pp 651-663, 2003.

Viana, A., Sousa, J.P., Matos, M.A., "Using GRASP to solve the Unit Commitment Problem", *Annals of Operations Research* (120), 1-4 (2003) pp 117-132, 2003.

<b>Artigos em Revistas Nacionais com Revisores (National Journals with scientific referees)</b>	<b>2</b>
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Moreira, A. C., "A Tecnologia e o Mercado: O Impacto do Comércio Electrónico na Indústria do Turismo", *Revista Portuguesa de Marketing*, Vol. 13, pp. 37 - 49, 2003.

Moreira, A. C., "A Tecnologia e os Modelos de Avaliação Estratégica", *Gestin*, Vol. 2, pp. 71 - 88, 2003.

<b>Comunicações em Actas de Conferências com Revisores (Conference Proceedings with scientific referees)</b>	<b>9</b>
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Pinto Ferreira, J.J., Ferreira, H., Toscano, C., "Distributed workflow management enactment engine", *Proceedings of IEPM - International Conference on Industrial Engineering and Production Management*, Porto, Portugal, 26-28 May 2003.

Santos, J.P., Oliveira, J.F., Carravilla, M.A., Costa, C., "A Decision Support System for the Assessment of Higher Education Degrees in Portugal", *Proceedings of the 31st SEFI Conference, Global Engineer: Education and Training for Mobility*, Faculdade de Engenharia da Universidade do Porto, Porto, Portugal, 7-10 September 2003.

Carravilla, M.A., Oliveira, J.F., "Teaching Logistics without Formal Classes: a case study", *Proceedings of the 31st SEFI Conference, Global Engineer: Education and Training for Mobility*, Faculdade de Engenharia da Universidade do Porto, Porto, Portugal, 7-10 September 2003.

Soares, A.L., Sousa, J.P., Barbedo, F., "Modeling the Structure OF Collaborative Networks: SOME CONTRIBUTIONS", *in Processes and Foundations for Virtual Organizations*, edited by L. M. Camarinha-Matos and H. Afsarmanesh, Kluwer Academic Publishers, Boston, October 2003.

Schiegg, P., Soares, A.L., Garg, A., Roesgen, R., Stich, V., "Configuring Consumer-demand Driven Supply Networks", *in Processes and Foundations for Virtual Organizations*, edited by L. M. Camarinha-Matos and H. Afsarmanesh, Kluwer Academic Publishers, Boston, October 2003.

Viana, A., Sousa, J.P., Matos, M.A., "GRASP with Constraint Oriented Neighbourhoods - an application to the Unit Commitment Problem", *Proceedings of the MIC'03 - The 5th Metaheuristics International Conference*, Kyoto, 25-28 August, 2003.

Moreira, A., Azevedo, A., "Capacity Management Requirements for Virtual Enterprises", *Proceedings of the IEPM'2003 Industrial Engineering and Production Management Conference*, Porto, Portugal, 26-28 May 2003.

Moreira, A., Azevedo, A., "Requirements of a Decision Support System for Capacity Analysis and Planning in Enterprise Networks", *Proceedings of the ICEIS 2003 - 5th International Conference on Enterprise Information Systems*, Angers, France, 23-26 April 2003.

Moreira, A. C.: "Networks Between Indigenous SMEs and Large Foreign Firms in the Portuguese Context. Looking for Complementarities in the Supply Chain", *Proceedings of the VII Annual EUNIP Conference - European Network on Industrial Policy*, Faculdade de Economia da Universidade do Porto, Porto, Portugal, 18-20 September 2003.

<b>Outras Publicações (Other Publications)</b>	<b>11</b>
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Carravilla, M.A., Ribeiro, C., Oliveira, J.F., "Combining CLP with Heuristics to Solve Nesting Problems", *Communication in the EURO/Informs 2003 Conference*, Istanbul, 6-10 July 2003.

Oliveira, J.F., "Solving Nesting Problems with Metaheuristics: A Survey", *Communication in the EURO/Informs 2003 Conference*, Istanbul, 6-10 July 2003.

Gomes, A.M., Oliveira, J.F., "Embedding Compaction Algorithms in Nesting Problems Resolution", *Communication in the EURO/Informs 2003 Conference*, Istanbul, 6-10 July 2003.

Moura, A., Oliveira, J.F., Gomes, A.M., "Non-Populational Meta-Heuristic Approaches to the Container Loading Problem", *Communication in the EURO/Informs 2003 Conference*, Istanbul, 6-10 July 2003.

Oliveira, J.F., "Solving nesting problems with metaheuristics: a survey", *Communication in the V Workshop on Cutting, Packing and Related Topics*, Guarujá, Brasil, 9-11 September 2003.

Moura, A., Oliveira, J.F., "Comparing Non-population Meta-heuristics Approaches Applied to the Container Loading Problem", *Communication in the V Workshop on Cutting, Packing and Related Topics*, Guarujá, Brasil, 9-11 September 2003.

Ferreira, E.P., Oliveira, J.F., "An algorithm for the non-guillotinable two-dimensional packing problem", *Communication in the V Workshop on Cutting, Packing and Related Topics*, Guarujá, Brasil, 9-11 September 2003.

Gomes, A.M., Oliveira, J.F., "Solving Nesting Problems by hybridising Simulated Annealing and Linear Programming", *Communication in the V Workshop on Cutting, Packing and Related Topics*, Guarujá, Brasil, 9-11 September 2003.

Costa, T., Oliveira, J.F., "Densest Lattice Packing Problems: a survey", *Communication in the V Workshop on Cutting, Packing and Related Topics*, Guarujá, Brasil, 9-11 September 2003.

Proença, H., Azevedo, A. "Requisitos Preliminares para um Sistema de Apoio Decisão no Planeamento da Produção Por Encomenda", *Communication in the Conference ENDIEL 2003 - 6º Encontro Nacional do Colégio de Engenharia Electrotécnica*, Ordem dos Engenheiros, Lisboa, Portugal, 27-31 May 2003.

Sarrico, C., Moreira, A. C., Tice, J., "What sectors of the economy should Portugal bet on?", *Workshop on Efficiency and Productivity Analysis*, Universidade Católica Portuguesa, Porto, Portugal, September 22, 2003.

#### A1.1.2 Lista de Revistas (List of Journals)

Journal	Number of papers
Annals of Operations Research	1
International Transactions on Operational Research	1
<b>TOTAL</b>	<b>2</b>

#### A1.1.3 Lista de Patentes (List of Patents)

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#### A1.1.4 Lista de Protótipos mais relevantes (List of Most Relevant Prototypes)

DWFMS - Distributed Agent based Workflow Management System for Inter-enterprise business processes coordination (first release)

Developed under the European IST BMAN project. Software to be distributed in a open source initiative.

Demo Place: TECH-QUIMPER(F), Lirel (P).

Development Period: Mar-2002 to Dez-2003.

Business Processes Editor

Developed under the European IST MyFashion project.

Demo Place: Silva e Sistelo (P).

Development Period: Sep-2002 to Dez-2003.

Intra-company automatic Logistic system, between departments, raw materials warehouses and subcontractors, with intermediate warehouse

Developed under the FATEC project (Portuguese Prime programme).

Demo Place: Lirel (P).

Development Period: Jun-2002 to Jul-2003.

Operational Management System for shoe manufacturing companies (first release)

Developed under the FATEC project (Portuguese Prime programme).

Demo Place: Lirel (P).

Development Period: Jun-2002 to Jul-2003.

Methods Framework (Methaheuristics Object-oriented Development Framework)

Developed under the CpackMO project (Portuguese Praxis programme).

Demo Place: INESC Porto (P).

Development Period: Sep-2002 to Dez-2003.

Agent Based Co-operative Planning system for Enterprise Networks (Second release)

Developed under the European IST Co-operate project. Further developed and tested for shoe manufacturing enterprises.

Demo Place: Jefar

Development Period: Jun-2002 to Jun-2003

**A1.1.5 Teses orientadas por membros da Unidade (Thesis supervised by members of the team)**

*Teses de Doutoramento (PhD Dissertations)*

Author	Supervisor/Institution	Title	Conclusion Date
Angelo Martins	José Manuel Mendonça João José P. Ferreira INESC Porto-FEUP	Operational Support to the Virtual Enterprise	2003
Maria Helena Correia	José Soeiro Ferreira INESC Porto-FEUP	Methodologies for the decision Support in production planning	2004
Diogo Ferreira	João José P. Ferreira INESC Porto-FEUP	Workflow infrastructures for Virtual Enterprises	2004
Ana Viana	Jorge Pinho de Sousa Manuel Matos INESC Porto-FEUP	Multi-objective heuristics for the project and management of production, transportation and delivery of goods and services in market deregulation processes	2004
Ana Maria Pinto Moura	José Fernando Oliveira INESC Porto-FEUP	Heuristic approaches to the vehicle routing and vehicle packing problems	2004
António Miguel Gomes	José Fernando Oliveira INESC Porto-FEUP	Raw material optimization in irregular cutting processes	2005
João Claro	Jorge Pinho de Sousa INESC Porto-FEUP	Strategic Planning in Collaborative Commerce Networks	2005
Maria Eduarda Cunha e Silva Pinto Ferreira	José Fernando Oliveira INESC Porto-FEUP	Graph based approach for the n-dimensional Rectangular packing problem	2005

Author	Supervisor/Institution	Title	Conclusion Date
Abailardo Lucílio de Natividade Silva Moreira	Américo Azevedo INESC Porto-FEUP	Avaliação Dinâmica da Capacidade Produtiva em Redes de Empresas	2005
Luís Moreira	José Soeiro Ferreira INESC Porto-FEUP	Scheduling Method and Applications	2006
Hugo Ferreira	João José P. Ferreira José Manuel Mendonça INESC Porto-FEUP	Self learning Ad-hoc workflow management	2006
Célia Talma	João José P.Ferreira Eugénio de Oliveira INESC Porto-FEUP	Key words: Multi agent systems, workflow management, enterprise networks. Title to be defined.	2006
Maria Teresa do Valle Moura da Costa	José Fernando Oliveira INESC Porto-FEUP	New approaches to the periodic placement of irregular shapes	2006
José Paulo Angeiras de Sousa Santos	Maria A. Carravilla Carlos Costa INESC Porto-FEUP	Sistema de Apoio à Avaliação de Cursos do Ensino Superior	2006
Dora Simões	António Lucas Soares INESC Porto-FEUP	Inter-organizational Knowledge Management	2006
Henrique José Amorim da Silva	José Fernando Oliveira INESC Porto - FEUP	Heurísticas e Meta-heurísticas para problemas de corte 2D rectangulares.	2007

#### *Teses de Mestrado (MSc Dissertations)*

Author	Supervisor/Institution	Title	Conclusion Date
Francisco Barbedo	António Lucas Soares INESC Porto-FEUP	Technical and Organizational requirements of archive networks using a social actors networks approach (in Portuguese)	2003
João Vieira	António Lucas Soares INESC Porto-FEUP	Information society in city libraries: New services for the citizens (in Portuguese)	2003
Avelino Jorge Pereira de Oliveira	Manuel Matos José Fernando Oliveira INESC Porto - FEUP	A methodology for the selection of steel blocks in a metallomechanics industry	2003
Henrique José Amorim da Silva	José Fernando Oliveira INESC Porto - FEUP	Level oriented meta-heuristics for strip-packing problems	2003
Ana Maria Rodrigues	José Soeiro Ferreira INESC Porto-FEUP	Application of new Meta-heuristics to the Rural Postmen problem (in Portuguese)	2004
Hugo Caldeira	José Soeiro Ferreira INESC Porto-FEUP	Logistic Pallet and Packing problems	2004
João Pinho	António Lucas Soares INESC Porto-FEUP	Implementation of information systems supporting e-business in SME's (in Portuguese)	2004
Fernando Branco	António Lucas Soares INESC Porto-FEUP	Management trends and information systems trends in networks of enterprises and virtual enterprises (in Portuguese)	2004
Pedro Neves	João José P. Ferreira INESC Porto-FEUP	Consumer Integration in the Business Processes	2004
Cláudio Barradas	João José P. Ferreira INESC Porto-FEUP	Enterprise integration in Business Networks	2004
Nuno Ribeiro	João José P. Ferreira INESC Porto-FEUP	Architectures for Enterprise Integration	2004

Author	Supervisor/Institution	Title	Conclusion Date
Paulo Veloso Gomes	António Lucas Soares INESC Porto-FEUP	Participação e colaboração mediada por computador em instituições universitárias: uma abordagem através da teoria Actor-Network	2004
Anabela Pinho	António Lucas Soares INESC Porto-FEUP	Sistemas de informação e padrões de relacionamento inter-organizacional	2004
Adília Gomes	António Lucas Soares INESC Porto-FEUP	Opções estratégicas para a adopção de sistemas e tecnologias de informação	2004
José Raúl Luís	Jorge Pinho de Sousa INESC Porto-FEUP	Produção distribuída de componentes para a indústria automóvel: modelação e optimização	2004
Nuno Carvalho	Jorge Pinho de Sousa INESC Porto-FEUP	Apoio à decisão para problemas de gestão estratégica e tática em empresas industriais distribuídas	2004
Miguel Teixeira	Jorge Pinho de Sousa INESC Porto-FEUP	Estudos de mobilidade numa zona metropolitana: gestão da informação e apoio à avaliação do impacto de estratégias alternativas	2004
Cristina Malafaya Batista	Maria A. Carravilla INESC Porto-FEUP	Integração de Heurísticas na resolução com CLP de Problemas de Posicionamento de Figuras Irregulares	2004
Ana Côrte-Real	Maria A. Carravilla INESC Porto-FEUP	Concepção e desenvolvimento de uma ferramenta para apoio à gestão de instituições de ensino superior	2004
Jonas André Lima	Maria A. Carravilla INESC Porto-FEUP	O impacto do terrorismo na cadeia de abastecimento	2004
Olga Constante	Américo Azevedo INESC Porto-FEUP	Sistema de Informação para Planeamento Agregado da Produção	2004
Teresa Mota	Américo Azevedo INESC Porto-FEUP	A evolução dos sistemas de informação e a sua relação com os modelos de organização e gestão	2004
Célia Tenente	Américo Azevedo INESC Porto-FEUP	As redes de empresas e os requisitos para os sistemas de informação	2004
Henrique Proença	Américo Azevedo INESC Porto-FEUP	Decision support system for open orders planning (MTO)	2004
José Manuel Costa	António Carrizo Moreira INESC Porto	A inovação nos serviços. O caso da Loja do Cidadão	2004
António Ribeiro	Américo Azevedo INESC Porto-FEUP	Business Models and processes in the printing industry	2005

#### A1.1.6 Organização de Eventos Científicos Internacionais (Organization of International Scientific Events)

IEPM - Industrial Engineering and Production Management, Porto, May 26 - 28 2003.

- Chairman of the organizing committee: João José Pinto Ferreira.
- Participation in the Organizing committee: Luís Maia Carneiro.
- Results: Publication of 166 papers in the conference proceedings.

#### A1.1.7 Formação Avançada (Advanced Training)

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## A2 Unidade de Optoelectrónica e Sistemas Electrónicos

### A2.1 Resultados da actividade de investigação dos membros da Unidade (Results of the research activities of the team members)

#### A2.1.1 Lista de Publicações (List of Publications)

Teses (Theses)	3
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Dionísio Cerqueira Alves Pereira, "Sensores de Bragg em fibra óptica para monitorização estrutural e ambiental", MSc Thesis, FCUP, 2003.

Daniel Moreira Lopes Alexandre, "Desenvolvimento de uma unidade de escrita directa laser para fabricação de dispositivos ópticos integrados", MSc Thesis, FCUP, 2003.

Paulo Sérgio de Amorim Caldas, "Sensores ópticos baseados em fluorescência para detecção de parâmetros químicos", MSc Thesis, FCUP, 2003.

Livros-Autor (Books-Author)	0
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Livros-Editor (Books-Editor)	0
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Capítulos em Livros (Chapter in Books)	1
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Joanni, E., . et al., "Materiais 2000", Capitulo 6.5 - "Materiais Ferroelétricos", 2003, ISBN: 972-8469-23-3.

Artigos em Revistas Internacionais com Revisores (International Journals with scientific referees)	14
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*Published*

Melo, M.A.R.D., Frazão, O.J.D.R., Gomes, L.A.D.A.O., Salgado, H.M.D.C.F., "Tunable L-band Erbium Doped Fiber Ring Laser by Means of Induced Cavity Loss using a FibreTaper", *Applied Physics B: Lasers and Optics*, vol.77, 2003, pp.133-137.

Terroso, I.J.G.D.F., Carvalho, J.P.P.D., Frazão, O.J.D.R., Marques, M.J.B., Salgado, H.M.D.C.F., "All-fibre Wavelength Conversion Based on Four-Wave-Mixing in a Ring Erbium Doped Fibre Laser", *Applied Physics B: Lasers and Optics*, vol.77, 2003, pp.139-142.

Araújo, F.M.M., Ferreira, L.A.D.A., Santos, J.L.C.D.O., . et al., "Transparent Network for Hybrid Multiplexing of FBG and Intensity-Modulated Fiber Optic Sensors", *Applied Optics*, vol.42, 2003, pp.5040-5045.

Mardare, A.I., Fernandes, J.R.A., Mardare, C.C., Joanni, E., . et al., "Pulsed Laser Deposition of Barium Metaplumbate Thin Films for Ferroelectric Capacitors", *European Physical Journal - Applied Physics*, vol.23, 2003, pp.89.

Mardare, C.C., Mardare, A.I., Fernandes, J.R.A., Joanni, E., . et al., "Deposition of Bioactive Glass-Ceramic Thin-Films by RF Magnetron Sputtering", *Journal of European Ceramic Society*, no.23, 2003, pp.1027.



Araújo, F.M.M., Ferreira, L.A.D.A., Santos, J.L.C.D.O., . et al., "Interrogation of Wavelength Multiplexed Fiber Bragg Gratings Using Spectral Filtering and Amplitude-to-Phase-Conversion", *Journal of Lightwave Technology*, no.21, 2003, pp.127-131.

Araújo, F.M.M., Ferreira, L.A.D.A., Santos, J.L.C.D.O., . et al., "Study of the Optical Properties of Photopolymer Fabry-Pérot Microcavities by a Dual-wavelength Fibre Optic Architecture", *Journal of Measurement Science and Technology*, vol.13, 2003, pp.1094.

Muniz, R.M.R., Frazão, O.J.D.R., Marques, P.V.D.S., Salgado, H.M.D.C.F., Santos, J.L.C.D.O., "Fibre Bragg Grating Interrogation Technique Based on a Chirp Grating Written in an Erbium Doped Fibre", *Journal of Measurement Science and Technology*, vol.14, 2003, pp.1993-1997.

Frazão, O.J.D.R., Santos, J.L.C.D.O., . et al., "Simultaneous Measurement of High Temperature and Strain using Type I and Type IIA Fiber Bragg Gratings with High Thermal Stability", *Journal of Optics A: Pure and Applied Optics*, vol.5, 2003, pp.183-185.

Joanni, E., Mardare, A.I., Mardare, C.C., Fernandes, J.R.A., "Simple Method for Crystallizing Ceramic Thin Films Using Platinum Bottom Electrodes and Resistive Heating Elements", *Japanese Journal of Applied Physics*, vol.42, 2003, L863.

Santos, J.L.C.D.O., . et al., "Micromachined Low-Finesse Fabry-Pérot Interferometer for the Measurement of DC and AC Electrical Currents", *IEEE Sensors Journal*, no.3, 2003, pp.13-18.

Frazão, O.J.D.R., Terroso, I.J.G.D.F., Carvalho, J.P.P.D., Salgado, H.M.D.C.F., "Optical Cross Connect Based on Tuneable FBG-OC with Full Scability and Directionality", *Optics Communications*, no.220, 2003, pp.105-109.

Rego, G.M.D., Fernandes, J.R.A., Santos, J.L.C.D.O., Salgado, H.M.D.C.F., Marques, P.V.D.S., "New Technique to Mechanically Induce Long-Period Fibre Gratings", *Optics Communications*, no.220, 2003, pp.111-118.

Araújo, F.M.M., Ferreira, L.A.D.A., Santos, J.L.C.D.O., . et al., "Fiber Bragg Grating Based Self-referencing Technique for Wavelength Multiplexed Intensity Sensors", *Optics Letters*, vol.27, 2003, pp.222.

*Accepted, awaiting publication (not counted in 2003):*

Frazão, O.J.D.R., Dias, I.M.S., "Health Monitoring of a Boat Structure with a Sensor Bragg Network", *Advanced Materials Forum II*, 2003.

Duarte, F.X.F., Ferreira, L.A.D.A., Santos, J.L.C.D.O., . et al., "Analysis of Wavelength-Multiplexed Photonic-Sensor Networks Using Fused Biconical WDMs", *IEEE Sensors Journal*, 2003.

Joanni, E., Fernandes, J.R.A., . et al., "Growth and Characterization of BaBi<sub>2</sub>Nb<sub>2</sub>O<sub>9</sub> Thin Films Made by RF-Magnetron Sputtering", *Ferroelectrics*, 2003.

Mardare, A.I., Mardare, C.C., Fernandes, J.R.A., . et al., "Barium Metaplumbate Thin Film Electrodes for Ferroelectric Devices", *Ferroelectrics*, 2003.

Pereira, D.C.A., Frazão, O.J.D.R., Ferreira, J.M.C., Dias, I.M.S., Santos, J.L.C.D.O., "Advanced Optical Technologies for Monitoring Estuaries and Coastal Environments", *Journal of Marine Sciences*, 2003.

Gomes, L.A.D.A.O., . et al., "Saturable Absorber Intensity Modulator", *Journal of Quantum Electronics*, 2003.

Gomes, L.A.D.A.O., . et al., "Dilute Nitride Vertical-Cavity Surface-Emitting Lasers", *New Journal of Physics*, 2003.

Baptista, J.M.R.T., Rego, G.M.D., Ferreira, L.A.D.A., Araújo, F.M.M., Santos, J.L.C.D.O., "Wavelength Multiplexing of Frequency Based Self-Referenced Fiber Optic Intensity Sensors", *Optical Engineering*, 2003.

Frazão, O.J.D.R., . et al., "Comparison of Thermally Tuneable and group Delay of Different Type Bragg Grating Filters for Wavelength Division Multiplexing", *Optical Engineering*, 2003.

Pereira, D.C.A., Frazão, O.J.D.R., Santos, J.L.C.D.O., "Fibre Bragg Grating Sensor for Simultaneous Measurement of Salinity and Temperature", *Optical Engineering*, 2003.

Gomes, L.A.D.A.O., . et al., "Mode Locked Ytterbium Fiber Laser Tunable in the 980-1070 nm Spectral Range", *Optics Letters*, 2003.

Gomes, L.A.D.A.O., . et al., "980 nm Picosecond Fiber Laser", *Photonics Technology Letters*, 2003.

Artigos em Revistas Nacionais com Revisores (National Journals with scientific referees)	0
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Comunicações em Actas de Conferências com Revisores (Conference Proceedings with scientific referees)	34
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Gomes, L.A.D.A.O., . et al., "Broadly Tunable Mode-locked Ytterbium Fiber Laser", *I Symposium on Enabling Optical Networks*, 17 June, Aveiro, Portugal, 2003.

Mardare, C.C., Mardare, A.I., Carvalho, J.P.P.D., Frazão, O.J.D.R., Salgado, H.M.D.C.F., "Tunable Thin-Film-heated Fiber Bragg Grating", *I Symposium on Enabling Optical Networks*, 17 June, Aveiro, Portugal, 2003.

Muniz, R.M.R., Frazão, O.J.D.R., Marques, P.V.D.S., Salgado, H.M.D.C.F., . et al., "Chirped Fibre Bragg Grating for Optical Dispersion Compensation at 10 Gbit/s", *I Symposium on Enabling Optical Networks*, 17 June, Aveiro, Portugal, 2003.

Rego, G.M.D., Santos, J.L.C.D.O., Salgado, H.M.D.C.F., "Applications of the Electric Arc Technique", *I Symposium on Enabling Optical Networks*, 17 June, Aveiro, Portugal, 2003.

Rego, G.M.D., Santos, J.L.C.D.O., Salgado, H.M.D.C.F., "Polarization Dependent-Loss and Polarization Mode Dispersion Measurements of Mechanically Induced Long-Period Fiber Gratings", *I Symposium on Enabling Optical Networks*, 17 June, Aveiro, Portugal, 2003.

Carvalho, J.P.P.D., Terroso, I.J.G.D.F., Muniz, R.M.R., Frazão, O.J.D.R., . et al., "Performance Evaluation of an Optical Add Drop Multiplexer Using an Apodized Bragg Grating", *I Symposium on Enabling Optical Networks*, 17 June, Aveiro, Portugal, 2003.

Gomes, L.A.D.A.O., . et al., "140-MHz Stretched Pulse Ytterbium Fiber Laser Operating in the 980-1030 nm Spectral Range", *OSA Annual Meeting - New Frontiers in Optics*, 5-9 October, Tucson, Arizona, USA, 2003.

Gomes, L.A.D.A.O., . et al., "Mode-locked Ytterbium Fiber Laser Tunable in the 980-1070 nm Spectral Range", *OSA Annual Meeting - New Frontiers in Optics*, 5-9 October, Tucson, Arizona, USA, 2003.

Frazão, O.J.D.R., Muniz, R.M.R., Santos, J.L.C.D.O., "Simultaneous Measurement of Temperature and Strain using a Ring Fibre Bragg Grating Sensor", *OFS-16 - 16th International Conference on Optical Fiber Sensors*, 13-17 October, Nara, Japan, 2003.

Frazão, O.J.D.R., Santos, J.L.C.D.O., . et al., "Three-Parameter Simultaneous Measurement Using Superimposed Bragg Gratings in High-birefringence Optical Fibers", *OFS-16 - 16th International Conference on Optical Fiber Sensors*, 13-17 October, Nara, Japan, 2003.

Frazão, O.J.D.R., Dias, I.M.S., . et al., "Health Monitoring of a Boat Structure with a Sensor Bragg Network", *II International Materials Symposium*, 14-16 April, Caparica, Portugal, 2003.

Frazão, O.J.D.R., . et al., "Smart Composite Plates for Health Monitoring of a Boat Structure", *The 14<sup>th</sup> International Conference on Composite Materials (ICCM-14)*, 14-18 July, San Diego, California, USA, 2003.

Frazão, O.J.D.R., . et al., "Unchirped Fiber Bragg Grating for Simultaneous Filtering and Dispersion Compensation in Wavelength-Multiplexed Systems", *10<sup>th</sup> International conference on telecommunications ICT'2003*, 23 February - 1 March, Tahiti, Papeete, French Polynesia, 2003.

Gomes, L.A.D.A.O., . et al., "Novel Semiconductor Quantum Well Lasers for Next Generation Fiber-Optic Telecommunication Networks", *Physics Days*, 20-22 March, Helsinki, Finland, 2003.

Moreira, P.J.B., Marques, P.V.D.S., . et al., "Hybrid Sol-gel Sílica Channel Waveguide Bragg Grating Fabrication Using Single-step UV Patterning", *ECIO 2003*, 2-4 April, Prague, Czech Republic, 2003.

Muniz, R.M.R., Frazão, O.J.D.R., Marques, P.V.D.S., Salgado, H.M.D.C.F., . et al., "Multiplexers and Demultiplexers Based on Fibre Bragg Gratings and Optical Circulators for DWDM Systems", *HSNMC'03 - 6<sup>th</sup> IEEE international Conference on High Speed Networks and Multimedia Communications*, 23-25 July, Estoril, Portugal, 2003.

Santos, J.L.C.D.O., . et al., "Fiber Bragg Sensor Interrogation System Based on a CCD Spectrometer", *IEEE Sensors 2003*, 22-24 October, Toronto, Canada, 2003.

Frazão, O.J.D.R., Ferreira, J.M.C., Santos, J.L.C.D.O., . et al., "Damage Monitoring in Composite Materials Using an Optical Fibre Acoustic Emission Sensor", *NDT 2003 - 3rd International Conference of Hellenic Society of Non-Destructive Testing HSNT*, 13-16 October, Crete, Greece, 2003.

Baptista, J.M.R.T., Frazão, O.J.D.R., Ferreira, L.A.D.A., Araújo, F.M.M., . et al., "Load Cell for Structural Monitoring based on a Microbend Self-Referenced Fiber Optic Intensity Sensor", *LEOS 2003 - 16th Annual Meeting of the IEEE Lasers & Electro-Optics Society*, 5-9 October, Tucson, USA, 2003.

Rego, G.M.D., Santos, J.L.C.D.O., Salgado, H.M.D.C.F., . et al., "PDL and DGD Measurements of Mechanically Induced Long-Period Fiber Gratings", *LCS 2003 - London Communications Symposium*, 8-9 September, London, England, 2003.

Carvalho, J.P.P.D., Frazão, O.J.D.R., Marques, M.J.B., Salgado, H.M.D.C.F., "Wavelength Conversion Based on Four-wave Mixing in a Ring Laser", *LCS 2003 - London Communications Symposium*, 8-9 September, London, England, 2003.

Melo, M.A.R.D., Frazão, O.J.D.R., Muniz, R.M.R., Marques, P.V.D.S., . et al., "Evaluation of Spectral Response in Fibre Bragg Grating Written in Tapering of Single Mode Optical Fibre", *IMOC 2003 - International Microwave and Optoelectronics Conference 2003*, 20-23 September, Iguazu Falls, Brazil, 2003.

Frazão, O.J.D.R., . et al., "Characterization of Bragg Gratings in Normal and Reduced Diameter Hi-Bi Fibers", *IMOC 2003 - International Microwave and Optoelectronics Conference 2003*, 20-23 September, Iguazu Falls, Brazil, 2003.

Frazão, O.J.D.R., . et al., "Fiber Bragg Gratings with Variable Negative Mean Index Change", *IMOC 2003 - International Microwave and Optoelectronics Conference 2003*, 20-23 September, Iguazu Falls, Brazil, 2003.

Caldas, P.S.D.A., Jorge, P.A.D.S., Rosa, C.S.S.C., Santos, J.L.C.D.O., . et al., "Optical Fiber Oxygen Sensor for In Vivo NMR Application", *EuroSensors XVII - The 17<sup>th</sup> European Conference on Solid-State Transducers*, 21-24 September, Guimarães, Portugal, 2003.

Santos, J.L.C.D.O., . et al., "The Development and Application of a Fiber Bragg Sensor Interrogation System Using a Commercial CCD Spectrometer", *EuroSensors XVII - The 17<sup>th</sup> European Conference on Solid-State Transducers*, 21-24 September, Guimarães, Portugal, 2003.

Carvalho, J.P.P.D., Frazão, O.J.D.R., Salgado, H.M.D.C.F., . et al., "Optical Cross-Connect Architectures Based on Fibre Bragg Gratings and Optical Circulators", *ConfTele2003 - 4th Conference on Telecommunications*, 18-20 June, Aveiro, Portugal, 2003.

Carvalho, J.P.P.D., Frazão, O.J.D.R., Salgado, H.M.D.C.F., . et al., "Interference Evaluation in an Optical FFH-CDMA System", *ConfTele2003 - 4th Conference on Telecommunications*, 18-20 June, Aveiro, Portugal, 2003.

Gomes, L.A.D.A.O., Marques, M.J.B., . et al., "Vertical-Cavity Saturable Absorber Intensity Modulator", *ConfTele2003 - 4th Conference on Telecommunications*, 18-20 June, Aveiro, Portugal, 2003.

Muniz, R.M.R., Frazão, O.J.D.R., Marques, M.J.B., Salgado, H.M.D.C.F., . et al., "Chirped Fibre Bragg Grating for Optical Communications and Sensor Applications", *ConfTele2003 - 4th Conference on Telecommunications*, 18-20 June, Aveiro, Portugal, 2003.

Muniz, R.M.R., Salgado, H.M.D.C.F., Frazão, O.J.D.R., Marques, P.V.D.S., Santos, J.L.C.D.O., "Spectral Response of Chirped Fibre Bragg Gratings Written in Erbium Doped Fibres", *BGPP 2003 - Bragg Gratings Photosensitivity and Poling in Glass Waveguides*, 1-3 September, California, USA, 2003.

Rego, G.M.D., Santos, J.L.C.D.O., Marques, P.V.D.S., Salgado, H.M.D.C.F., "Study of the Properties of Arc-Induced Long-Period Gratings and Bragg Gratings in B/Ge Doped Fibers", *BGPP 2003 - Bragg Gratings Photosensitivity and Poling in Glass Waveguides*, 1-3 September, California, USA, 2003.

Rego, G.M.D., Salgado, H.M.D.C.F., Santos, J.L.C.D.O., "Measurement of the Salinity in Water through Long-Period Gratings Induced in Pure-Silica-Core fibers", *APHYS 2003 - First International Meeting on Applied Physics*, 13-18 October, Badajoz, Spain, 2003.

Rego, G.M.D., Santos, J.L.C.D.O., Salgado, H.M.D.C.F., . et al., "Optical Fiber Sensors for Radiation Environments", *APHYS 2003 - First International Meeting on Applied Physics*, 13-18 October, Badajoz, Spain, 2003.

<b>Outras Publicações (Other Publications)</b>	<b>2</b>
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Pereira, D.C.A., Frazão, O.J.D.R., Santos, J.L.C.D.O., "Sensores de Bragg em Fibra Óptica para Monitorização e Controlo de Tráfego em Estruturas Civas", *5º Encontro Nacional de Análise Experimental de Tensões e Mecânica Experimental*, 25-27 Junho, Coimbra, Portugal, 2003.

Frazão, O.J.D.R., Santos, J.L.C.D.O., . et al., "Sensor em Fibra Óptica para Detecção em Tempo Real de Danos em Materiais Compósitos Inteligentes", *VII Congresso de Mecânica Aplicada e Computacional*, 14-16 Abril, Évora, Portugal, 2003.

#### A2.1.2 Lista de Revistas (List of Journals)

Journal	Number of papers
Applied Optics	1
Applied Physics	1
Applied Physics B: Lasers and Optics	2
IEEE Sensors Journal	1
Japanese Journal of Applied Physics	1
Journal of European Ceramic Society	1
Journal of Lightwave Technology	1
Journal of Measurement Science and Technology	2
Journal of Optics A: Pure and Applied Optics	1

Journal	Number of papers
Optics Communications	2
Optics Letters	1
<b>Total</b>	<b>14</b>

#### A2.1.3 Lista de Patentes (List of Patents)

Conversor de comprimento de onda baseado num laser em fibra óptica dopada com terras raras

Developed under: several projects

Demo Place: INESC Porto

Development Period: 2003

Type: National

Submission Date: 27-6-2003

Router óptico para sistemas DWDM com selectividade e conversão de comprimento de onda

Developed under: several projects

Demo Place: INESC Porto

Development Period: 2003

Type: National

Submission Date: 27-6-2003

Processo para cristalização de filmes usando filmes condutores como elementos de aquecimento resistivos

Developed under: several projects

Demo Place: INESC Porto

Development Period: 2003

Type: National

Submission Date: 10-7-2003

#### A2.1.4 Lista de Protótipos mais relevantes (List of Most Relevant Prototypes)

Optical fiber Bragg gratings interrogation unit

Developed under several projects

Demo Place: Hannover Messe, INESC Porto

Development Period: October 2002- April 2003

Multimedia artifact for interactive performance installations

Developed under Cibermúsica project

Demo Place: Festival em Obra Aberta, Casa da Música, Porto

Development Period: March 2003- June 2003

Development of an artificial vision based image processing equipment dedicated to quality control in tyre industry

Developed under Transfer Technology project

Demo Place: Continental - Mabor, Lousada, Famalicão

Development Period: May 2002- December 2003

#### A2.1.5 Teses orientadas por membros da Unidade (Thesis supervised by members of the team)

##### *Teses de Doutoramento (PhD Dissertations)*

Author	Supervisor/Institution	Title	Conclusion Date
José Ramiro Afonso Fernandes	José Luís Santos Ednan Joanni FCUP/INESC Porto	Thin Film Microfabrication	2004
Rosa Romero Muniz	Henrique Salgado Paulo Marques INESC Porto	Optical fiber devices for communications	2004
Gaspar Mendes Rego	José Luís Santos Henrique Salgado INESC Porto	Long Period Fibre Gratings	2004
Carla Carmerlo Rosa	José Luís Santos INESC Porto	Low-coherence interferometry	2004
Paulo Moreira	Paulo Marques INESC Porto	Integrated optic devices	2004
Pedro Jorge	José Luís Santos INESC Porto	Fluorescence based optical fibre sensors	2004
Luís Gomes	Manuel Joaquim INESC Porto	Optical fibre lasers	2004
Andrei Mardare	Manuel Joaquim Ednan Joanni INESC Porto	Thin film microfabrication	2006
Cezarina Mardare	Manuel Joaquim Ednan Joanni INESC Porto	Thin film microfabrication	2006

##### *Teses de Mestrado (MSc Dissertations)*

Author	Supervisor/Institution	Title	Conclusion Date
Dionísio Pereira	José Luís Santos INESC Porto	Sensores de Bragg em fibra óptica para monitorização estrutural e ambiental	2003
Daniel Alexandre	Paulo Marques INESC Porto	Desenvolvimento de uma unidade de escrita directa laser para fabricação de dispositivos ópticos integrados	2003
Paulo Caldas	José Luís Santos INESC Porto	Sensores ópticos baseados em fluorescência para detecção de parâmetros químicos	2003

#### A2.1.6 Organização de Eventos Científicos Internacionais (Organization of International Scientific Events)

Blank.

#### A2.1.7 Formação Avançada (Advanced Training)

Blank.



### A3 Unidade de Sistemas de Energia

#### A3.1 Resultados da actividade de investigação dos membros da Unidade (Results of the research activities of the team members)

##### A3.1.1 Lista de Publicações (List of Publications)

Teses (Theses)	2
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Ángelo Mendonça, "Definição de Parâmetros de Power System Stabilizers para Melhoria do Comportamento Dinâmico de Redes", MSc Thesis, FEUP, September, 2003.

Nuno José Gil, "Elaboração de Procedimentos e Critérios para Definição de Limites de Elegibilidade de Aceitação de Produção Renovável em Redes Isoladas", MSc Thesis, FEUP, September, 2003.

Livros-Autor (Books-Author)	0
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Livros-Editor (Books-Editor)	0
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Capítulos em Livros (Chapter in Books)	1
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Matos, M.A., et al., "Metaheuristics Applied to Power Systems", in Metaheuristics: Computer Decision-Making, Kluwer Academic Publishers B.V., pp.449-464, 2003.

Artigos em Revistas Internacionais com Revisores (International Journals with scientific referees)	4
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Anders, G.J., Hamoud, G., Leite da Silva, A.M., Manso, L.A.F., "Optimal Outage Scheduling - Example of Application to a Large Power System", *IJEPES - International Journal of Electrical Power & Energy Systems*, Vol. 25, No. 8, pp. 607-614, October 2003.

Leite da Silva, A.M., Costa, J.G.C., "Transmission Loss Allocation - Part I: Single Energy Markets", *IEEE Trans. on Power Systems*, Vol. 18, No. 4, pp. 1389-1394, November 2003.

Leite da Silva, A.M., Costa, J.G.C., "Transmission Loss Allocation - Part II: Multiple Interconnected Energy Markets", *IEEE Trans. on Power Systems*, Vol. 18, No. 4, pp. 1395-1401, November 2003.

Ponce de Leão, M. T., Saraiva, J. T., "Solving The Revenue Reconciliation Problem of Distribution Network Providers Using Long Term Marginal Prices", *IEEE Transactions on Power Systems*, February 2003, vol.18, no.1, p.339-345.

Viana A., Pinho de Sousa, J., Matos, M.A., "Using GRASP to solve the Unit Commitment Problem", *Annals of Operations Research* (120) 1-4, 117-132, 2003. (\*)

(\*) Publication counted in UESP

Artigos em Revistas Nacionais com Revisores (National Journals with scientific referees)	0
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Braga, A. S., Saraiva, J. T., "Transmission Expansion Planning and Long Term Marginal Prices Calculation Using Simulated Annealing", *Proceedings of the 2003 Bologna Power Tech Conference*, Bologna, Italy, 23 - 26 June 2003.

Cassula A.M., Leite da Silva, A.M., Sacramento, C.E., Manso, L.A.F., "Avaliação Integrada da Confiabilidade de Sistemas de Geração, Transmissão e Distribuição Baseada em Simulação Cronológica", *Anais do XVII SNPTEE - Seminário Nacional de Produção e Transmissão de Energia Elétrica*, Uberlândia, MG, artigo GAT-039, CD-ROM, 19 - 24 de Outubro, 2003.

Cassula A.M., Leite da Silva, A.M., Manso, L.A.F., Sacramento, C.E., "Avaliação Preditiva da Confiabilidade de Sistemas de Distribuição Considerando as Falhas Oriundas dos Sistemas de Geração e Transmissão", *V CLAGTEE - Congresso Latino Americano de Geração e Transmissão de Energia Elétrica*, São Pedro, SP, 16 -20 Novembro, 2003.

Castronuovo, E. D., Peças Lopes, J. A., "Wind And Small-Hydro Generation. An Optimisation Approach For Daily Integrated Operation", *2003 European Wind Energy Conference*, June 2003.

Fidalgo, J.N., "Neural Networks Applied to Spatial Load Forecasting", *4<sup>th</sup> WSEAS International Conference on Automation & Information (ICAI'03)*, Tenerife, Dezembro 2003.

Fidalgo, J.N., Peças Lopes, J. A., "Identification of Relevant Features for Preventive Control of Dynamic Security", *8CLEEE - 8<sup>o</sup> Congresso Luso Espanhol de Engenharia Electrotécnica*, July 2003.

Fidalgo, J.N., Peças Lopes, J.A., "Forecasting Active And Reactive Power At Substations' Transformers", *IEEE Bologna Power Tech 2003*, Bolonha, Itália, 2003

Manso, L.A.F., Salles, W.S., Leite da Silva, A.M., Resende, L.C., "Confiabilidade Preventiva de Sistemas de Geração via Simulação Monte Carlo Não-Sequencial", *V CLAGTEE - Congresso Latino Americano de Geração e Transmissão de Energia Elétrica*, São Pedro, SP, 16 -20 Novembro, 2003.

Matos, M.A. et al., "Unit Commitment and Economic Dispatch in the MORE CARE advice system", *Proc. ISAP'03 - 12th Intelligent Systems Application to Power Systems Conference*, Lemnos, 2003.

Matos, M.A., "A new power flow method for radial networks", *Proc. 2003 IEEE Bologna PowerTech*, Bologna, 2003.

Mendonça, Â., Fonseca, N., Peças Lopes, J. A., Miranda, V., "Robust Tuning of Power System Stabilizers Using Evolutionary PSO", *Proceedings of ISAP'2003 - Competitive Environment, Renewable Energy, Distributed Generation*, September 2003.

Mendonça, Â., Peças Lopes, J. A., "Robust Tuning of PSS in Power Systems with Different Operating Conditions", *Proceedings of IEEE Bologna Power Tech 2003*, June 2003.

Paes de Barros, J.R., Leite da Silva, A.M., Melo, A.C.G., "Abordagem Interactiva de Planejamento de Fontes de Potência Reactiva em Derivação Baseada em Custos Marginais de Confiabilidade - Metodologia e Estudo de Caso", *Anais do X ERLAC - Encuentro Regional Latinoamericano de la Cigré*, Puerto Iguazú, Comité 37, CD-ROM, 18 - 22 de Maio, 2003.

Papadogiannis, K. A., Hatziaargyriou, N. D., Saraiva, J. T., "Short Term Active/Reactive Operation Planning in Market Environment Using Simulated Annealing", *12th Intelligent Systems Application to Power System Conference, ISAP 2003*, Lemnos, Greece, 31 August to 3 of September 2003.

Peças Lopes, J. A., Saraiva, J. T., Hatziaargyriou, N., Jenkins, N., "Management of Microgrids", *JIEEC'2003 - International Electrical Equipment Conference' 2003*, Bilbao, Spain, 28 -29 October 2003.

Saraiva, J. T., "Dealing with Load Uncertainties and Component Outages in Short Term Marginal Price Computation", 12th *Intelligent Systems Application to Power System Conference, ISAP 2003*, Lemnos, Greece, 31 August to 3 of September 2003.

Vasconcelos, H., Peças Lopes, J. A., "An Hybrid Approach Based on Neural Networks and Regression Tree Models for Fast Dynamic Security Assessment", *Proceedings of ISAP'2003 - Competitive Environment, Renewable Energy, Distributed Generation*, 2003.

Viana, A., Pinho de Sousa, J., Matos, M.A., "GRASP with Constraint Oriented Neighbourhoods: an application to the Unit Commitment Problem", *Proc. MIC.2003, 5th Metaheuristics International Conference*, Kyoto, 2003. (\*)

Miranda, V., "Intelligence informatique appliquée aux systèmes de puissance - une vision personnelle", *Proceedings of EF 2003 - Electrotechnique du Futur*, December, 2003.

(\*) *Publication counted in UESP*

Outras Publicações (Other Publications)	2
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(Ponce de Leão, M.T.) participation in EUROPEAN COMMISSION - Clean, Safe and Efficient Energy for Europe - Impact Assessment of non-nuclear energy projects implemented under the Fourth Framework Programme - Thematic Report, ISBN 92-894-6299-X, December 2003.

(Ponce de Leão, M.T.) participation in EUROPEAN COMMISSION - Clean, Safe and Efficient Energy for Europe - Impact Assessment of non-nuclear energy projects implemented under the Fourth Framework Programme - Synthesis Report, ISBN 92-894-6298-1, December 2003.

#### A3.1.2 Lista de Revistas (List of Journals)

Journal	Number of papers
IEEE Transactions on Power Systems	3
International Journal of Electrical Power & Energy Systems	1
<b>TOTAL</b>	<b>4</b>

#### A3.1.3 Lista de Patentes (List of Patents)

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#### A3.1.4 Lista de Protótipos mais relevantes (List of Most Relevant Prototypes)

##### MORE CARE

Developed under MORE CARE - More advanced control advice for secure operation of isolated power systems with increased renewable energy penetration and storage

Demo Place: PPC (Public Power Corporation) - Crete (gr), EEM (Empresa de Electricidade da Madeira) - Madeira (pt)

Development period: 2000-2002

##### Fuzzy Power Flow

Developed under ERSE-PLAN

Demo Place: INESC Porto

Development Period: 2002-2003

Micro-Grid simulation platform

Developed under Micro-Grids

Demo Place: INESC Porto

Development Period: 2003

Zero-sequence voltage calculator in LV grids with microgeneration

Developed under Micro-Grids

Demo Place: INESC Porto

Development Period: 2003

**A3.1.5 Teses orientadas por membros da Unidade (Theses supervised by members of the team)**

*Teses de Doutoramento (PhD Dissertations)*

Author	Supervisor/Institution	Title	Conclusion Date
Gustavo Pérez Alvarez	Armando Leite da Silva INESC PORTO	Power System Operating Reserve Planning in Competitive Environments	2003
João Guilherme de Carvalho Costa	Armando Leite da Silva INESC PORTO	Electric Energy Market: A Proposal to Allocate Transmission Loss Costs	2003
Marcus Vinicius Nunes	João Peças Lopes INESC Porto	Transient stability evaluation in electrical networks with asynchronous single fed and double wind generators	2003
Tatjana Konjic	Izudin Kapetanovic UT, B&H Vladimiro Miranda INESC Porto	Using Fuzzy Inference Systems for Demand Forecasting in Electrical Power Distribution Systems	2003
João Ricardo Paes de Barros	Armando Leite da Silva INESC Porto	Power Transmission System Expansion Planning under Uncertainties	2004
António Silvestre Dias Braga	João Tomé Saraiva INESC Porto	Methodologies for building electricity tariffs in a market environment including uncertainty	2004
Ana Viana	Jorge Pinho de Sousa Manuel Matos INESC Porto	Multi-objective heuristics for the project and management of production, transportation and delivery of goods and services in market deregulation processes	2004
Maria Helena Vasconcelos	João Peças Lopes José Nuno Fidalgo INESC Porto	Identification of Efficient Preventive Control Procedures Exploiting Security Evaluation Structures Derived using Machine Learning Techniques	2004
Adriana Castro	Vladimiro Miranda INESC Porto	Intelligent systems for equipment failure preventive diagnosis	2004
Carlos de Sousa Nascimento	E. Maldonado FEUP Manuel Matos INESC Porto	Optimization of Air-Conditioning Systems with Chill Storage	2004
Eusébio Nunes	Manuel Matos INESC Porto José Faria FEUP	Reliability evaluation of non-markovian engineering systems with uncertain parameters	2004
Leonidas Chaves de Resende	Armando Leite da Silva INESC Porto	Power System Planning Based on a Well-Being Analysis	2005

Author	Supervisor/Institution	Title	Conclusion Date
António José Camacho Ferreira da Silva	José Nuno Fidalgo INESC Porto Aristides da Silva Ferreira Castro FEUP	Application Techniques of Adaptive Control and Artificial Intelligence	2005
Rogério Almeida	João Peças Lopes INESC Porto	Evaluation of the Capability of Ancillary Services Delivery by Dispersed Generation Units using Different Technologies	2005
Eduardo Gouveia	Manuel Matos INESC Porto	Development and Evaluation of Investment Plans for the Transmission Activity in a Liberalized Environment	2006
Mário Helder Rodrigues Gomes	João Tomé Saraiva INESC Porto	New Mechanisms for Electricity and Ancillary Services Markets	2006
Paulo Manuel de Oliveira de Jesus	Maria Teresa de Ponce Leão INESC Porto	A Decision Help System for the Remuneration of Dispersed Generation	2006
Paulo Moisés	Manuel Matos INESC Porto	Regulation and Planning of Electric Distribution Systems	2006
Pedro Marques	João Peças Lopes INESC Porto	Dynamic security assessment in interconnected power systems with large scale integration of wind generation	2006
Naing Win Oo	Vladimiro Miranda José Nuno Fidalgo INESC Porto	Evolving agents in Energy Market Simulation	2006
Paulo Henrique Mendes da Silva	Maria Teresa de Ponce Leão INESC Porto	Integrated Methodologies for Distribution Planning	2007
Fernanda Resende	João Peças Lopes INESC Porto	Identification of Control Procedures in Micro-Generation Islanding Conditions	2007

*Teses de Mestrado (MSc Dissertations)*

Author	Supervisor/Institution	Title	Conclusion Date
André Ribeiro Sá	João Tomé Saraiva INESC Porto	Market and system operator modeling in electricity markets	2003
Angelo Mendonça	João Peças Lopes INESC Porto	Definition of Parameters of PSS for Robust and Efficient Damping in Power Systems	2003
Avelino Jorge Pereira de Oliveira	Manuel Matos José Fernando Oliveira INESC Porto	A methodology for piece selection in the metallurgic industry	2003
Betina Baère de Faria Campos Neves	Vladimiro Miranda INESC Porto	Comparison of probabilistic and fuzzy models when modeling uncertainties in power flow studies	2003
Nuno Gil	João Peças Lopes INESC Porto	Definition of Criteria for the Identification of Eligibility Limits of Renewable Dispersed Generation in Isolated Grids	2003
Vítor Figueiredo Basto	Manuel Matos INESC Porto	Knowledge Management and Competitive Advantage	2003
Artur Correia	Cristina Ribeiro FEUP Manuel Matos INESC Porto	Methodologies based on fuzzy sets and rough sets for information retrieval	2004

Author	Supervisor/Institution	Title	Conclusion Date
Artur Leitão	João Tomé João Peças Lopes INESC Porto	Methodologies for aggregation / desegregation of offers from micro-sources in a market environment	2004
Jercemil Roberto Ribeiro	Armando Leite da Silva INESC Porto	The Influence of ITAIPU Generation Plant on the Brazilian Interconnected Power System	2004
João Luís Pinto	Eugénio Oliveira FEUP Manuel Matos INESC Porto	Multi-agent system for the implementation of an electricity market	2004
Jorge Filipe Gomes Pereira	Manuel Matos Avelino Jorge Pereira de Oliveira INESC Porto	Comparing the efficiency of secondary schools using DEA	2004
Jurema Baptistela Ludwig	Armando Leite da Silva INESC Porto	Planning Networks under Uncertainties - Applications to FURNAS Transmission System	2004
Manuel João Aguiar	Maria Teresa de Ponce Leão INESC Porto	Models for Distributed Generation	2004
Manuel Mário Correia De Almeida	Vladimiro Miranda INESC Porto Ronald Herman	Study on load models for distribution systems	2004
Margarida Lima	João Peças Lopes INESC Porto	Study of Black Start Strategies in Systems with a Large Component of Distributed Generation	2004
Maria do Rosário Trindade	Manuel Matos INESC Porto Ana Azevedo FEUP	Development of an evaluation tool for Enterprise Web Information Support Services	2004

#### A3.1.6 Organização de Eventos Científicos Internacionais (Organization of International Scientific Events)

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#### A3.1.7 Formação Avançada (Advanced Training)

“Financial Instruments Applied to Power Systems”, February, 2003, Porto, by: Gerald Sheblé.

#### A4 Unidade de Sistemas de Informação e Comunicação

##### A4.1 Resultados da actividade de investigação dos membros da Unidade (Results of the research activities of the team members)

###### A4.1.1 Lista de Publicações (List of Publications)

Teses (Theses)	0
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Blank.

Livros-Autor (Books-Author)	0
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Livros-Editor (Books-Editor)	0
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Blank.

Capítulos em Livros (Chapter in Books)	0
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Artigos em Revistas Internacionais com Revisores (International Journals with scientific referees)	0
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Blank.

Artigos em Revistas Nacionais com Revisores (National Journals with scientific referees)	0
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Blank.

Comunicações em Actas de Conferências com Revisores (Conference Proceedings with scientific referees)	6
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Aguiar, A., David, G.T., "A minimalist approach to framework documentation", *Proceedings of the 13th Workshop for PhD Students in Object-Oriented Systems, ECOOP'2003*, Darmstadt, Alemanha, 2003.

Lopes, J.M.C. "Updating GIS Data Using Personal Digital Assistants", *Proceedings of the 5th International Conference on Enterprise Information System - (ICEIS, Angers, France, Abril 22-26)*, Volume I - Databases and Information Systems Integration, 566-569, 2003.

Rocha, A.J.S., Lopes, J.A.C., Bártolo, L.M.C., Chilro, R.J.M.S., "An Interoperable GIS Solution for the Public Administration", *Proceedings of the Second International Conference from E-Government to E-Governance (EGOV2003, Praga, Republica Checa)*, 2003, September, 2003.

Aguiar, A., David, G.T., "XSDoc: an Extensible Wiki-based Infrastructure for Framework Documentation", *Proceedings of VIII Jornadas de Ingenieria del Software y Bases de Datos-JISBD 2003*, Alicante, Espanha, November, 2003.

Lopes, J.A.C., "Análise de Séries Temporais com Recurso a Técnicas de Bases de Dados", *Actas das VIII Jornadas de Ingeniería del Software y Bases de Datos - JISBD 2003*, Alicante, Espanha, November, 2003.

Carvalho, A.V., Rocha, A.J.S., Oliveira, M.A.A., "SINUP: Using GIS to support e-Democracy", *Proceedings of the Second International Conference from E-Government to E-Governance (EGOV2003)*, Praga, Republica Checa, September, 2003.

<b>Outras Publicações (Other Publications)</b>	<b>3</b>
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Aguiar, A., David, G.T., "FrameDocMS - Um sistema de gestão de conteúdos para documentação de frameworks baseado em XML e WikiWikiWeb", *Proceedings of XATA 2003, XML: Aplicações e Tecnologias Associadas*, Braga, Portugal, February, 2003

Lopes, J.M.C., "Geração de Conteúdos para Plataformas Móveis", *Actas da XATA 2003, XML: Aplicações e Tecnologias Associadas*, Braga, Portugal, February, 2003.

Lopes, J.M.C., "Actualização de Dados de SIG Usando Assistentes Digitais Pessoais", *Actas da XATA 2003, XML: Aplicações e Tecnologias Associadas*, Braga, February, 2003.

#### A4.1.2 Lista de Revistas (List of Journals)

Journal	Number of papers

#### A4.1.3 Lista de Patentes (List of Patents)

Blank.

#### A4.1.4 Lista de Protótipos mais relevantes (List of Most Relevant Prototypes)

##### HOTSPOTS

Developed under HOTSPOTS

Demo Place: SIEMENS

Development Period: 04/2002-06/2003

##### PDM online

Developed under SINUP II

Demo Place: Oporto City Hall (Oporto Municipality)

Development Period: 5/2003-12/2003

#### A4.1.5 Teses orientadas por membros da Unidade (Theses supervised by members of the team)

##### *Teses de Doutoramento (PhD Dissertations)*

Author	Supervisor/Institution	Title	Conclusion Date



*Teses de Mestrado (MSc Dissertations)*

A4.1.5.1 Teses em curso na Unidade orientadas por membros externos (Theses On-Going in the Unit Supervised by External Members)

Author	Supervisor/Institution	Title	Conclusion Date
Ricardo Henriques	José Nuno Oliveira Univ. Minho	PGML-Estudo de um Subconjunto Preciso de GML 2.12	2004
Marco Amaro	Maribel Alves Santos Univ. Minho	Utilização de Standards na Extracção e Visualização de Informação Geográfica	2004

A4.1.6 Organização de Eventos Científicos Internacionais (Organization of International Scientific Events)

Blank.

A4.1.7 Formação Avançada (Advanced Training)

Blank.

## A5 Unidade de Telecomunicações e Multimédia

### A5.1 Resultados da actividade de investigação dos membros da Unidade (Results of the research activities of the team members)

#### A5.1.1 Lista de Publicações (List of Publications)

Teses (Theses)	5
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António José Duarte Araújo, "Projecto de Unidades de Cálculo em Vírgula Flutuante para Aplicações Específicas" (in Portuguese), PhD thesis, September 2003.

Paula Cristina Oliveira, "A model based on mobile agents for searching for information in distributed information systems" (in Portuguese), PhD thesis, December 2003.

João Manuel de Vila Fernandes Orvalho, "Security in distributed systems applied to digital television production environments", MSc thesis, October 2003.

José Maria Costa Pereira, "Independent Component Analysis for Blind Separation of Sources with Coincident Spectrum" (in Portuguese), MSc thesis, December 2003.

Sérgio Armindo Lopes Crisóstomo, "Third generation mobile networks - specification of a switching system for the access network" (in Portuguese), MSc thesis, September 2003.

Livros-Autor (Books-Author)	0
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Blank.

Livros-Editor (Books-Editor)	1
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Palma, J.M.L.M., Dongarra, J., Hernández, V., Sousa, A.A., Waldén, M. (Editors), "High Performance Computing for Computational Science", *Lecture Notes in Computer Science*, Vol. 2565, Springer (ISBN: 3-540-00852-7).

Capítulos em Livros (Chapter in Books)	1
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Ruela, J., Ricardo, M. "MPLS - Multiprotocol Label Switching", *The Industrial Information Technology Handbook*, ed. Richard Zurawski, CRC Press (accepted for publication).

Artigos em Revistas Internacionais com Revisores (International Journals with scientific referees)	0
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Blank.

Artigos em Revistas Nacionais com Revisores (National Journals with scientific referees)	0
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Blank.

Comunicações em Actas de Conferências com Revisores (Conference Proceedings with scientific referees)	25
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Castro, A., Ruela, J., "Autonomous Dynamic Resource Allocation for TD/CDMA-TDD Systems", *WPMC'03 - 6<sup>th</sup> International Symposium on Wireless Personal Multimedia Communications*, October 19-22, 2003, Yokosuka, Japan.

Castro, A.L.S., Castro, R.A.F., Castro, R.N.S., Ruela, J., "Dynamic Channel Allocation in UTRA-TDD Systems Considering Asymmetrical Traffic", *IST Mobile & Wireless Communications Summit 2003*, June 15-18, 2003, Aveiro, Portugal.

Puga, A.T., Gavilan, J.C., "Unsupervised Calibration for Tire Canvas Inspection by means of Independent Component Analysis", *ETFA 2003 - 9th IEEE International Conference on Emerging Technologies and Factory Automation*, pp. 199-204, September 16-19, 2003, Lisbon, Portugal.

Puga, A.T., Grigore, O., Cruz, D., Seixas, M., "Blind Estimation of Intratumoral Microvessel Density by using Independent Component Analysis", *CIMED 2003 - First International Conference on Computational Intelligence in Medicine and Healthcare*, pp. 169-174, July 21-23, 2003, Sheffield, England.

Ferreira, A.J.S., "Optimum Quantization of Flattened MDCT Coefficients", *115th AES Convention*, October 10-13, 2003, New York, USA.

Ferreira, A.J.S., Rocha, A.C., "Combined Source and Perceptual Audio Coding", *115th AES Convention*, October 10-13, 2003, New York, USA.

Coelho, A.F., Sousa, A.A., Ferreira, J.N., "3D Modelling of Large Urban Scenes from Diverse Sources of Information", *ELPUB'2003 - 7th ICCCI/IFIP International Conference on Electronic Publishing*, June 25-28, 2003, Braga, Portugal.

Pinho, A.G., Silva, J.M., Matos, J.S., "A 1149.1/4 Toolbox for the generation of Mixed-Signal Test Programs", *DCIS'03 - XVIII Conference on Design of Circuits and Integrated Systems*, November 18-21, 2003, Ciudad Real, Spain.

Carneiro, G., Dias, J., Ruela, J., Ricardo, M., "An implementation of IP over UMTS with QoS", *IST Mobile & Wireless Communications Summit 2003*, June 15-18, 2003, Aveiro, Portugal.

Mendonça, H.S., Silva, J.M., Matos, J.S., "Algorithm for ADC's Harmonic Estimation Suitable for Preliminary BIST Operations", *8th IEEE European Test Workshop*, pp. 211-212, May 25-28, 2003, Maastricht, The Netherlands.

Mendonça, H., Silva, J.M., Matos, J.S., "ADC testing, Harmonic Distortion, Transfer Function", *IMTC2003 - IEEE Instrumentation and Measurement Technology Conference*, pp. 1270-1274, May 20-22, 2003, Vail, Colorado, USA.

Miranda, H., Carneiro, G.M., Pinto, P.F., Silva, S.R., "Implementation of Software Radio Systems using Distributed Architectures", *6th Baiona Workshop on Signal Processing in Communications*, September 8-10, 2003, Baiona, Spain.

Miranda, H., Pinto, P.F., Silva, S.R., "A Self-Reconfigurable Receiver Architecture for Software Radio Systems", *IEEE Radio and Wireless Conference*, August 10-13, 2003, Boston, Massachusetts, USA.

Miranda, H., Pinto, P.F., Silva, S.R., "An Adaptive Software Radio Receiver Architecture for Linear Bidimensional Modulations", *6th Baiona Workshop on Signal Processing in Communications*, September 8-10, 2003, Baiona, Spain.

Mamede, J., Carrapatoso, E., Ricardo, M., "MIB Based Functional Model for Test Generation", *Conftele'2003 - 4th Conference on Telecommunications*, June 18-20, 2003, Aveiro, Portugal.

Oliveira, J.M., Roque, R., Dinis, M., Carrapatoso, E., "Provision of Mobile Multimedia over UMTS Middleware Platforms", *IST Mobile & Wireless Communications Summit 2003*, June 15-18, 2003, Aveiro, Portugal.

Barral, L., *et al*, "NUGGETS & MXF - Making the Networked Studio a Reality", *NAB'2003*, April 5-10, 2003, Las Vegas, USA.

Andrade, M.T., Alves, A.P., "A Statistical Framework to enlarge the potential of digital TV broadcasting", *ISPA 2003 - IEEE 3rd International Symposium on Image and Signal Processing and Analysis*, pp. 17-22, September 18-20, 2003, Rome, Italy.

Cordeiro, M., Viana, P., Ruela, J., *et al.*, "The ASSET Architecture - Integrating Media Applications and Products Through a Unified API", *IBC'2003 - International Broadcasting Convention Conference*, September 11-15, 2003, Amsterdam, The Netherlands.

Leitão, M., Cunha, V., "Phobia Treatment Using a Virtual Reality System", *HCI2003 - 10th International Conference on Human-Computer Interaction*, June 2003, Crete, Greece.

Viana, P., Cordeiro, M., Rodrigues, V., *et al.*, "A Unified Solution for the Integration of Media Applications and Products in Broadcaster Environments - The ASSET Architecture", *NAB'2003*, April 5-10, 2003, Las Vegas, USA.

Roque, R., Oliveira, J.M., Pinto, F.P., Dinis, M., Carrapatoso, E., "3G Service Provision Experience Over UMTS Middleware Platforms", *EURESCOM Summit 2003*, September 29 - October 1, 2003, Heidelberg, Germany.

Moreira, R., Blair, G., Carrapatoso, E., "Constraining architectural reflection for safely managing adaptation", *RM2003 - 2nd Workshop on Reflective and Adaptive Middleware, Middleware 2003*, June 17, 2003, Rio de Janeiro, Brasil.

Santos, V.C.F., Sousa, M.F.M., Ferreira, A.J.S., "Quality Assessment of Manufactured Roof-Tiles Using Digital Sound Processing", *IbPRIA2003 - 1st Iberian Conference on Pattern Recognition and Image Analysis*, Spain, June 4-6, 2003, Puerto de Andratx, Mallorca.

Rodrigues, V., Cordeiro, M., Viana, P., Ruela, J., "MXF Supporting the Integration of Media Applications and Broadcasting Products", *Conftele'2003 - 4th Conference on Telecommunications*, June 18-20, 2003, Aveiro, Portugal.

<b>Outras Publicações (Other Publications)</b>	<b>10</b>
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Aguiar, A., David, G.T., "FrameDoc - um sistema de gestão de conteúdos para documentação de frameworks baseado em XML e WikiWikiWeb", *XATA'2003 - Workshop em XML - Aplicações e Tecnologias Associadas*, February 13-14, 2003, Braga, Portugal. (\*)

Coelho, A.F., Sousa, A.A., Ferreira, F.N., "Modelação Expedita de Cenas Urbanas", *12º Encontro Português de Computação Gráfica*, October 2003, Porto, Portugal.

Campos, C., Cunha, V., Leitão, M., "Geração Automática de Ambientes Rodoviários para Simulação de Condução", *12º Encontro Português de Computação Gráfica*, October 2003, Porto Portugal.

David, G., Ribeiro, M.C., Torres, J., Aguiar, A., Henriques, P., Ramalho, J.C., Arnold, G., "MetaMedia 2 - Meta-informação na Preservação e Pesquisa de Componentes Multimédia", *XATA'2003 - Workshop em XML - Aplicações e Tecnologias Associadas*, February 13-14, 2003, Braga, Portugal.

Sousa, J.P., Carrapatoso, E., "Uma arquitectura IPtel baseada no protocolo SIP", *CRC2003 - 6ª Conferência sobre Redes de Computadores - Protocolos, Tecnologias e Aplicações para Ambientes Móveis*, September 29-30, 2003, Bragança, Portugal.

Madeira, J., Sousa, A.A., (Editores), "Actas", *Workshop em Computação Gráfica e Multimédia no Ensino*, October 2003, Porto, Portugal.

Torres, J.M.C., "Partilha de Conteúdos e Semântica Multimédia", *XATA'2003 - Workshop em XML - Aplicações e Tecnologias Associadas*, February 13-14, 2003, Braga, Portugal.

Gomes, M.R., Sousa, A.A., "Mestrado Distribuído em Computação Gráfica e Multimédia", *Workshop em Computação Gráfica e Multimédia no Ensino*, October 2003, Porto, Portugal.

Marques, P., Castro, H., Ricardo, M., "Monitoring Mobile Flows in Emerging IPv6 Access Networks - Concepts and First Prototype", *CRC2003 - 6ª Conferência sobre Redes de Computadores - Protocolos, Tecnologias e Aplicações para Ambientes Móveis*, September 29-30, 2003, Bragança, Portugal.

Ferraro, R., Moreira, R., Carrapatoso, E., "XSER-WEB: Serviço de Edição Remota de Páginas Web baseado em XML", *CRC2003 - 6ª Conferência sobre Redes de Computadores - Protocolos, Tecnologias e Aplicações para Ambientes Móveis*, September 29-30, 2003, Bragança, Portugal.

Cunha, V., Leitão, M., "Tratamento de fobias utilizando um sistema de Realidade Virtual", *12º Encontro Português de Computação Gráfica*, October 2003, Porto, Portugal.

(\*) *publication counted in USIC*

#### A5.1.2 Lista de Revistas (List of Journals)

Journal	Number of papers

#### A5.1.3 Lista de Patentes (List of Patents)

Multi-standard self-reconfigurable architecture for digital communication receivers

Developed under internal project

Demo Place: INESC Porto

Development Period: March 2003 - July 2003

Type: National

Submission Date: December 2003

#### A5.1.4 Lista de Protótipos mais relevantes (List of Most Relevant Prototypes)

Platform for cross-media service creation and delivery

Developed under CONTESSA

Demo Place: INESC Porto

Development Period: June 2001 - June 2003

Audio classifier

Developed under internal project

Demo Place: INESC Porto

Development Period: January 2003 - December 2003

Audio fingerprinting

Developed under internal project

Demo Place: INESC Porto

Development Period: January 2003 - December 2003

Audiovisual analyzer framework

Developed under CORAL and MOUMIR

Demo Place: INESC Porto

Development Period: January 2003 - December 2003

Intratumoral Micro-vessel Density Estimation

Developed under ICAVIP

Demo Place: INESC Porto

Development Period: January 2003 - June 2003

Content-based video retrieval

Developed under MOUMIR

Demo Place: INESC Porto

Development Period: January 2003 - December 2003

Video transmission based on MPEG4

Developed under MPEG4-PT

Demo Place: INESC Porto

Development Period: January 2003 - December 2003

Enhanced MXF SDK

Developed under NUGGETS

Demo Place: INESC Porto

Development Period: January 2003 - June 2003

MXF browser

Developed under NUGGETS

Demo Place: INESC Porto

Development Period: January 2003 - December 2003

MXF metaEditor

Developed under NUGGETS

Demo Place: INESC Porto

Development Period: August 2003 - December 2003

Self-Reconfigurable Receiver for Software Radio Systems

Developed under internal project

Demo Place: INESC Porto

Development Period: March 2003 - July 2003

System for quality control of ceramic tiles combining computer audio and computer vision

Developed under TELHAS

Demo Place: INESC Porto

Development Period: October 2000 - September 2003

Demonstrator of automatic acoustic equalization of rooms based on a DSP platform

Developed under TAPASAD

Demo Place: INESC Porto

Development Period: January 2003 - September 2003

Simulation environment for optimized compression of audio signals

Developed under TAPASAD

Demo Place: INESC Porto

Development Period: January 2003 - December 2003

Traffic monitoring system for wireless access networks supporting mobility

Developed under internal project

Demo Place: INESC Porto

Development Period: March 2003 - July 2003

Simulation software for planning IEEE 802.11 Access Points

Developed under internal project

Demo Place: INESC Porto

Development Period: March 2003 - July 2003

Enhanced automatic test generator for network elements

Developed under internal project

Demo Place: INESC Porto

Development Period: January 2003 - December 2003

**A5.1.5 Teses orientadas por membros da Unidade (Theses supervised by members of the team)**

*Teses de Doutoramento (PhD Dissertations)*

Author	Supervisor/ Institution	Title	Conclusion Date
Fernando Moreira	José Ruela U. Porto	Resource Management and Traffic Control in Integrated Services Networks	2003
António Araújo	J. Silva Matos U. Porto	Project of Floating Point Computing Units for Specific Applications	2003
Paula Oliveira	E. Carrapatoso U. Porto	A model based on mobile agents for searching for information in distributed information systems	2003
Hélio Mendonça	J. Silva Matos J. Machado Silva U. Porto	Dynamical test of A/D converters - new methods for the calculation of functional parameters	2004
Luís Teixeira	Artur P. Alves Luís Corte Real U. Porto	Statistical multiplexing of video coding	2004
Paula Viana	Artur P. Alves U. Porto	Digital Television Archives	2004
Paulo Martins	E. Carrapatoso U. Porto	A model for distance learning in environments that support mobility	2004
Teresa Andrade	Artur P. Alves U. Porto	Video transmission over ATM networks	2004
Agostinho Castro	José Ruela U. Porto	Resource Management and Quality of Service in UMTS Networks	2004
José Oliveira	E. Carrapatoso U. Porto	Security aspects in telecommunications services	2004
Jorge Mamede	E. Carrapatoso M. Ricardo U. Porto	Automatic Generation of Tests for IP Systems	2004
Benjamim Fonseca	E. Carrapatoso U. Porto	The usage of distributed processing architectures in services of computer supported collaborative work	2004
António Fernando Castro Coelho	F.N. Ferreira A. Sousa U. Porto	Fast Modeling of Three-dimensional Scenes for Virtual Reality	2004
Ademar Aguiar	Gabriel David U. Porto	A Minimalist Approach to Framework Documentation	2004
Jaime dos Santos Cardoso	Luís Corte-Real U. Porto	Video segmentation using metadata	2005



Author	Supervisor/ Institution	Title	Conclusion Date
Vitor Gonçalves	E. Carrapatoso U. Porto	Semantic Web in the educational context	2006
Luís Gustavo Martins	Aníbal Ferreira U. Porto	Analysis and recognition of audio oriented to music applications	2007
Tânia Calçada	Manuel Ricardo U. Porto	Integration of ad-hoc with infrastructured networks	2007
Catalin Calistru	Gabriel David M. Cristina Ribeiro U. Porto	Data organization and search in multimedia database	2007

### *Teses de Mestrado (MSc Dissertations)*

Author	Supervisor/ Institution	Title	Conclusion Date
Fernando Jorge Rufino Ferreira	A. A. Sousa U. Porto	Experiments with IBR - Image Based Rendering	2003
Sérgio Crisóstomo	José Ruela U. Porto	Third generation mobile networks - specification of a switching system for the access network	2003
João Orvalho	José Ruela U. Porto	Security in distributed systems applied to digital television production environments	2003
António Pedro Ferreira	José Ruela U. Porto	VPN Support Technologies	2003
José Maria Costa Pereira	André Puga U. Porto	Independent Component Analysis for Blind Separation of Sources with Coincident Spectrum	2003
António Rocha	E. Carrapatoso U. Porto	Business systems based on .NET technology	2003
Hugo Teixeira	José Ruela U. Porto	Agent based video distribution platform over packet networks	2004
Pedro Alvarenga	Aníbal Ferreira U. Porto	Life-style factors in the hearing acuity	2004
André Silva	E. Carrapatoso U. Porto	Management of plasma displays	2004
Armindo Dias	E. Carrapatoso U. Porto	Affective computing	2004
Paulo Jorge Marques	A. A. Sousa U. Porto	Virtual reality systems applied to city guides	2004
Manuel José Brito	A. A. Sousa U. Porto	Hydrological regime of a region - GIS based Web service	2004
Ana Cristina Santos	A. A. Sousa U. Porto	Human Animation	2004
Gil Coutinho	José Ruela U. Porto	MPLS support of DiffServ	2004
Jorge Meireles	José Ruela U. Porto	New access technologies for the public telecommunications network	2004
Jorge Carloto	Manuel Ricardo U. Porto	Guarantees of QoS in Mobile IPv6	2004
Luís Fiunte	Manuel Ricardo U. Porto	Development of an IP test system, Linux based, addressing Mobile IP, Wireless LAN and GPS	2004

Author	Supervisor/ Institution	Title	Conclusion Date
João Pedro Gomes	Manuel Ricardo U. Porto	Measurement and Characterization of IP traffic	2004
Jaime Dias	Manuel Ricardo U. Porto	Quality of Service in UMTS networks	2004
Rui Oliveira	Manuel Ricardo U. Porto	Management System for IP over WDM networks	2004
Vítor Calçada	Manuel Ricardo U. Porto	Traffic characterization in a mobile operator	2004
Pedro Carvalho	Luís Corte-Real U. Porto	Adaptation of Multimedia Content for Interactive Television Services (Multimedia on Demand)	2004
Luís Filipe Teixeira	Luís Corte-Real U. Porto	Environment for Edition and Description of Video Objects	2004
Vasco Santos	Aníbal Ferreira U. Porto	Quality Assessment of Manufactured Ceramic work using Digital Signal Processing techniques	2004
Brigida Faria	A. A. Sousa U. Porto	Light Field for Image Based Rendering	2004
Evaristo Moreira	A. A. Sousa U. Porto	Cooperative environment for search and visualization based on a game engine	2004
Pedro Almeida	A. A. Sousa U. Porto	3D Visualization based on Geographical Information Systems	2004
Joana Lessa	E. Carrapatoso U. Porto	Human expressions and communication through interactive multimedia systems	2004
Vítor Marmelo	E. Carrapatoso U. Porto	Technologies for interactive educational environments	2004
Alberto Lirio	E. Carrapatoso U. Porto	Globalization of the associative relationship - model and implementation	2004
António Castro	E. Carrapatoso U. Porto	The usage of multimedia de technologies in the e-learning of programming languages	2005
Eduardo Marques	E. Carrapatoso U. Porto	WebTV - Audio and video streaming with interactivity	2005
Ana Barroso	E. Carrapatoso U. Porto	Dissemination of multidisciplinary projects in engineering	2005
José Moreira	E. Carrapatoso U. Porto	Service oriented software architectures	2005
Paulo Almeida	Manuel Ricardo U. Porto	Mobile networks	2005

#### A5.1.6 Organização de Eventos Científicos Internacionais (Organization of International Scientific Events)

Cross-media Service Delivery Conference

Santorini, Greece

May 30-31, 2003

Maria Teresa Andrade - Program Committee (co-chair)

XIII Congreso Español De Informática Gráfica

Coruña, Spain

July 2-4, 2003

A. Augusto de Sousa - Scientific Committee

DCIS 2003 - XVIII Conference on Design of Circuits and Integrated Systems  
Ciudad Real, Spain  
November 18-21, 2003  
José Silva Matos - Steering Committee

#### A5.1.7 Formação Avançada (Advanced Training)

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