

Operation and Exploitation of the Reactor, Dosimetry (RPI) and Reactor Calculations

Journals

Published

- A.C. FERNANDES, J.P. SANTOS, A. KLING, J.G. MARQUES, I.C. GONÇALVES, A.F. CARVALHO, L. SANTOS, J. CARDOSO, M. OSVAY, Thermoluminescence dosimetry of a thermal neutron field and comparison with Monte Carlo calculations, *Radiat. Prot. Dosim.* **111** (2004) 35-39.
- J. BURIAN, B. JANSKY, M. MAREK, E. NOVAK, L. VIERERBL, A.C. FERNANDES, YU.A. KASCHUCK, L.A. TRYKOV, V.S. VOLKOV, Development of equipments for determination of BNCT source spectral parameters, *Appl. Radiat. Isot.* **61** (2004) 849-852.
- F. GIULIANI, C. OLIVEIRA, J. I. COLLAR, T. A. GIRARD, T. MORLAT, D. LIMAGNE, J. G. MARQUES, A.R. RAMOS, Response of SIMPLE SDDs to Monochromatic Neutron Irradiations, G. Waysand, *Nucl. Instr. and Meth.* **A526** (2004) 348-358.
- C. OLIVEIRA, TA GIRARD, J.G. MARQUES, J. SALGADO, J.I. COLLAR, T. MORLAT, D. LIMAGNE, F. GIULIANI AND G. WAYSAND, MCNP Optimization of Filtered Neutron Beams for Calibration of the SIMPLE Detector, *Nucl. Instr. and Meth.* **B213** (2004) 172-176.
- A.R. RAMOS, F. GIULIANI, M. FELIZARDO, T.A. GIRARD, C. OLIVEIRA, J.G. MARQUES, D. LIMAGNE, T. MORLAT, G. WAYSAND, Neutron spectrometry with large volume, heavily-loaded superheated droplet detectors: a SIMPLE spin-off, *Radiat. Prot. Dosim.*

Conference Proceedings

Published

- 1. J.G. MARQUES, A.C. FERNANDES, I.C. GONÇALVES, A.J.G. RAMALHO, Test Facility at the Portuguese Research Reactor for Irradiations with Fast Neutrons, Proc. 5th Workshop on Radiation Effects on Components and Systems, Madrid, September 2004, Eds. E.R. Prudencio, R.T. González, C.S. Fuente, INTA (Madrid, 2004) pp. 335-338.

Accepted for publication or in press

- J.A. AGAPITO, J. CASAS-CUBILLOS, A.P. FERNANDES, F.J. FRANCO, I.C. GONÇALVES, A.H. CACHERO, J.G. MARQUES, M.A. RODRIGUEZ-RUIZ, Y. ZONG, Rad-Tol Pt-100 Isolation Amplifiers for the LHC Cryogenic System, *Proc. 10th Workshop on Electronics for LHC Experiments*, Boston, September 2004.

Accepted for publication or in press

- A.C. FERNANDES, I.C. GONÇALVES, J.P. SANTOS, J. CARDOSO, L. SANTOS, A. FERRO CARVALHO, J.G. MARQUES, A. KLING, A.J.G. RAMALHO, M. OSVAY, Dosimetry at the Portuguese Research Reactor using thermoluminescent measurements and Monte Carlo calculations, *Radiat. Prot. Dosim.*
- A.C. FERNANDES, T. MORLAT, M. FELIZARDO, J.I. COLLAR, J. PUIBASSET, G. WAYSAND, H.S. MILEY, A.R. RAMOS, T. GIRARD, F. GIULIANI, D. LIMAGNE, J.G. MARQUES, R.C. MARTINS, C. OLIVEIRA, The Simple SDD, *Radiat. Prot. Dosim.*
- J.P. SANTOS, A.C. FERNANDES, I.C. GONÇALVES, A.F. CARVALHO, L. SANTOS, J. CARDOSO, M. OSVAY, Photon and fast neutron dosimetry using aluminium oxide thermoluminescence dosimeters, *Radiat. Prot. Dosim.*

Internal Reports

- A. KLING, Calibration of the AIRMON-91 Noble Gas Detector, ITN/RPI-R-04/83.
- A. KLING, Radiological Control at the Portuguese Research Reactor (RPI) - Report January 1 – December 31, 2003, ITN/RPI-R-04/84.
- A. KLING, Radiological Control at the Portuguese Research Reactor (RPI) - - Report January 1 – June 30, 2004, ITN/RPI-R-04/85.
- A. KLING, QUADOS Intercomparison on the Usage of Computational Codes in Radiation Dosimetry – MCNP Simulations for Problem 7, ITN/RPI-R-04/86.
- N.P. BARRADAS, A. R. RAMOS, J. G. MARQUES, Neutronics calculations for the Portuguese Research Reactor (RPI) with LEU U3O8 fuel elements, ITN/RPI-R-04/87.

Applied Dynamics

Journals**Published**

- R. TABORDA, J. ANTUNES, F. O. MARQUES. 2-D Rotation Behaviour of a Rigid Ellipse in Confined Viscous Simple Shear: Numerical Experiments Using FEM, *Tectonophysics* **379** (2004) 127-137.
- O. INÁCIO, L. HENRIQUE, J. ANTUNES. The Physics of Tibetan Singin Bowls, *Revista Española de Acústica*, **35 (1,2)** (2004) 33-39.

Accepted for publication or in press

- F. O. MARQUES, R. TABORDA, S. BOSE, J. ANTUNES. Effects of Confinement on Matrix Flow Around a Rigid Inclusion in Viscous Simple Shear: Insights From Analogue and Numerical Modelling, *Journal of Structural Geology*

Conference Proceedings**Published**

- O. INÁCIO, J. ANTUNES, M. WRIGHT. On the Violin Family String/Body Dynamical Coupling, *Proc. Spring Conf. of the Institute of Acoustics*, Southampton, UK, 29-31 March 2004, **26 (2)**, 29-20.
- O. INÁCIO, J. ANTUNES. Dynamical Responses of a Large Tibetan Singing Bowl, *Proc. Int. Symp. on Musical Acoustics*, Nara, Japan, 31 March – 3 April 2004, Ed. CD-ROM.
- M. MOREIRA, J. ANTUNES. A Nonlinear Model for the Fluid-Coupled Vibrations of Spent Nuclear Racks, *Proc. Int. Conf. on Flow-Induced Vibrations FIV2004*, Paris, France, 5-9 July 2004, **2**, 971-987.
- M. MOREIRA, J. ANTUNES. Nonlinear Flow Effects on Immersed Spent Nuclear Racks, *Proc. 7th Int. Conf. on Computational Structures Technology CST2004*, Lisbon, Portugal, 7-9 September 2004, Ed. CD-ROM.
- O. INÁCIO, J. ANTUNES, M. WRIGHT. Bowing the Wolf: Simulations and Experiments on a Cello, *Proc. IV Iberoamerican Acoustics Congress*, Guimarães, Portugal, 13-17 September 2004, Ed. CD-ROM.

- M. MOREIRA, J. ANTUNES. Fluid Coupled Vibrations of Immersed Spent Nuclear Racks: A Nonlinear Model Accounting for Squeeze-Film and Dissipative Phenomena, *Proc. ASME Int. Mechanical Engineering Conf. IMECE2004/DAS 2004*, Anaheim, USA, 15-19 November 2004, Paper 62353.

Communications

- J. ANTUNES, O. INÁCIO. Physical Modelling of Tibetan Bowls, *147th Meeting of the Acoustical Society of America*, New York, USA, 24-28 May 2004, Invited Talk.
- O. INÁCIO, J. ANTUNES. Modelling the Nonlinear String/Body Coupled Dynamics of Bowed Musical Instruments, *148th Meeting of the Acoustical Society of America*, S. Diego, USA, 15-19 November 2004.

Internal Reports

- J. ANTUNES. Equilibrage des Rotors Flexibles : État de l'Art et Analyse des Méthodes, ITN/ADL-Dec04/1.
- J. ANTUNES. Modèle Numérique de l'Écoulement Bidimensionnel dans une Lame Fluide Sous Vibrations : Formulation du Problème, Discrétisation et Exemples, ITN/ADL-Dec04/2.

Theses**PhD**

- L. HENRIQUE. Conceção e Caracterização de Instrumentos Musicais de Lâminas Utilizando Técnicas de Modelação e Optimização, Universidade Nova de Lisboa, December 2004. Supervisors: J. Antunes (ITN) and J. S. Carvalho (UNL).

Environmental Radioactivity

Journals**Published**

- F.P. CARVALHO, M.J. MADRUGA, J.M. OLIVEIRA, J.M. GOUVEIA, L. SILVA. Radioactivity in the Northern Seas of Europe. *Radioprotecção* 2 (2004) 118-125.
- OVSIANNIKOVA, S. V., SMITH, J.T., KUDEL'SKY, A.V., MADRUGA, M. J., PASHKEVICH, V. I., YANKOV, A. I. Behaviour of Radioactive Cesium in Bottom Sediments of Stagnant Lake. *Belorusskaya Nauka*, Minsk, Vol 48, n°4, (2004) 95-101.
- VILLENEUVE, J.P., F.P. CARVALHO, M. HORVAT, C. CATTINI. Worldwide intercomparison on the determination of chlorinated pesticides, PCBs and petroleum hydrocarbons in a mussel tissue homogenate, IAEA-142, *Int. J. Environ. Studies*, 61, (2004) 437-452.
- F. P. CARVALHO, A. DILL, J. FERNANDES, C. C. ALMEIDA, J. M. OLIVEIRA, G. FERRADOR, I. LOPES. Estudo Sobre a Contaminação do Sistema Aquífero da Margem Sul do Tejo, na Zona de Corroios e Amora. *Proc. 8ª Conf. Nac. de Ambiente*, Lisboa, 27-29 October 2004 (ed. CD-ROM).
- F. P. CARVALHO, J. M. OLIVEIRA, A. LIBÂNIO, M. J. MADRUGA, L. SILVA, J. GOUVEIA, P. MONTEIRO, M. PERDIGÃO, M. MALTA. Avaliação da Contaminação do Estuário do Tejo por Substâncias Radioactivas de Várias Origens. *Proc. 8ª Conf. Nac. de Ambiente*, Lisboa, 27-29 October 2004 (ed. CD-ROM).
- F. P. CARVALHO, J. M. OLIVEIRA, J. CARVALHO. Os calcários ornamentais portugueses, a sua radioactividade e o radão. *Proc. 8ª Conf. Nac. de Ambiente*, Lisboa, 27-29 October (ed. CD-ROM).
- F. P. CARVALHO, J. M. OLIVEIRA, J. P. VILLENEUVE, C. CHANTAL. Poluentes orgânicos persistentes em sedimentos do estuário do Tejo. *Proc. 8ª Conf. Nac. de Ambiente*, 27-29 October 2004, Lisboa (ed. CD-ROM).
- F. P. CARVALHO, J. M. OLIVEIRA, M. C. REIS, C. PIRES, E. M. AMARAL, J. GOUVEIA, M. MALTA. Deposição atmosférica de aerossóis radioactivos e radioactividade nos solos da ilha de S. Miguel, Açores. *Proc. 8ª Conf. Nac. Ambiente*, 27-29 October 2004, Lisboa (ed. CD-ROM).
- F. P. CARVALHO, J. V. PAIVA, J. CARVALHO, M. J. BAPTISTA. Exposição a Radiações Ionizantes e Substâncias Perigosas no Interior dos Edifícios e sua Relação com os Produtos de Construção. *Proc. 1º Congresso sobre Construção Sustentável*, Leça da Palmeira, October 2004.
- I. LOPES, M.J. MADRUGA, F.P. CARVALHO. Application of Liquid Scintillation Counting Techniques to Gross Alpha, Gross Beta, Radon and Radium Measurements in Portuguese Waters. "NORM IV Conf., Naturally Occurring Radioactive Materials", Szczyrk, Poland, May 2004 (ed. CD-ROM).
- I. LOPES, F. P. CARVALHO, M. J. MADRUGA, J. M. OLIVEIRA, G. FERRADOR, M. SEQUEIRA. Qualidade da Água de Consumo: Monitorização dos Parâmetros Radiológicos. *Proc.*
- A. BAEZA, C. MIRÓ, M.C.V. CARREIRO, M.M. SEQUEIRA. Analysis of the spatial and temporal evolution of caesium-137 and strontium-90 in waters of the Tagus river. *Proc. ECORAD2004*, Aix-en-Provence, France, 6-10 October 2004.
- A. BAEZA, E. GARCIA, C. MIRÓ, A. RODRIGUEZ, M.M. SEQUEIRA. Behaviour of Tritium in the Waters of the River Tagus. *Proc. 7th Int. Conf. on Tritium Science and Technology*, Baden-Baden, Germany, 12-17 September 2004.
- F. P. CARVALHO. Exposição ocupacional às radiações ionizantes. *Proc. IV Int. Symp. on Occupational Safety and Hygiene*, 19-20 February, 2004 Porto, pp 25-33.
- F. P. CARVALHO, M. J. MADRUGA, J. M. OLIVEIRA, I. LOPES, M. M. SEQUEIRA, G. FERRADOR. Qualidade Radiológica da Água para Consumo em Portugal: Águas de Superfície e Águas Subterrâneas. *11º Enc. Nac. de Saneamento Básico*, Faro, 12-15 October 2004 (ed. CD-ROM).
- F. P. CARVALHO, M. J. MADRUGA, M. C. REIS, J. M. OLIVEIRA, J. G. ALVES, A. LIBÂNIO, J. M. GOUVEIA, L. SILVA. Minas de Urânio e Contaminação Ambiental no Centro-

8^a Conf. Nac. de Ambiente, 27-29 October 2004, Lisboa (ed. CD-ROM).

- M.J. MADRUGA, F.P. CARVALHO, M. REIS, M.M. SEQUEIRA, G. FERRADOR, M.A. GAMEIRO, L. SILVA, J. GOUVEIA, L. MACHADO, J.M. OLIVEIRA, I. LOPES, V. SILVINO. Vigilância Radiológica do Ambiente em Portugal. *Proc. 8^a Conf. Nac. de Ambiente*, Lisboa, 27-29 October 2004 (ed. CD-ROM).
- P. DUARTE, J.J. SILVA, M.J. REIS, Radão no interior de habitações do concelho de Nisa, *Proc. 8^a Conf. Nac. de Ambiente*, Lisboa, 27-29 October 2004 (ed. CD-ROM).

Accepted for publication or in press

- F.P. CARVALHO, J.M. OLIVEIRA, A. LIBÂNIO, I. LOPES, G. FERRADOR, M.J. MADRUGA. Radioactivity in Public Water Supplies in the Uranium Mining Regions of Portugal. *Int. Workshop on Environmental Contamination from Uranium Production Facilities and Remediation Measures*, Sacavém, 11-13 February 2004
- F.P. CARVALHO, M.J. MADRUGA, M.C. REIS, J.G. ALVES, J.M. OLIVEIRA, J. GOUVEIA, L. SILVA. Radioactive survey in former uranium mining areas in Portugal. *Int. Workshop on Environmental Contamination from Uranium Production Facilities and Remediation Measures*, Sacavém, 11-13 February 2004
- P. DUARTE, L. MACHADO, M.J. REIS, Radon survey in old uranium mines in the region of Sabugal, Portugal, *Int. Workshop on Environmental Contamination from Uranium Production Facilities and Remediation Measures*, Sacavém, 11-13 February 2004

Communications

- L. SILVA, M.J. MADRUGA, C. DOVELETE, F.P. CARVALHO, M. REIS, J. GOUVEIA, J. CORISCO, L. RAMOS. Comparison of in-situ and

laboratory gamma spectrometry of natural radionuclides in uranium mill tailings. *Int. Workshop on Environ. Contamination from Uranium Production Facilities and Remediation Measures*, Sacavém, 11-13 February 2004 (oral)

- M.J. MADRUGA, Overview of Sampling and Measurement Techniques for Soils in the Framework of Radiological Survey in Portugal. *Workshop in Harmonization of Sampling and Measurement Techniques for the Control of Radioactively Contaminated Soils*, Karlsruhe, Germany, 8-10 December 2004 (oral).

Internal Reports

- M.J. MADRUGA, F. CARVALHO, M.M. SEQUEIRA, G. FERRADOR, M.A. GAMEIRO, M. REIS, L. SILVA, J. GOUVEIA, L. RAMOS, J.M. OLIVEIRA, L. MACHADO, I. LOPES, M.A. PEREIRA, M.A. TAVARES, A. LIBÂNIO, V. SILVINO. Vigilância Radiológica a Nível Nacional (Ano 2003). DPRSN, Série A, nº28/2004, ISBN 972-8660-29-4, Depósito Legal 194022/03.
- G. FERRADOR, M.M. SEQUEIRA, V. SILVINO, M.A. TAVARES, M.A. PEREIRA, L. RAMOS, M.J. MADRUGA. Medidas de Radioactividade em Águas do Douro e Paiva (Ano 2003). DPRSN-C, nº 39/2004.
- G. FERRADOR, M.M. SEQUEIRA, V. SILVINO, M.A. TAVARES, M.A. PEREIRA, L. RAMOS, M.J. MADRUGA. Medidas de Radioactividade em Águas do Cávado (Ano 2003). DPRSN-C, nº 38/2004.
- G. FERRADOR, M.A. TAVARES, L. RAMOS, M.J. MADRUGA. Medidas de Radioactividade em Águas de Abastecimento Público à cidade do Porto (Ano 2003). DPRSN-C, nº 22/2004.
- M.J. REIS, P. DUARTE, Concentração de Radão em Habitações (2003-2004), DPRSN-C nº 45/2004.

Metrology of Ionising Radiation and Radioactivity Measurements

Journals

Published

- J. CARDOSO, C. OLIVEIRA, A. FERRO DE CARVALHO. Study of the Spatial Variation of the Air Kerma Backscatter Factor on the Standard ISO Phantom, with a ^{60}Co Irradiator. *Radioprotecção*, Dezembro 2003 e Maio 2004, Vol. 2. N.º. 4 e 5.
- A. CHAVES, M. C. LOPES, C. OLIVEIRA, C. ALVES, L. PERALTA, P. RODRIGUES, A. TRINDADE. A Monte Carlo Multiple Source Model Applied to Radiosurgery Narrow Photon Beams. *Med. Phys.* **31** (8) (2004) 2192-2204.
- F.P. CARVALHO, M.J. MADRUGA, J.M. OLIVEIRA, J.M. GOUVEIA, L. SILVA. Radioactivity in the Northern Seas of Europe. *Radioprotecção* **2** (2004) 118-125.

Conference Proceedings

Published

- J. CARDOSO, C. OLIVEIRA, A. FERRO DE CARVALHO. Determination of the Spatial Variation of the Air Kerma Backscatter Factor, on the ISO Phantom Surface, Using Monte Carlo Method. *Proc. Intercomparison on the Usage of Computational Codes in Radiation Dosimetry*, Bologna, Italy, May 2003 (ed. ENEA 2004).
- A. CHAVES, M. C. LOPES, C. OLIVEIRA, L. PERALTA. A Radiosurgery Monte Carlo Based Treatment Planning. 23th ESTRO Annual Meeting, Amsterdam, The Netherlands, *Rad. And Onc.*, **73** Suppl. 1 (2004) S374.
- F. P. CARVALHO, M. J. MADRUGA, M. C. REIS, J. M. OLIVEIRA, J. G. ALVES, A. LIBÂNIO, J. M. GOUVEIA, L. SILVA. Minas de Urânio e Contaminação Ambiental no Centro-norte de Portugal. Uma Avaliação Preliminar. *Proc. 8ª Conf. Nac. do Ambiente*, Lisboa, 27-29 October 2004 (ed. CD-ROM).
- F. P. CARVALHO, J. M. OLIVEIRA, A. LIBÂNIO, M. J. MADRUGA, L. SILVA, J. GOUVEIA, P. MONTEIRO, M. PERDIGÃO, M. MALTA. Avaliação da Contaminação do Estuário do Tejo por Substâncias Radioactivas de Várias Origens. *8ª Conf. Nac. de Ambiente*, 27-29 October 2004, Lisboa (ed. CD-ROM).
- F. P. CARVALHO, J. M. OLIVEIRA, M. C. REIS, C. PIRES, E. M. AMARAL, J. GOUVEIA, M. MALTA. Deposição atmosférica de aerossóis radioactivos e radioactividade nos solos da ilha de S. Miguel,

Açores. *8ª Conf. Nac. de Ambiente*, 27-29 October 2004, Lisboa (ed. CD-ROM).

- M.J. MADRUGA, F.P. CARVALHO, M. REIS, M.M. SEQUEIRA, G. FERRADOR, M.A. GAMEIRO, L. SILVA, J. GOUVEIA, L. MACHADO, J.M. OLIVEIRA, I. LOPES, V. SILVINO. Vigilância Radiológica do Ambiente em Portugal. *Proc. 8ª Conf. Nac. de Ambiente*, Lisboa, 27-29 October 2004 (ed. CD-ROM).
- F.P. CARVALHO, M.J. MADRUGA, M.C. REIS, J.G. ALVES, J.M. OLIVEIRA, J. GOUVEIA, L. SILVA. Radioactive survey in former uranium mining areas in Portugal. *Int. Workshop on Environ. Contamination from Uranium Production Facilities and Remediation Measures*, Sacavém, 11-13 Feb. 2004.

Communications

- C. OLIVEIRA, A. F. CARVALHO, JOÃO CARDOSO. Study of the Spatial Variation of the Air Kerma Backscatter Factor on the Standard ISO Phantom: Experimental and Numerical Evaluations. *IRPA11*, Madrid, May 2004, poster.
- L. SILVA, M.J. MADRUGA, C. DOVELETE, F.P. CARVALHO, M. REIS, J. GOUVEIA, J. CORISCO, L. RAMOS. Comparison of in-situ and laboratory gamma spectrometry of natural radionuclides in uranium mill tailings. *Int. Workshop on Environ. Contamination from Uranium Production Facilities and Remediation Measures*, Sacavém, 11-13 Feb. 2004, oral.

Internal Reports

- M.J. MADRUGA, F. CARVALHO, M.M. SEQUEIRA, G. FERRADOR, M.A. GAMEIRO, M. REIS, L. SILVA, J. GOUVEIA, L. RAMOS, J.M. OLIVEIRA, L. MACHADO, I. LOPES, M.A. PEREIRA, M.A. TAVARES, A. LIBÂNIO, V. SILVINO. *Vigilância Radiológica a Nível Nacional (Ano 2003)*. DPRSN, Série A, nº28/2004, ISBN 972-8660-29-4, Depósito Legal 194022/03.

Theses

MSc

- J. CARDOSO. Construção e Desenvolvimento de uma Câmara de Ionização para Medida Directa da Grandeza Equivalente de Dose Individual, a 10 mm de Profundidade, Univ. Lisboa, September 2004. Supervisors: A. F. Carvalho (ITN) and J. Carvalho Soares (UL)

Radiological Protection and Radioactive Waste Management

Journals

Accepted for publication or in press

- I. PAIVA, C. OLIVEIRA, L. PORTUGAL, R. TRINDADE, Interim storage of spent and disused sealed source: optimization of external dose distribution in waste grids, using MCNPX code, *Radiat Prot. Dosim.*

Conference Proceedings

Published

- C. OLIVEIRA, L. PORTUGAL, I. PAIVA, R. TRINDADE, Analysis of the activity distribution from an orphan source in molten scrap metal, using the MCNPX Code, *Proc. 11th Int. Congress of the Int. Radiation Protection Association IRPA11*, 23-28 May 2004, Madrid, Spain (ed. CD-ROM)
- R. TRINDADE, L. PORTUGAL, I. PAIVA, L. BRÁS, F. GOMES, J. VENÂNCIO, C. MADEIRA, P. MONTEIRO, M. PERDIGÃO, Detecção e quantificação de radionuclídeos artificiais da Medicina Nuclear descarregados na rede pública de saneamento de Lisboa, *Proc. 8^a Conf. Nac. de Ambiente*, Lisboa 27-29 October 2004 (ed. CD-ROM)

Accepted for publication or in press

- TRINDADE R., PAIVA I., PORTUGAL L., Radioactive Waste Management in Portugal, *Proc. Int. Symp. on Disposal of Low Activity Radioactive Waste*, 13 - 17 December 2004, Cordoba, Spain (Invited paper)

Other Publications

- TRINDADE R. et al, *Strengthening control over radioactive sources in authorized use and regaining control over orphan sources – National strategies*, IAEA-TECDOC-1388, Vienna, Feb. 2004
- R. TRINDADE, I. PAIVA, L. PORTUGAL, Manual de Procedimentos para a Gestão de Resíduos Radioactivos. Recomendações Gerais, DGIES-ITN/DPRSN

Internal Reports

- L. PORTUGAL, I. PAIVA, R. TRINDADE, H. MARQUÊS, L. BRÁS, N. ALVES, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Maia (19 Fev. 2003). DPRSN-C nº1/2004

- L. PORTUGAL, I. PAIVA, R. TRINDADE, H. MARQUÊS, N. ALVES, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (24 Fev. 2003) DPRSN-C nº2/2004
- L. PORTUGAL, I. PAIVA, R. TRINDADE, L. BRÁS, N. ALVES, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (17 Mar. 2003) DPRSN-C nº3/2004
- L. PORTUGAL, I. PAIVA, R. TRINDADE, L. BRÁS, N. ALVES, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (26 Mar. 2003) DPRSN-C nº4/2004
- R. TRINDADE, L. BRÁS, F. TEIXEIRA, L. PORTUGAL, I. PAIVA, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (12 Jun. 2003) DPRSN-C nº5/2004
- I. PAIVA, L. BRÁS, L. PORTUGAL, N. ALVES, R. TRINDADE, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (9 Jul. 2003) DPRSN-C nº6/2004
- L. PORTUGAL, L. BRÁS, I. PAIVA, R. TRINDADE, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (22 Set. 2003) DPRSN-C nº7/2004
- L. PORTUGAL, L. BRÁS, I. PAIVA, R. TRINDADE, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (17 Out. 2003) DPRSN-C nº8/2004
- L. PORTUGAL, L. BRÁS, I. PAIVA, R. TRINDADE, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (6 Nov. 2003) DPRSN-C nº9/2004
- L. BRÁS, B. GOMES, L. PORTUGAL, I. PAIVA, R. TRINDADE, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (3 Dez. 2003) DPRSN-C nº10/2004
- R. TRINDADE, I. PAIVA, L. PORTUGAL, J. VENÂNCIO, L. BRÁS, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (17 Mar. 2004) DPRSN-C nº11/2004
- L. PORTUGAL, L. BRÁS, J. VENÂNCIO, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (19 Abr. 2004) DPRSN-C nº26/2004
- L. BRÁS, J. VENÂNCIO, Detecção de matérias radioactivas em sucatas metálicas na SN Longos,

- Aldeia de Paio Pires (28 Abr.2004) DPRSN-C nº27/2004
- R. TRINDADE, L. PORTUGAL, L. BRÁS, J. VENÂNCIO, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (29 Abr.2004) DPRSN-C nº28/2004
 - L. BRÁS, J. VENÂNCIO, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (5 Mai.2004) DPRSN-C nº29/2004
 - L. BRÁS, J. VENÂNCIO, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (28 Mai.2004) DPRSN-C nº31/2004
 - L. BRÁS, J. VENÂNCIO, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (2 Jun. 2004) DPRSN-C nº32/2004
 - R. TRINDADE, L. PORTUGAL, L. BRÁS, J. VENÂNCIO, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (17 Jun.2004) DPRSN-C nº33/2004
 - R. TRINDADE, L. PORTUGAL, L. BRÁS, J. VENÂNCIO, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (23 Jun.2004) DPRSN-C nº34/2004
 - L. BRÁS, J. VENÂNCIO, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (8 Out. 2004) DPRSN-C nº60/2004
 - L. BRÁS, J. VENÂNCIO, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (11 Out. 2004) DPRSN-C nº61/2004
 - L. BRÁS, J. VENÂNCIO, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (12 Out. 2004) DPRSN-C nº62/2004
 - L. BRÁS, J. VENÂNCIO, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (22 Nov. 2004) DPRSN-C nº65/2004
 - L.PORTUGAL, L. BRÁS, J. VENÂNCIO, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (22 Abr. 2004) DPRSN-C nº72/2004
 - L. PORTUGAL, J. SEBASTIÃO, J. VENÂNCIO, Detecção de matérias radioactivas em sucatas metálicas na SN Longos, Aldeia de Paio Pires (28 Dez.2004) DPRSN-C nº74/2004
 - J. SEBASTIÃO, I. PAIVA, L. BRÁS, J. VENÂNCIO, Verificação das condições de segurança radiológica do Serviço de Radiologia do Hospital do Barreiro, DPRSN-C nº40/2004
 - J. SEBASTIÃO, J. VENÂNCIO, Verificação das condições de segurança radiológica do Serviço de Radiologia do Hospital de D.Estefânia, DPRSN-C nº43/2004
 - J. SEBASTIÃO, L. PORTUGAL, L. BRÁS, J. VENÂNCIO, Verificação das condições de segurança radiológica do Acelerador Siemens Primus do Instituto de Radiologia Dr. Idálio de Oliveira, DPRSN-C nº46/2004
 - J. SEBASTIÃO, J. VENÂNCIO, L. BRÁS, Verificação das condições de segurança radiológica do acelerador do Serviço de Oncologia da HOSPOR – Setúbal, DPRSN-C nº47/2004
 - J. SEBASTIÃO, L. BRÁS, Verificação das condições de segurança radiológica do acelerador linear da CRP-Clinica de Radiologia do Porto, DPRSN-C nº48/2004
 - J. SEBASTIÃO, L. BRÁS, Verificação das condições de segurança radiológica do Hospital de Alcoitão, DPRSN-C nº52/2004
 - J. SEBASTIÃO, J. VENÂNCIO, L. BRÁS, Verificação das condições de segurança radiológica do Hospital de Setúbal, DPRSN-C nº53/2004
 - J. SEBASTIÃO, L. BRÁS, Verificação das condições de segurança radiológica dos Serviços Clínicos da GNR, DPRSN-C nº56/2004
 - J. SEBASTIÃO, J.VENÂNCIO, Verificação das condições de segurança radiológica do Hospital de Évora, DPRSN-C nº59/2004
 - J. SEBASTIÃO, J. VENÂNCIO, Verificação das condições de segurança radiológica da REFRIGE, DPRSN-C nº44/2004
 - J. SEBASTIÃO, J. VENÂNCIO, Verificação das condições de armazenagem das fontes radioactivas da Marinha, DPRSN-C nº50/2004
 - J. SEBASTIÃO, L. BRÁS, Verificação das condições de segurança radiológica da SCHWEPPS, DPRSN-C nº51/2004
 - J. SEBASTIÃO, J. VENÂNCIO, L. BRÁS, Verificação das condições de segurança radiológica dos radares da FAP, DPRSN-C nº57/2004
 - J. SEBASTIÃO, L. BRÁS, Verificação das condições de segurança radiológica da GALP Combustíveis, DPRSN-C nº69/2004
 - L. PORTUGAL, L. BRÁS, J. TRINCHEIRA, R. TRINDADE, Detecção, identificação e análise do conteúdo de um aplaca metálica apreendida pela PSP da Moita, DPRSN-C nº19/2004
 - R.TRINDADE, L.PORTUGAL, I.PAIVA, J.VENÂNCIO, L. BRÁS, M.REIS, L.SILVA, Controlo radiológico efectuado durante a estadia do submarino nuclear da marinha do Reino

Unido HMS "TORBAY" no Cais Militar do Portinho da Costa, de 28 Jan a 5 Fev de 2004, DPRSN-C nº21/2004

- R.TRINDADE, L.PORTUGAL, I.PAIVA, J.VENÂNCIO, L. BRÁS, M.REIS, L.SILVA, L.MADUREIRA, Controlo radiológico efectuado durante a estadia do submarino nuclear da marinha dos EUA USS "ALBUQUERQUE" no Cais Militar do Portinho da Costa de 4 a 9 de Novembro de 2004, DPRSN-C nº66/2004

Dose Assessment and Dose Registry

Journals

Published

- J.G. ALVES, R. MONTEZUMA, O. MARGO, L. SANTOS, Study on quality control parameters of a TLD system for individual monitoring, *Radiat. Prot. Dosim.* **111**, 1 (2004) 21-25.
- J.G. ALVES, M.B. MARTINS, A.R. RODA, J.N. ABRANTES, Database in use at the Individual Monitoring Service of ITN-DPRSN, *Radiat. Prot. Dosim.* **111**, 1 (2004) 27-33.
- E. FANTUZZI, J.G. ALVES, P. AMBROSI, H. JANZEKOVIC, E. VARTIAINEN, Implementation of Standards for Individual Monitoring in Europe, *Radiat. Prot. Dosim.* **112**, 1 (2004) 3-44.

Accepted for publication or in press

- J.G. ALVES, J.N. ABRANTES, S. RANGEL, Implications of the High Voltage Induced Variation of the TL Readings, *Radiat. Prot. Dosim.*
- J.G. ALVES, J.N. ABRANTES, O. MARGO, S. RANGEL, L. SANTOS, Long-term Stability of a TLD-based Individual Monitoring System, *Radiat. Prot. Dosim.*

Conference Proceedings

Published

- M.B. MARTINS, J.G. ALVES, A.R. RODA, J.N. ABRANTES, Towards a National Dose Registry in Portugal. *Proc. 11th Int. Congress of*

the Int. Radiation Protection Association, 23-28 May 2004 (ed. CD-ROM).

- M.A. LOPEZ, *et al.* Harmonization of Individual Monitoring in Europe. *Proc. 11th Int. Congress of the Int. Radiation Protection Association*, 23-28 May 2004 (ed. CD-ROM).
- J.G. ALVES, V.I. BATEL, J. CARDOSO, L. SANTOS, Studies on the Response of the Personal Dosemeter in use at ITN-DPRSN, *Proc. 11th Int. Congress of the Int. Radiation Protection Association*, 23-28 May 2004 (ed. CD-ROM).
- J.G. ALVES, M.B. MARTINS, A.R. RODA, J.N. ABRANTES, Occupational Exposure in Portugal in 1996-2002 in 5-Year Periods, *Proc. 11th Int. Congress of the Int. Radiation Protection Association*, 23-28 May 2004 (ed. CD-ROM).

Communications

- J. MAIROS, J.G. ALVES, E. CHAVEIRO, R. RIBEIRO, Exposição à Radiação Cósmica e Gradidez na Aviação Civil e Militar, *XVII Congresso Português de Obstetrícia e Ginecologia*, Lisboa, 10-13 November (2004), poster.
- J.G. ALVES, M.B. MARTINS. The Portuguese Central Dose Registry, *ESOREX 2005 Meeting*, Prague (Czech Republic), 2-3 December (2004), oral.

Radiological Risk and Safety Assessment

Journals

Published

- U. ABBONDANNO *et. al.* New Experimental validation of the Pulse Height Weighting Technique for Capture cross-section measurements, *Nucl. Instr. and Meth. A* **521**, 2-3 (2004) 454-467.
- J. PANCIN *et. al.* Measurement of the n_TOF beam profile with a micromegas detector, *Nucl. Instr. and Methods A* **524**, 1-3, (2004) 102-114.
- U. ABBONDANNO *et. al.* Neutron Capture Cross Section Measurement of ^{151}Sm at the CERN Neutron Time of Flight Facility (n_TOF), *Phys. Rev. Lett.* **93** (2004) 161103.
- G. LORUSSO *et. al.* Time-energy relation of the n_TOF neutron beam: energy standards revisited, *Nucl. Instr. and Meth. A* **532**, 3 (2004) 622-630.
- A.D. OLIVEIRA. Esboço de um programa de protecção radiológica: do trabalhador à autoridade reguladora, *Radioprotecção*, **2**, 4-5, Dec. 2003 and May 2004.

Accepted for publication or in press

- A.D. OLIVEIRA, C. OLIVEIRA, Comparison of deterministic and Monte Carlo methods in shielding design, *Radiat. Prot. Dosim.*
- A.D. OLIVEIRA, Photon track evolution, *Radiat. Prot. Dosim.*
- U. ABBONDANNO *et al.* The data acquisition system of the neutron time of flight facility n_TOF at CERN", *Nucl. Instr. and Meth. A*

Conference Proceedings

Accepted for publication or in press

- A.D. OLIVEIRA, Analysis of the photon track structure for low energy photons, *11^o Int. Congress Int. Radiation Protection Association*, Madrid, Spain 2004
- A.D. OLIVEIRA, Air kerma backscatter factor determined by Monte Carlo using extrapolation procedures from energy deposited data. *Intercomparison on the usage of computational codes in radiation dosimetry*, ENEA, Italian National Agency for New Technologies, Energy and the Environment, Bologna, Italy, 2004.
- F. C. TEIXEIRA, I. PEREIRA, M.J. CURTO, M. NEVES, Novos indazolbifosfonatos para o metabolismo mineral do osso., *XIX Encontro Nac. Soc. Port. Química, SPQ*, Coimbra, Portugal, 2004.
- M. CHANDIA and M. NEVES. Production and evaluation of labeled bisphosphonates with ^{153}Sm , ^{166}Ho and ^{177}Lu as therapeutic radio-pharmaceuticals. *Int. Youth Nuclear Congress IYNC2004*, Toronto, Canadá, 2004.

- A.D. OLIVEIRA, M. NEVES, P. VAZ, Radionuclides used for therapy and suggestion for new candidates, *Radioanalytical and Nuclear Chemistry*
- F. C. TEIXEIRA, I. PEREIRA, M.J. CURTO and M. NEVES. Synthesis and characterization of new indazolbifosfonatos. *16th Int. Conf. on Phosphorus Chemistry-ICPC 2004*, Birmingham, UK, 2004.
- G. TAGLIENTE *et. al.* Measurement of the $^{90,91,92,94,96}\text{Zr}(n,g)$ at n_TOF, *Nucl. Phys. A*
- U. ABBONDANNO *et. al.* Measurement of the $^{151}\text{Sm}(n,g)$ cross section at n_TOF, *Nucl. Phys. A*
- U. ABBONDANNO *et. al.* Neutron capture cross section measurements for nuclear astrophysics at CERN n_TOF, *Nucl. Phys. A*
- D. COORS *et. al.* Target Units for XADS primary systems, *Proc. EURADWASTE 04 Conf.*, Luxemburg, March 2004.

Communications

- M. NEVES, A. KLING and A. D. OLIVEIRA. Potential Radionuclides for Targeted Radiotherapy. *10th Int. Conf. on Radiation Shielding (ICRS-10) and 13th Biennial Topical Meeting of the Radiation Protection and Shielding Division of the American Nuclear Society (RPS2004)*. Madeira, Portugal, 2004.
- M. NEVES. Radiopharmaceuticals for diagnostic and therapy. Workshop on the Project "Chemical studies for design and production of new radiopharmaceuticals" within the *EU-FP6 Programme Marie Curie Host Fellowship for Transfer of Knowledge*, Institute of Nuclear Chemistry and Technology (ICHTJ), Warsaw, Poland, 2004.

Internal Reports

- M. ÂNGELO and A.D. OLIVEIRA, Estudo de avaliação das condições de segurança radiológica da instalação de medicina nuclear do IPOFG – Porto, DPRSN – C n^o 13/2004.
- A.D. OLIVEIRA, Estudo de avaliação de segurança radiológica da instalação TAGUSLIP para utilização de fontes seladas e não seladas, DPRSN-C, n^o 20/2004.
- A.D. OLIVEIRA and M. ÂNGELO, Verificação das condições de segurança radiológica da instalação de imagiologia do Hospital Militar Principal, DPRSN-C, n^o 23/2004.

PUBLICATIONS

- P.VAZ and A.D. OLIVEIRA, Avaliação das condições de segurança radiológica da COFICAB Portugal – Companhia de fios e cabos, Lda, DPRSN-C, nº 30/2004.
- A.D. OLIVEIRA and L. PORTUGAL, Avaliação das condições de segurança radiológica da CHIP – Centro de Higienização por ionização de produtos, Lda, DPRSN-C, nº 35/2004.
- M. ÂNGELO and A.D. OLIVEIRA, Avaliação das condições de segurança radiológica do serviço de medicina nuclear do Hospital Geral de S.^{to} António, DPRSN – C nº 36/2004.
- M. ÂNGELO and A.D. OLIVEIRA, Estudo de avaliação das condições de segurança radiológica dos laboratórios do IBILI – F. M. da Universidade de Coimbra, DPRSN – C nº 63/2004.
- M. ÂNGELO and A.D. OLIVEIRA, Avaliação das condições de segurança radiológica da instalação de braquiterapia do IPOFG – Coimbra, DPRSN – C nº 64/2004.
- M. ÂNGELO and A.D. OLIVEIRA Estudo de avaliação das condições de segurança radiológica da instalação de medicina nuclear da Diaton - Leiria, DPRSN – C nº 67/2004.
- M ÂNGELO and A.D. OLIVEIRA, Estudo de avaliação de segurança radiológica do serviço de medicina nuclear do Hospital Geral de S.^{to} António – Porto, DPRSN – C nº 68/2004.
- M ÂNGELO, and A.D. OLIVEIRA, Estudo de avaliação de segurança radiológica do Laboratório de Investigação em Biologia Molecular – Universidade do Algarve, DPRSN – C nº 73/2004.

Theses

MSc

- H. LOPES RAMINHOS, Bisfosfonatos –Ligandos como potenciais radiofármacos. MSc in Chemistry. Faculdade de Ciências e Tecnologia. Universidade Nova de Lisboa. December 2004. Supervisor: M. Neves (ITN) and M. C. Costa (INETI).

New Materials and Compounds

Advanced Materials Research Group

Journals

Published

- E. ALVES, A.R. RAMOS, A.C. MARQUES, R. M. ALMEIDA, Study of silica-titania films doped with Er and Ag by RBS and ERDA, *Nucl. Instr. & Meth* **B219-220** (2004) 923.
- L. C. ALVES, E. ALVES, M.R. DA SILVA, A. PAÚL, A. LA BARBERA, Li Ceramic Pebbles Compatibility with Eurofer Samples in Fusion Relevant Conditions, *J. Nucl. Mater.* **329-333** (2004) 1295-1299.
- E. J. TEO, M.B.H. BREESE, A.A. BETTIOL, F. WATT, L.C. ALVES, High Quality Ion-Induced Secondary Electron Imaging for MeV Nuclear Microprobe Applications, *J. of Vacuum Sci. and Tech.* **B22** (2) (2004) 560-564.
- E. ALVES, A. RAMOS, N.BARRADAS, F. VAZ, P. CERQUEIRA, L. REBOUTA, U. KREISSING, Ion beam studies of TiN_xO_y thin films deposited by reactive magnetron sputtering, *Surf. Coat. Tech.* **180-181** (2004) 372-376.
- S. CARVALHO, L. REBOUTA, E. RIBEIRO, F. VAZ, M.F. DENANOT, J. PACAUD, J.P. RIVIÈRE, F. PAUMIER, R.J. GABORIAUD, E. ALVES, Microstructure of superhard (Ti,Si,Al)N nanocomposite coating, *Surf. Coat. Tech.* **177-178** (2004) 369-375.
- L.A. ROCHA, E. ARIZA, J. FERREIRA, F. VAZ, E. RIBEIRO, L. REBOUTA, E. ALVES, A.R. RAMOS, PH. GOUDEAU, J. P. RIVIÈRE, Structural and corrosion behaviour of stoichiometric and substoichiometric TiN thin films, *Surf. Coat. Tech.* **180-181** (2004) 158-163.
- F. VAZ, P. CERQUEIRA, L. REBOUTA, S.M.S. NASCIMENTO, E. ALVES, PH. GOUDEAU, J.P. RIVIÈRE, K. PISCHOW, J. DE RIJK, Structural, optical and mechanical properties of coloured TiN_xO_y thin films, *Thin Solid Films* **447-448** (2004) 449-454.
- E. RIBEIRO, L. REBOUTA, S. CARVALHO, F. VAZ, G.G. FUENTES, R. RODRIGUEZ, M. ZAZPE, E. ALVES, PH. GOUDEAU, J.P. RIVIÈRE, Characterization of hard DC-sputtered Si-based TiN coating, *Surf. Coat. Techn.* **188-189** (2004) 351-357.
- F. VAZ, P. CARVALHO, L. CUNHA, L. REBOUTA, C. MOURA, E. ALVES, A.R. RAMOS, A. CAVALEIRO, PH. GOUDEAU, J.P. RIVIÈRE, Property change in ZrN_xO_y thin films: effect of the oxygen and bias voltage, *Thin Solid Films* **469-470** (2004) 11-17.
- E. ARIZA, L.A. ROCHA, F. VAZ, L. CUNHA, S.C. FERREIRA, P. CARVALHO, L. REBOUTA, E. ALVES, PH. GOUDEAU, J.P. RIVIÈRE, Corrosion resistance of ZrN_xO_y thin films obtained by rf reactive magnetron sputtering, *Thin Solid Films* **469-470** (2004) 274-281.
- L.A. ROCHA, E. ARIZA, J. FERREIRA, F. VAZ, E. RIBEIRO, L. REBOUTA, E. ALVES, A.R. RAMOS, PH. GOUDEAU, J.P. RIVIÈRE, Structural and Corrosion Behaviour of Stoichiometric and Substoichiometric TiN Thin Films, *Surf. and Coat. Techn.* **180-181** (2004) 158.
- J. GARCIA LOPEZ, G. BATTISTIG, Y. MORILLA, N.Q. KHANH, T. LOHNER, P. PETRIK, A.R. RAMOS, M.A. RESPALDIZA, Effect of ion current density on damage in Al implanted SiC, *Nucl. Instr. & Meth* **B219-220** (2004) 252.
- H. ÁGUAS, L. PEREIRA, I. FERREIRA, A.R. RAMOS, A. S. VIANA, J. ANDREU, P. VILARINHO, E. FORTUNATO, R. MARTINS, Effect of Annealing on Gold Rectifying Contacts in Amorphous Silicon, *Mat.. Sci. Forum*, **455-456** (2004) 96.
- H. ÁGUAS, L. PEREIRA, I. FERREIRA, A.R. RAMOS, A.S. VIANA, J. ANDREU, P. VILARINHO, E. FORTUNATO, R. MARTINS, Effect of an Interfacial Oxide Layer in the Annealing Behaviour of Au/a-Si:H MIS Photodiodes, *J. Non-Cryst. Sol* **338-340** (2004) 810.
- G. LAVAREDA, C. NUNES DE CARVALHO, E. FORTUNATO, A. AMARAL, A.R. RAMOS, Properties of a-Si:H TFTs Using Silicon Carbonitride as Dielectric, *J. Non-Cryst. Sol.* **338-340** (2004) 797.
- A.C. MARQUES, R.M. ALMEIDA, E. ALVES, A.R. RAMOS, Compositional profiles in silica-based sol-gel films doped with erbium and silver, *J. of Sol-Gel Sci. and Techn.* **31** (2004) 287.
- A.M. LOPES, J.P. ARAUJO, E. RITA, J.G. CORREIA, S. AMARAL, R. URYANARAYANAN AND THE ISOLDE COLLABORATION, Local Probe Studies on LaMnO₃+ δ Using the Perturbed Angular Correlation Technique, *J. Magn. and Magn. Materials*, **272-276**, E1671 (2004)

- A.M.L. LOPES, J.P. ARAUJO, E. RITA, J.G. CORREIA, V.S. AMARAL, Y. TOMIOKA, Y. TOKURA, R. SURYANARAYANAN and the ISOLDE Collaboration, Perturbed Angular Correlation Study of Pr_{1-x}CaxMnO₃, *J. Magn. and Magn. Materials*, **272-276**, E1667 (2004)
- A. BRAEM, M.C. LLATAS, E. CHESI, J.G. CORREIA, F. GARIBALDI, C. JORAM, S. MATHOT, E. NAPPI, M.R. da SILVA, F. SCHOENAUHL, J. SEGUINOT, P. WEILHAMMER, H. ZAIDI, Feasibility of a novel design of high resolution parallax-free Compton enhanced PET scanner dedicated to brain research, *Phys Med Biol.* **49** (12) (2004) 2547-62
- E. RITA, U. WAHL, J.G. CORREIA, E. ALVES, J.C. SOARES, ISOLDE COLLABORATION, Lattice location and thermal stability of implanted Fe in ZnO, *Appl. Phys. Lett.* **85** (2004) 4899-4901.
- U. WAHL, E. RITA, J.G. CORREIA, E. ALVES, J.C. SOARES, ISOLDE COLLABORATION, Lattice location and stability of implanted Cu in ZnO, *Physical Review B* **69** (2004) 012102.1-4.
- M. PERES, J. WANG, M.J. SOARES, A. NEVES, T. MONTEIRO, E. RITA, U. WAHL, J.G. CORREIA, E. ALVES, PL studies on ZnO single crystals implanted with thulium ions, *Superlattices and Microstructures* **36** (2004) 747-753.
- M. DIETRICH, CH. BUCHAL, J.G. CORREIA, M. DEICHER, M. SCHMID, M. UHRMACHER, U. VETTER, U. WAHL, Annealing of BaTiO₃ thin films after heavy ion implantation, *Nucl. Inst. & Meth. B* **216** (2004) 110-115.
- U. WAHL, J.G. CORREIA, A. CZERMAK, S.G. JAHN, P. JALOCHA, J.G. MARQUES, A. RUDGE, F. SCHOPPER, A. VANTOMME, P. WEILHAMMER, ISOLDE COLLABORATION, Position-sensitive Si pad detectors for electron emission channeling experiments, *Nucl. Inst. & Meth. A* **524** (2004) 245-256.
- B. DE VRIES, V. MATIAS, A. VANTOMME, U. WAHL, E.M.C. RITA, E. ALVES, A.M.L. LOPES, J.G. CORREIA, ISOLDE COLLABORATION, Influence of O and C co-implantation on the lattice site of Er in GaN, *Applied Physics Letters* **84** (2004) 4304-4306.
- A. COLDER, P. MARIE, T. WOJTOWICZ, P. RUTERANA, S. EIMER, L. MÉCHIN, K. LORENZ U. WAHL, E. ALVES, V. MATIAS, M. MAMOR, B. PIPELEERS, and A. VANTOMME, Characterisation of defects in rare earth ion implanted GaN by deep level transient spectroscopy, *Superlattices and Microstructures* **36** (2004) 713-719.
- A. KLING, M. RICO, C. ZALDO, M. AGUILÓ, F. DÍAZ, Photoluminescence of Er-Implanted KTP and RTP, *Nucl. Instr. & Meth. B* **218** (2004) 271-276.
- A. MÉNDEZ-BLAS, M. RICO, V. VOLKOV, C. CASCALES, C. ZALDO, C. COYA, A. KLING, L.C. ALVES, Optical Spectroscopy of Pr³⁺ in M⁺Bi(XO₄)₂, M⁺=Li or Na and X=W or Mo, locally disordered single crystals, *J. Phys.: Cond. Matt.* **16** (2004) 2139-2160
- N. P. BARRADAS, R. P. PATRÍCIO, H. PINHO, A. VIEIRA, A general artificial neural network for analysis of RBS data of any element with Z between 18 and 83 implanted into any lighter one- or two-element target, *Nucl. Instr. & Meth B* **219-220** (2004) 105-109.
- N.P. BARRADAS, E. ALVES, S. PEREIRA, V. V. SHVARTSMAN, A. L. KHOLKIN, E. PEREIRA, K. P. O'DONNELL, C. LIU, C. J. DEATCHER I. M. WATSON, M. MAYER, Roughness in GaN/InGaN films and multilayers determined with Rutherford backscattering; *Nucl. Instr. & Meth B* **217** (2004) 479-497.
- N.P. BARRADAS, E. ALVES, D. BABONNEAU, Characterization of FePt nanoparticles in FePt/C multilayers, *Nucl. Instr. & Meth B* **219-220** (2004) 919-922.
- C. J. TAVARES, L. REBOUTA, J. P. RIVIÈRE, T. GIRARDEAU, P. GOUDEAU, E. ALVES, N. P. BARRADAS, Atomic environment and interfacial structural order of TiAlN/Mo multilayers, *Surf. Coat. Tech.* **187** (2004) 393-398.
- N.P. BARRADAS, Double scattering in grazing angle Rutherford backscattering spectra, *Nucl. Instr. & Meth B* **225** (2004) 318-330.
- C. PASCUAL-IZARRA, M. BIANCONI, N. P. BARRADAS, A. CLIMENT-FONT, G. GARCIA, J. GONZALO, C. N. AFONSO, Continuous stopping power curves of Al₂O₃ for 0.2-0.5 MeV He ions, *Nucl. Instr. & Meth. B* **219-220** (2004) 268-272.
- N. P. BARRADAS, V. MATIAS, A.D. SEQUEIRA, J. C. SOARES, U. KREISSIG, J. U. WANG, P.P. FREITAS, He-RBS, He-ERDA and heavy ion-ERDA analysis of Si/Ta 70Å/CoFe 35Å/ (Hf 2Å + Al 4Å)oxidation /CoFe 35Å/Ta 30Å systems, *Nucl. Instr. & Meth B* **219-220** (2004) 742-746.
- N.P. BARRADAS; N. ADDED, W.M. ARNOLDBIK, I. BOGDANOVIĆ-RADOVIĆ, W. BOHNE, S. CARDOSO, C. DANNER, N. DYTLEWSKI, P.P. FREITAS, M. JAKŠIĆ, C. JEYNES, C. KRUG, W. N. LENNARD, S. LINDNER, C. LINSMEIER, Z. MEDUNIĆ, P. PELICON, R.P. PEZZI, C. RADTKE, J. RÖHRIC, T. SAJAVAARA, T.D.M. SALGADO, F.C. STEDILE, M.H. TABACNIKS, I. VICKRIDGE, A round robin characterisation of the thickness and composition of thin to ultra-thin AlN films, *Nucl. Instr. & Meth B* **227** (2005) 397-419.

- K. LORENZ, U. WAHL, E. ALVES, T. WOJTOWICZ, P. RUTERANA, S. RUFFENACH, O. BRIOT, Amorphisation of GaN during processing with rare earth ion beams, *Superlattices and Microstructures* **36** (2004) 737.
- K. LORENZ, U. WAHL, E. ALVES, S. DALMASSO, R. W. MARTIN, K. P. O'DONNELL, S. RUFFENACH, O. BRIOT, High temperature annealing and optical activation of Eu implanted GaN, *Appl. Phys. Lett.* **85** (2004) 2712.
- C. MARQUES, E. ALVES, R.C. DA SILVA, M.R. SILVA A.L. STEPANOV, Optical changes induced by high fluence implantation of Au ions on sapphire *Nucl. Inst. & Meth.* **B 218** (2004) 139-144.
- B. SAVOINI, D. CÁCERES, I. VERGARA, R. GONZÁLEZ, R.C. DA SILVA, E. ALVES, Y. CHEN, Optical and mechanical properties of MgO crystals implanted with lithium ions *J. Appl. Phys.* **95-5** (2004) 2371-2378.
- N.P. BARRADAS, E. ALVES, C.M. RUIZ, E. DIÈGUEZ, F. DIMROTH, M.-A. CHENOT, A. BETT, RBS analysis of AlGaSb thin films *Nucl. Inst. & Meth.* **B 219-220**, (2004) 928-932.
- F. VAZ, P. CERQUEIRA, L. REBOUTA, S. M.C. NASCIMENTO, E. ALVES, P. GOUDEAU, J. R. RIVIERE, K. PISCHOW, J. DE RIJK J, Structural, optical and mechanical properties of coloured TiNxOy thin films, *Thin Solid Films* **447**, (2004) 449-454.
- S. CARVALHO, L. REBOUTA, E. RIBEIRO, F. VAZ, M. F. DENANNOT, J. PACAUD, J. R. RIVIERE, E. PAUMIER, R. J. GABORIAUD, E. ALVES, Microstructure of (Ti,Si,Al)N nanocomposite coatings, *Surf. & Coat. Techn.* **177**, (2004) 369-375.
- M. V. STEPIKHOVA, M. F. CERQUEIRA, M. LOSURDO, M. M. GIANGREGORIO, E. ALVES, T. MONTEIRO, M. J. SOARES, The role of microstructure in luminescent properties of Er-doped nanocrystalline Si thin films, *Physics of the Solid State*, **46**, (2004) 113-117.
- E. WENDLER, W. WESCH, E. ALVES, A. KAMAROU, Comparative study of radiation damage in GaN and InGaN by 400 KeV Au implantation, *Nucl. Inst. & Meth.* **B218**, (2004) 36-41.
- E. ALVES, C. MARQUES, V.S. AMARAL, J.P. ARAÚJO, G. CRISTIANI, H.-U. HABERMEIER, J.M. VIEIRA, Ion beam studies of single crystalline manganite thin films, *Nucl. Inst. & Meth.* **B 219-220**, (2004) 933-937
- M. RICKART, P.P. FREITAS, I.G. TRINDADE, G. PROUDFOOT, D. PEARSON, M. DAVIS, N.P. BARRADAS, E. ALVES, M. SALGUEIRO, N. MUGA, J. VENTURA, J.B. SOUSA, Exchange bias of MnPt/CoFe films prepared by ion beam deposition, *J. Appl. Phys.* **95** (2004) 6317-6321.
- C.J. MCHARGUE, L.O. ONONYE, E. ALVES, C. MARQUES, L.F. ALLARD, The effect of temperature on the structure of ion-implanted sapphire, *Nucl. Inst. & Meth.* **B218**, (2004) 227-231.
- J.V. PINTO, R.C. DA SILVA, E. ALVES, M.J. SOARES, T. MONTEIRO, R. GONZALEZ, Stability and optical activity of Er Implnted MgO, *Nucl. Inst. & Meth.* **B218**, (2004) 128-132.
- E. ALVES, C. MARQUES, L. C. ONONYE, C. MCHARGUE, Defect production in nitrogen implanted sapphire, *Nucl. Inst. & Meth.* **B 218**, (2004) 222-226.
- M. TARDÍO, R. RAMÍREZ, R. GONZÁLEZ, J. V. PINTO, R. C. DA SILVA, E. ALVES, Y. CHEN, Electrical conductivity of as-grown and oxidized MgO:Li crystals implanted with Li ions, *Nucl. Inst. & Meth.* **B218**, (2004) 164-169.
- B. SAVOINI, D. CÁCERES, R. GONZÁLEZ, Y. CHEN, J. V. PINTO, R. C. DA SILVA, E. ALVES, Copper nanocolloids in MgO crystals implanted with Cu ions, *Nucl. Inst. & Meth.* **B218**, (2004), 148-152.
- R. SCHWARTZ, T. BRAZ, P. SANGUINO, P. FERREIRA, A. MAÇARICO, M. VIEIRA, C. P. MARQUES, E. ALVES, Degradation of particle detectors based on a Si:H by 1.5 MeV He⁴ and 1 MeV protons, *J. of Non-Cryst. Sol.* **338-340** (2004) , 814-817.
- A. FONSECA, N.A. SOBOLEV, J.P. LEITÃO, M. C. CARMO, N. FRANCO, H. PRESTING, A. SEQUEIRA, Structural characterization and luminescence of Ge/Si Quantum Dots, *Mat. Sci. Forum* **455** (2004) 540.
- E. RIBEIRO, L. REBOUTA, S. CARVALHO, et al, Characterization of hard DC-sputtered Si-based TiN coatings: the effect of composition and ion bombardment, *Surf. & Coat. Techn.* **188-89** (2004), 351-357.
- C.M RUIZ, N.P. BARRADAS ,E. ALVES, et al, Formation of Al_xGa_{1-x}Sb films over GaSb substrates by Al diffusion, *Eur. Phys. J. Appl. Phys.* **27 (1-3)**,(2004), 423-426.
- M.R CORREIA, S. PEREIRA, E. PEREIRA, et al, Direct evidence for strain inhomogeneity in In_xGa_{1-x}N epilayers by Raman spectroscopy, *Appl. Phys. Lett.* **85** (12), (2004), 2235-2237.
- A.A.F. TAVASSOLI, A. ALAMO, L. BEDEL, et al, Materials design data for reduced activation martensitic steel type EUROFER, *J. of Nuc. Mat* **329-33**, (2004) 257-262.
- D. MC CABE, K. JOHNSTON, M.O. HENRY, et al, Optical absorption of a Li-related impurity in

- ZnO (vol. 35, pg 227, 2004), *Phys. B-Condensed Matter* **351 (1-2)**, (2004), 227-227 .
- M.M. CRUZ, R.C. DA SILVA, R. GONZÁLES, E. ALVES AND M. GODINHO, Magnetic behaviour of Co and Ni implanted MgO. *J. Magn. & Magn. Materials*, **272-276** (2004) 840-843.
 - B. SAVOINI, D. CÁCERES, R. GONZÁLEZ, J.V. PINTO, R.C. DA SILVA, E. ALVES, Y. CHEN, Copper nanocolloids in MgO crystals implanted with Cu ions, *Nucl. Inst. & Meth B*, **218** (2004) 148-52.
 - M. VILARIGUES AND R.C. DA SILVA, Ion beam and Infrared analysis of medieval stained glass, *Appl. Phys. A*, **79**, (2004) 373-378.
 - C. MARQUES, E. ALVES, R.C. DA SILVA, M.R. DA SILVA, A.L. STEPANOV, Optical changes induced by high fluence implantation of Au ions on sapphire, *Nucl. Inst. & Meth. B*, **218** (2004) 139-144.
 - N. POPOVICI, M.L. PARAMÊS, R.C. DA SILVA, O. MONNEREAU, P. SOUSA, A.J. SILVESTRE AND O. CONDE, KrF pulsed laser deposition of chromium oxide thin films from Cr₈O₂₁ targets, *Appl. Phys. A*, **79** (2004) 1409-1411.
 - F. DRUYTS, E. ALVES, A. CHU, Methods for the mitigation of the chemical reactivity of beryllium in steam, *J. Nucl. Mat.* 329-33 (2004) 1353-1356.
- Accepted for publication or in press**
- F. VAZ, J. FERREIRA, E. RIBEIRO, L. REBOUTA, S. LANCEROS-MÉNDEZ, J.A. MENDES, F. RIBEIRO, I. MOUTINHO, PH. GOUDEAU, J.P. RIVIÈRE, E. ALVES, K. PISCHOW, J. DE RIJK, Influence of nitrogen content on the structural, mechanical and electrical properties of TiN thin films, *Surf. Coat. Techn.*
 - S. ZHANG, L. RANIERO, E. FORTUNATO, X. LIAO, Z. HU, I. FERREIRA, H. ÁGUAS, A.R. RAMOS, E. ALVES, R. MARTINS, The characterization of silicon carbide films and their use in color sensor, *J. Mat. Sci.*
 - A.R. RAMOS, C.P. MARQUES, E. ALVES, A.C. MARQUES, R.M. ALMEIDA, Stability of erbium and silver implanted silica-titania films, *Nucl. Inst. & Meth B*
 - J.P. ARAUJO, A.M.L. LOPES, T. MEMDONCA, E. RITA, J.G. CORREIA, V.S. AMARAL, and the ISOLDE Collaboration, Electrical Field Gradient studies on La_{1-x}Cd_xMnO_{3+δ} system, *Hyperfine Interactions*
 - U. WAHL, J.G. CORREIA, E. RITA, E. ALVES, J.C. SOARES, B. DE VRIES, V. MATIAS, A. VANTOMME, ISOLDE COLLABORATION, Recent emission channeling studies in wide band gap semiconductors, *Hyperfine Interactions*.
 - E. RITA, J.G. CORREIA, U. WAHL, E. ALVES, A.M.L. LOPES, J.C. SOARES, ISOLDE COLLABORATION, PAC studies of implanted ¹¹¹Ag in single-crystalline ZnO, *Hyperfine Interactions*.
 - E. RITA, E. ALVES, U. WAHL, J.G. CORREIA, T. MONTEIRO, M.J. SOARES, A. NEVES, M. PERES, Stability and luminescence studies of Tm and Er implanted ZnO single crystals, *Nucl. Inst. & Meth B*
 - V. VOLKOV, C. CASCALES, A. KLING, C. ZALDO, Growth, Structure and Optical Evaluation of Li Yb(MoO₄)₂ Single Crystal, *Chem. Mat.*
 - A. KLING, J.C. SOARES, C. PRIETO, J. JIMENEZ, A. RODRÍGUEZ, J. SANGRADOR, T. RODRÍGUEZ, Ion Beam Analysis of the Dry Thermal Oxidation of Thin Polycrystalline SiGe Films *Nucl. Inst. & Meth. B*
 - H.F.R. PINHO, A. VIEIRA, N.R. NENÉ, N.P. BARRADAS, Artificial neural network analysis of multiple IBA spectra, *Nucl. Inst. & Meth B*
 - N.P. BARRADAS, C. PASCUAL-IZARRA Double scattering in RBS analysis of PtSi thin films on Si *Nucl. Inst. & Meth B*.
 - N. FRANCO, I.V. YAVOROVSKIY, A. FONSECA, J.A.V. GOUVEIA, C. MARQUES, E. ALVES, R. A. FERREIRA, P.P. FREITAS, N. P. BARRADAS, Rutherford backscattering and x-ray reflectivity analysis of tunnel barriers, *Nucl. Inst. & Meth B*
 - K. LORENZ, E. ALVES, T. MONTEIRO, M.J. SOARES, P.J.M. SMULDERS, Optical doping of AlN by rare earth implantation, *Nucl. Inst. & Meth.*
 - K. LORENZ AND R. VIANDEN, Anomalous temperature dependence of the EFG in AlN measured with the PAC-probes ¹¹¹In and ¹⁸¹Hf, *Hyperfine Interactions*
 - A. FONSECA, N. FRANCO, E. ALVES, N. P. BARRADAS, J. LEITÃO, N. A. SOBOLEV, D. BADONNEAU, High resolution backscattering studies of nanostructured magnetic and semiconducting materials, *Nucl. Inst. & Meth B*
 - P. SANGUINO, E. ALVES, et al, Structural and composition analysis of GaN films deposited by cyclic PLD at different substrate, *Sensors and Actuators A: Physical*,
 - S. CARVALHO, L. REBOUTA, E. RIBEIRO, F. VAZ, A. CAVALEIRO, E. ALVES, N.P. BARRADAS, J.P. RIVIÈRE, Structural evolution of Ti-Al-Si-N nanocomposite coatings, *Surface & Coating technology*, *Nucl. Inst. & Meth B*
 - E. ALVES, L.C. ALVES, N. FRANCO, R. DA SILVA, A. PAÚL, J.B. HEGEMAN, F. DRUYTS,

- Characterization and stability studies of titanium beryllides, *Fusion Engineering and Design*
- M.R. CORREIA, S. PEREIRA, E. PEREIRA, R.A. SÁ FERREIRA, J. FRANDON, E. ALVES, I.M. WATSON, C. LIU, Optical studies on the red luminescence of InGaN epilayers, *Superlattices and Microstructures*
 - A. PAÚL, E. ALVES, L.C. ALVES, C. MARQUES, R. LINDAU, J.A. ODRIZOLA, Microstructural characterisation of EUROFER-ods rafm steel in the normalized and tempered condition and after thermal aging in simulated fusion conditions, *Fusion Engineering and Design*
 - J.Z. WANG, M. PERES, J. SOARES, O. GOROCHOV, N.P. BARRADAS, E. ALVES, J. LEWIS, A. NEVES, T. MONTEIRO, Annealing properties of ZnO films grown using diethyl zinc and tertialry butanol, *Nucl. Inst. and Meth*,
 - M.R. CORREIA, S. PEREIRA, J. FRANDON, M.A. RENUCCI, E. ALVES, Raman studies of Al(LO) phonon on relaxed and pseudomorphic InGaN epilayers, *Nucl. Inst. & Meth B*,
 - L.M. PRUDÊNCIO, L. PARAMÊS, O. CONDE AND R.C DA SILVA, Cr ion implantation into Ti – Part I: formation of intermetallic Laves phase, *Surf. & Coatings Tech.*
 - L.M. PRUDÊNCIO, M. VILARIGUES, L.C. ALVES AND R.C. DA SILVA, Cr ion implantation into Ti – Part II, Cr diffusivity, *Surf. & Coatings Tech.*,
 - J.V. PINTO, M.M. CRUZ, R.C. DA SILVA AND M. GODINHO, Magnetic properties of TiO₂ rutile implanted with Ni and Co, *J. Magn. Magn. Mat*
 - J.V. PINTO, M.M. CRUZ AND M. GODINHO, R.C.DA SILVA, E. ALVES, R. GONZÁLEZ, Ferromagnetic cobalt and nickel nanoaggregates in MgO, *Phys. Rev. B*.
 - C. MARQUES, R.C. DA SILVA, A. WEEMANS, M.J.P. MANEIRA, A. KOZANECKI, E. ALVES, Optical properties tailoring by high fluence implantation of Ag ions on sapphire, *Nucl. Inst. & Meth B*
 - C. MARQUES, R.C. DA SILVA, A. WEEMANS, M.J.P. MANEIRA, A. KOZANECKI, E. ALVES, Site location and optical properties of Eu implanted sapphire, *Nucl. Inst. & Meth B*.
 - N. POPOVICI, P.M. SOUSA, R.C. DA SILVA, M.L. PARAMÊS, A.J. SILVESTRE, A.K. AXELSSON, N. MCN ALFORD AND O. CONDE, TiO₂ and Co-doped TiO₂ thin films grown by Pulsed Laser deposition, *J. Appl. Surf. Sci.*
 - N. FRANCO, J. A.V. GOUVEIA, E. ALVES, S. CARDOSO, P. P. FREITAS, N. P. BARRADAS, Analysis of nanolayered samples with a 4He beam and a standard detection system, *Nucl. Inst. & Meth B*,
 - V. CORREGIDOR, E. ALVES, L.C. ALVES, N. P. BARRADAS, TH. DUFFAR, N. FRANCO, C. MARQUES, A. MITRIC, Compositional and structural characterisation of GaSb and GaInSb, *Nucl. Inst. & Meth B*.
- ### Conference Proceedings
- #### Published
- P. SANGUINO, O.M.N.D. TEODORO, M. NIEHUS, L. MELO, C.P. MARQUES, A.M.C. MOUTINHO, E. ALVES, R. SCHWARZ, Surface nitrogen deficiency of GaN films deposited by cyclic PLD at different substrate temperature, *EUROSENSORS XVII*, Sept 2004, Guimarães, Portugal.
 - A.M.L. LOPES, J.P. ARAUJO, E. RITA, J.G. CORREIA, V.S. AMARAL, T.M. MENDONCA, P. B. TAVARES, Y. TOMIOKA, Y. TOKURA and the ISOLDE Collaboration, Electric field gradient fluctuations on LaMnO_{3,12} studied by perturbed angular correlation technique, *Joint Eur. Magnetic Symp. JEMS'04*, September 2004, Dresden,, Germany
 - A.M.L. LOPES, J.P. ARAUJO, E. RITA, J.G. CORREIA, V.S. AMARAL, T.M. MENDONCA, P. B. TAVARES, Y. TOMIOKA, Y. TOKURA and the ISOLDE Collaboration, Electrical Field Gradient studies on LaMnO_{3,8} system , *XIII Int. Conf. Hyperfine Interactions (HFI 2004) and XVII Int. Symp. on Nuclear Quadrupole Interactions (NQI 2004)*, Sept. 2004, Bonn, Germany
 - N.P. BARRADAS, C. PASCUAL-IZARRA, A. CLIMENT-FONT, M. BIANCONI, Determination of the stopping power of ⁴He in thin oxynitride films, *IAEA TECDOC-1409* (2004) 37-44.
 - N.P. BARRADAS, A round robin characterisation of the thickness and composition of thin to ultra-thin AlN(O) films, *IAEA TECDOC-1409* (2004) 23-28.
 - N.P. BARRADAS, A. VIEIRA, V. MATIAS, G. ÖHL, J.C. SOARES, S. CARDOSO, P.P. FREITAS, Development of artificial neural networks for thin AlxNyOz films measured by Rutherford backscattering, *IAEA TECDOC-1409* (2004) 29-36.
- ### Other publications
- E. ALVES, L. C. ALVES, N.P. BARRADAS, Characterisation of the surface morphology of ASDEX – upgrade Tokamak tiles exposed to large plasma fluences (>10²⁶ m⁻²), European Fusion Development Agreement, Association

Euratom/IST, TASK: TW3- TPP-ERCAR, Final Report (2004).

- L.C. ALVES, A. PAÚL, E. ALVES, Morphological Characterisation and Impurity Studies of SiC/SiC Composites, European Fusion Development Agreement, Association Euratom/IST, TASK: TW3- TTMA 001 – Deliverable D1, Final Report (2004).

Communications

- O. OKHAY, A. WU, P. M. VILARINHO, I. M. REANEY, A. R. RAMOS, Studies on MgO solubility in SrTiO₃ thin films, *XXXIX^a Reunião da Soc. Port. Microscopia Electrónica e Biologia Celular*, Aveiro, November 2004.
- J.G.CORREIA, K. LORENZ, E. RITA, M.R. SILVA, J.C.SOARES, R. NEDELEC, R. VIANDEN, D. EVERSHEIM, K. FREITAG, Switching ON / OFF “after-effects” with the e⁻- γ and γ - γ TDPAC techniques on 181Ta:GaN- n and -p, *XIII Int. Conf. on Hyperfine Interactions (HFI 2004) and XVII Int. Symp. on Nuclear Quadrupole Interactions (NQI 2004)*, Bonn, Germany Sept. 2004, Oral
- J.G.CORREIA, K. LORENZ, E. RITA, M.R. SILVA, J.C. SOARES, R. NEDELEC, R. VIANDEN, D. EVERSHEIM, K. FREITAG, Switching ON / OFF “after-effects” with the e⁻- γ and γ - γ TDPAC techniques on 181Ta:GaN- n and -p, *ISOLDE workshop* 14 Dec. 2004, Oral
- A.M.L. LOPES, J.P. ARAUJO, J.J. RAMASCO, E. RITA, J.G. CORREIA, R. SURYANARAYANAN, W. TROGER, T. BUTZ, Direct observation of ultra-slow uncorrelated polaron dynamics in LaMnO₃.12, *ISOLDE workshop* 14 December 2004, Oral
- J.G. CORREIA (Spokesperson), J.P. ARAUJO et al. 2nd addendum to experiment IS360, “Studies of High-Tc Superconductors Doped with Radioactive Isotopes”, *CERN-INTC-2004-006, P-86 Add. 2 CERN/ISC 96-30, ISC P86, IS360*. approved by the INTC-CERN scientific committee in 2004.
- A.M.L. LOPES, J.P. ARAUJO, E. RITA, J.G. CORREIA, V.S. AMARAL, T.M. MENDONCA, P. B. TAVARES, Y. TOMIOKA, Y. TOKURA and the ISOLDE Collaboration, Local probe studies near the charge order transition in Pr_{0.65}Ca_{0.35}MnO₃, *Joint Eur. Magnetic Symp. JEMS'04*, Sept. 2004, Dresden, Germany, Oral
- A.M.L. LOPES, J.P. ARAUJO, E. RITA, J.G. CORREIA, V.S. AMARAL, T.M. MENDONCA, P. B. TAVARES, Y. TOMIOKA, Y. TOKURA Local probe studies on Pr_{1-x}Ca_xMnO₃ system: magnetic and charge-ordered phases, *XIII Int. Conf. on Hyperfine Interactions (HFI 2004) and XVII Int. Symp. on Nuclear Quadrupole Interactions (NQI 2004)*, Sept. 2004, Bonn, Germany, Oral
- A.C. MARQUES, J.G. CORREIA, A. RUDGE, J.C. SOARES, U. WAHL, and P. WEILHAMMER, Development of Cooled Detectors for Detection of Low Energy Electrons in Emission Channeling Experiments, *Int. Meeting CIMA collaboration*, Ann Arbor, USA 23-28 July 2004, Oral
- E. RITA, J.G. CORREIA, U. WAHL, E. ALVES, A.M.L.LOPES, J.C.SOARES, ISOLDE COLLABORATION, PAC studies of implanted ¹¹¹Ag in single-crystalline ZnO, *XIII Int. Conf. on Hyperfine Interactions and XVII Int. Symp. on Nuclear Quadrupole Interactions*, Bonn, Germany, 23- 27.08.2004, poster.
- U. WAHL, J.G. CORREIA, E. RITA, E. ALVES, J.C. SOARES, B. DE VRIES, V. MATIAS, A. VANTOMME, ISOLDE COLLABORATION, “Recent emission channeling studies in wide band gap semiconductors”; *XIII Int. Conf. on Hyperfine Interactions and XVII Int. Symp. on Nuclear Quadrupole Interactions*, Bonn, Germany, 23-27.08.2004, invited oral.
- B. DE VRIES, V. MATIAS, A. VANTOMME, U. WAHL, E.M.C. RITA, E. ALVES, A.M.L. LOPES, J.G. CORREIA, ISOLDE COLLABORATION, Influence of oxygen and carbon co-implantation on the lattice site of Er in GaN, *2004 Spring Meet. Eur. Materials Research Society (E-MRS), Symp. L: InN, GaN and AlN and related materials, their heterostructures and devices*, Strasbourg, France, 24.-28.5.2004, oral
- B. DE VRIES, A. VANTOMME, U. WAHL, J.P. ARAÚJO, S. PERERIRA, J.G. CORREIA, ISOLDE COLLABORATION, Emission channeling studies of Ce and Pr in GaN; *2004 Spring Meet. Eur. Materials Research Society (E-MRS), Symp. L: InN, GaN and AlN and related materials, their heterostructures and devices*, Strasbourg, France, 24.-28 May 2004, poster
- K. LORENZ, U. WAHL, E. ALVES, T. WOJTOWICZ, P. RUTERANA, S. RUFFENACH, O. BRIOT, Amorphisation of GaN during processing with rare earth ion beams; *2004 Spring Meet. Eur. Materials Research Society (E-MRS), Symp. L: InN, GaN and AlN and related materials, their heterostructures and devices*, Strasbourg, France, 24.-28.5.2004, oral
- S. DALMASSO, R.W. MARTIN, P.R. EDWARDS, V. KATCHKANOV, K.P. O'DONNELL, K. LORENZ, E. ALVES, U. WAHL, RENiBEI NETWORK, Cathodoluminescence spectroscopy and wavelength dispersive X-ray measurements on Tm-implanted GaN, *2004 Spring Meet. Eur. Materials Research Society (E-MRS), Symp. L: InN, GaN and AlN and related materials, their*

- heterostructures and devices*, Strasbourg, France, 24.-28 May 2004, poster.
- T. WOJTOWICZ, P. RUTERANA, K. LORENZ, U. WAHL, E. ALVES, Investigation of Tm implantation defects in GaN, *2004 Spring Meet. Eur. Materials Research Society (E-MRS), Symp. L: InN, GaN and AlN and related materials, their heterostructures and devices*, Strasbourg/France, 24.-28 May 2004, poster.
 - A. COLDER, P. MARIE, T. WOJTOWICZ, P. RUTERANA, S. EIMER, L. MÉCHIN, K. LORENZ, U. WAHL, E. ALVES, V. MATIAS, M. MAMOR, B. PIPELEERS, A. VANTOMME, Characterisation by Deep Level Transient Spectroscopy of defects in rare earth ion implanted GaN, *2004 Spring Meet. Eur. Materials Research Society (E-MRS), Symp. L: InN, GaN and AlN and related materials, their heterostructures and devices*, Strasbourg, France, 24.-28.5.2004, poster.
 - M. PERES, J. WANG, M. J. SOARES, A. NEVES, T. MONTEIRO, E. RITA, U. WAHL, J.G. CORREIA, E. ALVES, PL studies on ZnO single crystals implanted with Thulium ions, *2004 Spring Meet. Eur. Materials Research Society (E-MRS), Symp. L: InN, GaN and AlN and related materials, their heterostructures and devices*, Strasbourg, France, 24.-28.5.2004, poster.
 - F. VAZ, L.REBOUTA, E. ALVES, Thermal stability of Ti-Si nanocomposite thin films, *2004 Spring Meeting of the European Materials Research Society (E-MRS)*
 - B. DE VRIES, U. WAHL, A. VANTOMME, J.G. CORREIA, ISOLDE COLLABORATION, Lattice location of rare earth atoms in GaN, *2004 Int. Sci. Meeting of the Belgian Physical Society*, Mons, Belgium, 25.-26.5.2004, poster.
 - U. WAHL, J.G. CORREIA, J.C. SOARES, ISOLDE COLLABORATION, Lattice location studies of implanted Cu in SrTiO₃, *14th Int. Conf. on Ion Beam Modification of Materials, Monterey, California, 5.-10.9.2004*, poster.
 - E. RITA, E. ALVES, U. WAHL, J.G. CORREIA, T. MONTEIRO, and M.J. SOARES, Stability and luminescence studies of Tm and Er implanted ZnO single crystals, *14th Int. Conf. on Ion Beam Modification of Materials, Monterey, California, 5.-10.9.2004*, poster.
 - B. DE VRIES, V. MATIAS, A. VANTOMME, U. WAHL, E.M.C. RITA, E. ALVES, A.M.L. LOPES, and J.G. CORREIA, Influence of O and C co-implantation on the lattice site of Er in GaN, *14th Int. Conf. on Ion Beam Modification of Mat., Monterey, California, 5.-10.9.2004*, poster.
 - E. RITA, U. WAHL, J.G. CORREIA, E. ALVES, J.C. SOARES, ISOLDE COLLABORATION, Lattice location and stability of implanted Fe in ZnO, *2004 ISOLDE Workshop and Users Meeting*, CERN, Geneva, Switzerland, 13.-15.12.2004, oral.
 - R.W. MARTIN, I. ROGAN, K. WANG, U. WAHL, K. LORENZ, E. ALVES, S. DALMASSO, K. O'DONNELL, S. RUFFENACH, O. BRIOT, RENIBEI NETWORK, Optical activation of implanted Eu ions in AlN-capped GaN, *2004 Fall Meet. Materials Research Soc., Symp. E: GaN, AlN, InN, and their Alloys*, Boston, Massachusetts, 29.11.-3.12.2004, oral.
 - K. LORENZ AND R. VIANDEN, Anomalous temperature dependence of the EFG in AlN measured with the PAC-probes ¹¹¹In and ¹⁸¹Hf, *XIII Int. Conf. on HyperFine Interactions and XVII Int. Symp. on Nuclear Quadrupole Interaction*, Bonn, Germany, August 23-27, 2004, oral
 - K. LORENZ, E. ALVES, T. MONTEIRO, M.J. SOARES, Implantation and annealing studies of rare earth implanted AlN, *Symp. L: InN, GaN, AlN and related materials, their heterostructures and devices*, Spring Meet. Eur. Mat. Research Soc. (E-MRS), Strasbourg, France, 24.-28.5.2004, poster
 - K. LORENZ, E. ALVES, T. MONTEIRO, M.J. SOARES, P.J.M. SMULDERS, Optical doping of AlN by rare earth implantation, *14th Int. Conf. on Ion Beam Modification of Materials (IBMM 2004)*, Monterey, USA, September 5-10, 2004, poster
 - M. VILARIGUES, O Vitral Medieval Português: um estudo material, *EITEC 2004 – Encontro Int. de Tecnologias Aplicadas à Museologia, Conservação e Restauro*, Lisboa, Portugal, 4-5 Nov. 2004, oral.
 - N. FRANCO, I.V. YAVOROVSKIY, A. FONSECA, J.A.V. GOUVEIA, C. MARQUES, E. ALVES, R. FERREIRA, P.P. FREITAS, N.P. BARRADAS, Rutherford backscattering and X-ray reflectivity analysis of tunnel barriers, *ECAART-Eur. Conf. on Accelerators in Applied Research and Technology, 20-24 Sept. 2004*, poster.
 - C. MARQUES, A. WEMANS, M.J.P. MANEIRA, A. KOZANECKI, R.C. DA SILVA, E. ALVES, Site location and optical properties of Eu implanted sapphire, *ECAART-Eur. Conf. on Accelerators in Applied Research and Technology, 20-24 Sept. 2004*, poster.
 - A.R. RAMOS, C. MARQUES, E. ALVES, A.C. MARQUES, R.M. ALMEIDA, Stability of erbium and silver implanted in silica-titania sol-gel films, *ECAART-Eur. Conf. on Accelerators in Applied Research and Technology. 20-24 September 2004*, poster.
 - V. CORREGIDOR, E. ALVES, L.C. ALVES, N. P. BARRADAS, TH. DUFFAR, N. FRANCO, C. MARQUES, A. MITRIC, Compositional and structural characterisation of GaSb and GaInSb, *ECAART-Eur. Conf. on Accelerators in Applied Research & Technology. 20-24 Sept. 2004*, poster.

- E. ALVES, L.C. ALVES, N. FRANCO, R. DA SILVA, A. PAÚL, J.B. HEGEMAN, F. DRUYTS Characterization and stability studies of titanium beryllides , *23^o Symp. on Fusion Technology, 20-24 de September, Venice, Italy.*
- A. FONSECA, N. FRANCO, E. ALVES, N. P. BARRADAS, J. LEITÃO, N. SOBOLEV, High resolution backscattering studies of nanostructured semiconducting and magnetic materials, *18th Int. Conf. on the Applications of Accelerators to Research and Industry, 10-15 October 2004, USA.*

Theses

PhD

- L.C. ALVES, *A Microsonda Nuclear do CFNUL/ITN: Desenvolvimento Experimental e Aplicações*, PhD in Physics, Faculdade de Ciências, Universidade de Lisboa, June 2004. Supervisors: J. Carvalho Soares (ITN/FCUL) and M. Breese (Univ. Singapore).

Condensed Matter Physics

Journals

Published

- F.M.A. MARGAÇA, A.N. FALCÃO AND F.G. CARVALHO, Guidelines for the Implementation of XY variable-geometry Converging Multichannel Collimation in a Specific SANS Facility, *J. Appl. Cryst.* **37** (2004) 210-215.

Accepted for publication or in press

- N. DJOURELOV, T. SUZUKI, M. MISHEVA, F.M.A. MARGAÇA, I.M. MIRANDA SALVADO, Positron Annihilation Lifetime Study of Organic-inorganic Hybrid Materials Prepared by Irradiation, *J. Non-Cryst. Sol.*

Conference Proceedings

Published

- F.M.A. MARGAÇA, M. MOREIRA, J. TEIXEIRA, R.F. SILVA, I.M. MIRANDA SALVADO, Porosity Assessment of β -spodumen Glass Matrix Composites by Small Angle Neutron Scattering, *Materials2003, II Int. Materials Symp.*, Caparica, Portugal, 14-16 April 2003, paper in <http://www.ttp.net/download>, *Mater. Sci. Forum*, **455** (2004) 230-234.

Accepted for publication or in press

- I.F. GONÇALVES, J.F. SALGADO, A.N. FALCÃO, F.M.A. MARGAÇA F.G. CARVALHO, MCNP Simulation to optimize In-pile and Shielding Components of the Portuguese SANS Instrument, Proc. *ICRS-10*, Funchal, Madeira, 9-10 May 2004, *J. Radiation Protection Dosimetry*

- L.M. FERREIRA, A.N. FALCÃO, M.H. GIL, Modification of LDPE Molecular Structure by Gamma Irradiation for Bioapplications, Proc. 6th Int. Symp. on Ionizing Radiation and Polymers, Houffalize, Belgium, 25-30 September 2004, *Nucl. Inst. & Meth*

Communications

- A.N. FALCÃO, M. CARRAPIÇO, F.M.A. MARGAÇA, M. ZANG, I.M. MIRANDA SALVADO, P.M. VILARINHO, Small Angle Neutron Scattering Study of PZT Fibers Prepared by Sol-Gel, *Electroceramics IX, Int. Conf. on Electroceramics and their Applications*, Cherbourg, France, May 2004, poster

Internal Reports

- D. SILVA, M. CARRAPIÇO, I.F. GONÇALVES, A.N. FALCÃO, In-Pile Collimators for Beam Tubes #4 and #6 of the Greek Research Reactor, ITN (2004).

Solid State

Books and Book Chapters

- V. GAMA, M. T. DUARTE, Metalocenium Salts of Radical Anion Bis-(dichalcogenate) metalates, Joel S. Miller and Marc Drillon (eds), Magnetism: Molecules to Materials V, Wiley-VCH, Weinheim, 2004, in press.

Journals

Published

- H. ALVES, D. SIMÃO, I. C. SANTOS, V. GAMA, R. T. HENRIQUES, H. NOVAIS, M. ALMEIDA, The Series of Transition Metal Bis(dicyanobenzenedithiol) Complexes; $[M(\text{dcbdt})_2]$, $M = \text{Fe, Co, Ni, Pd, Pt, Cu, Au}$ and Zn , *Eur. J. Inor. Chem.* **6** (2004) 1318-1329.
- D. BELO, I. C. SANTOS, M. ALMEIDA, 5,6-dicyano-2,3-dithiopyrazine (dcdmp) chemistry; Au(III)(dcdmp)_2 complexes and 2,3,7,8-tetracyano-1,4,6,9-tetraazothianthrene, *Polyhedron* **23** (2004) 1351-1353.
- J. BRANCO, C.J. DIAS, A.P. GONÇALVES, T.A. GASCHÉ, A. PIRES DE MATOS, Actinide heterobimetallic oxides (Th,U). Reduction studies, *Thermochimica Acta* **420** (2004) 169-173.
- E. CANADELL, M. ALMEIDA, J. BROOKS, Electronic band structure of $\alpha\text{-(Per)}_2\text{M(mnt)}_2$ compounds, *Eur. Phys. J. B* **42** (2004) 453-456.
- J. CANALES-VÁZQUEZ, F.M. FIGUEIREDO, J.C. WAERENBORGH, W. ZHOU, J.R. FRADE, J.T.S. IRVINE, Microdomain texture and microstructures of Fe^{4+} containing $\text{CaTi}_{0.4}\text{Fe}_{0.6}\text{O}_{3-\delta}$, *J. Solid State Chem.* **177** (2004) 3105-3113.
- J. CARRETAS, J. BRANCO, J. MARÇALO, N. VALENTE, J.C. WAERENBORGH, A. CARVALHO, N. MARQUES, A. DOMINGOS, A. PIRES de MATOS, Synthesis and characterization of samarium, europium and ytterbium aryloxides. Crystal structure of $[\text{Yb}_6(\text{OH})_4(\text{OC}_6\text{H}_4\text{OMe})_{14}]\cdot 4\text{THF}$, *J. Alloys Comp.* **374** (2004) 289-292.
- D. de CARO, H. ALVES, M. ALMEIDA, S. CAILLEUX, M. EL GADDARI, C. FOULMANN, I. Malfant, F. SENOCQ, J. FRAXEDAS, A. ZWICK, L. VALADE, Conducting oriented- $[(N\text{-C}_4\text{H}_9)_4\text{N}]_2[\text{Ni}(\text{dcbdt})_2]_5$ and new $(\text{bedt-TTF})[\text{Ni}(\text{dcbdt})_2]$ phases as thin films, electrodeposited on silicon substrates, *J. Mat. Chem.* **14** (2004) 2801-2806.
- E. CORONADO, J.R. GALÁN-MASCARÓS, C. GIMÉNEZ-SAIZ, C.J. GÓMEZ-GARCÍA, E. MARTÍNEZ-FERRERO, M. ALMEIDA, E.B. LOPES, Metallic Conductivity in a Polyoxovanadate Radical Salt of bedt-TTF : Synthesis, Structure and Physical Characterization of $\alpha\text{-ET}_5[\text{H}_3\text{V}_{10}\text{O}_{28}]4\text{H}_2\text{O}$, *Adv. Materials* **16** (2004) 324-327.
- E. CORONADO, J.R. GALÁN-MASCARÓS, C. GIMÉNEZ-SAIZ, C.J. GÓMEZ-GARCÍA, E. MARTÍNEZ-FERRERO, M. ALMEIDA, E.B. LOPES, S. CAPELLI, R.M. LLUSAR, New Conducting Radical Salts Based Upon Keggin-Type Polyoxometalates and Perylene, *J. Mat. Chem.* **14** (2004) 1867-1872.
- J. C. DIAS, E.B. LOPES, I.C. SANTOS, M.T. DUARTE, R.T. HENRIQUES, M. ALMEIDA, X. RIBAS, C. ROVIRA, J. VECIANA, P. FOURY-LEYLEKIAN, J.-P. POUGET, P. AUBAN-SENZIER, D. JÉROME, Structural and Electrical Properties of $(\text{DT-TTF})_2\text{Cu}(\text{Mnt})_2$, *J. Physique IV* **114** (2004) 497-499.
- F. M. FIGUEIREDO, M. R. SOARES, V. V. KHARTON, E. N. NAUMOVICH, J. C. WAERENBORGH, J. R. FRADE, Properties of $\text{CaTi}_{1-x}\text{Fe}_x\text{O}_{3-\delta}$ Ceramic Membranes, *J. Electroceramics* **13** (2004) 627-636.
- D. GRAF, J.S. BROOKS, E.S. CHOI, S. UJI, J.C. DIAS, M. MATOS, M. ALMEIDA, Suppression of a Charge Density Wave Ground State in High Magnetic Fields: Spin and Orbital Mechanisms, *Phys. Rev. B* **69** (2004) 125113-125117.
- D. GRAF, E.S. CHOI, J.S. BROOKS, R.T. HENRIQUES, M. ALMEIDA, M. MATOS, High Magnetic Field Induced Charge Density Wave States in a Quasi-One-Dimensional Organic Conductor, *Phys. Rev. Letters* **93** (2004) 076406-076422.
- V.V. KHARTON, A.L. SHAULA, M.V. PATRAKEEV, J.C. WAERENBORGH, D.P. ROJAS, N.P. VYSHATKO, E.V. TSIPIIS, A.A. YAREMCHENKO, F.M.B. MARQUES, Oxygen ionic and electronic transport in apatite-type solid electrolytes, *J. Electrochem. Soc.* **151** (2004) A1236-A1246.
- E. B. LOPES, J. C. DIAS, J. P. SEIÇA, I. C. SANTOS, J. MORGADO, R. T. HENRIQUES, M. ALMEIDA, X. RIBAS, K. WURST, J. VECIANA, C. ROVIRA, P. FOURY-LEYLEKIAN, The Low and High Temperature Phase Transitions in the Family of Compounds $(\text{Dt-Ttf})_4[\text{M}(\text{L})_2]_3$, $\text{M} = \text{Au, Cu}$ and $\text{L} = \text{pds, pdt}$, *J. Physique IV* **114** (2004) 537-539.
- H. NAKOTTE; S. EL-KHATIB, A. CHRISTIANSON, R.B. VON DREELE, K. PROKEŠ; V. SECHOVSKÝ; L.C.J. PEREIRA; J.C. SPIRLET, J. REBIZANT, Effect of temperature on hybridization and magnetism in

- U₂Pd₃Sn and U₂Ni₂In, *J. Alloys Comp.* **369** (2004) 273-276.
- H. NÖEL, A.P. GONÇALVES, J.C. WAERENBORGH, Characterization of the new ternary uranium-iron aluminide UFe₂Al₁₀, *Intermetallics* **12** (2004) 189-194
 - X. RIBAS, J. C. DIAS, J. MORGADO, K. WURST, E. MOLINS, E. RUIZ, M. ALMEIDA, J. VECIANA, C. ROVIRA, Novel Cu^{III} Bis-1,2-Dichalcogenene Complexes With Tunable 3d Framework Through Alkaline Cation Coordination. A Structural and Theoretical Study, *Chemistry a European J.* **10** (2004) 1691-1704.
 - X. RIBAS, J.C. DIAS, J. MORGADO, K. WURST, I.C. SANTOS, M. ALMEIDA, J. VIDAL-GANCEDO, J. VECIANA, C. ROVIRA, Alkaline Side-Coordination Strategy for the Design of NiII And NiIII Bis-1,2-Diselenolene Complexes Based Materials, *Inor. Chem.* **43** (2004) 3631-3641.
 - X. RIBAS, J.C. DIAS, J. MORGADO, K. WURST, M. ALMEIDA, T. PARELLA, J. VECIANA, C. ROVIRA Stepwise Construction of New Oligomeric 1,2-Diselenolene Platinum(IV) Complexes, *Angewandte Chemie, Int. Ed. in English* **43** (2004) 4049-4052.
 - X. RIBAS, D. MASPOCH, D. RUIZ-MOLINA, J. DIAS, J. MORGADO, M. ALMEIDA, K. WURST, G. VAUGHAN, J. VECIANA, C. ROVIRA, 2d Layered Coordination Polymer Based On An Unusual Mixed Valence Cu(III)/Cu(I) Bis-1,2-Diselenolene Compound, *Crystal Eng. Comm.* **6** (2004) 589-592.
 - C. RIZZOLI, P.S. SALAMAKHA, O.L. SOLOGUB, D. BELLETTI, A.P. GONÇALVES AND M. ALMEIDA, X-Ray Single-Crystal Investigation of Rare Earth-Osmium Silicides, *J. Alloys Comp.* **363** (2004) 217-222.
 - D.P. ROJAS, L.M. da SILVA, A.N. MEDINA, F.G. GANDRA, L.P. CARDOSO, J.C. WAERENBORGH, Magnetic properties of the La_{1-x}U_xPd₂Ga₃ series of compounds, *J. Magn. Magn. Mater.* **272-276** (2004) e1-e3.
 - D.P.ROJAS, L.M DA SILVA, F.G.GANDRA, J.P.SEIÇA, E.B.LOPES, L.C.J PEREIRA, J.C.WAERENBORGH, Thermodynamic and electronic transport properties of CeNiIn₂ *Physica B* **352**, (2004) 372-377
 - P. S. SALAMAKHA, C. RIZZOLI , O. L. SOLOGUB, D. BELLETTI, O. S. PROTSYK, A. P. GONÇALVES, M. ALMEIDA, PrRuSi₂ and Nd(Ru_xNi_{1-x})Si₂, Monoclinic Variants of The CeNiSi₂ Structure, *J. Alloys Comp.* **368** (2004) 269-273.
 - P.S. SALAMAKHA, O.L. SOLOGUB, C. RIZZOLI, J.R. HESTER, J. STEPIEN-DAMM, A.P. GONÇALVES, E.B. LOPES, M. ALMEIDA, Ternary RPt₄B (R=La, Ce, Pr, Nd) compounds; structural and physical characterisation, *Intermetallics* **12** (2004) 1325-1334.
 - P.S. SALAMAKHA, O.L. SOLOGUB, C. RIZZOLI, A.P. GONÇALVES, M. ALMEIDA Rh₃B_{2-x}: a new structure type of a binary boride with triclinic symmetry, *J. Solid State Chem.* **177** (2004) 4237-4243.
 - S. SÉRIO, J. C. WAERENBORGH, M. ALMEIDA, M. M. CRUZ, M. GODINHO, Magnetic Properties Of YFe_xAl_{12-x} (4.4 ≤ x ≤ 5.8), *J. Magn. Magn. Mat.* **272-276** (2004) E1947.
 - A.L. SHAULA, V.V. KHARTON, J.C. WAERENBORGH, D.P. ROJAS, E.V. TSIPIS, N.P. VYSHATKO, M.V. PATRAKEEV, F.M.B. MARQUES, Transport properties and Mössbauer spectra of Fe-substituted La_{10-x}(Si,Al)₆O₂₆ apatites, *Mater. Res. Bull.* **39** (2004) 763-773C.
 - O. SOLOGUB, P. SALAMAKHA, C. RIZZOLI, A. P. GONÇALVES, H. IPSER, M. ALMEIDA, Structural Investigation of the Ternary RM₃B₂ Compounds, *J. Alloys Comp.* **373** (2004) 202-207.
 - O. SOLOGUB, P. SALAMAKHA, A.P. GONÇALVES, H. IPSER, M. ALMEIDA Crystal Structure of the CeIr₃ Compound, *J. Alloys Comp.* **373** (2004) L5-L7.
 - A.M. STRYDOM, G. BONFAIT, I. CATARINO, L.C.J. PEREIRA, P.DE V. DU PLESSIS, Magnetic field dependence of the non-Fermi-liquid state in ferromagnetic CePd_{1-x}Ni_x, *J. Magn. Magn. Mat.* **272-276** (2004) 207-208.
 - J.C. WAERENBORGH, D.P. ROJAS, A.L. SHAULA, V.V. KHARTON, F.M.B. MARQUES, Defect formation in Gd₃Fe₅O₁₂-based garnets: a Mössbauer spectroscopy study *Mater. Lett.* **58** (2004) 3432-3436.
 - A.A. YAREMCHENKO, A.L. SHAULA, V.V. KHARTON, J.C. WAERENBORGH, D.P. ROJAS, N.P. VYSHATKO, M.V. PATRAKEEV, F.M.B. MARQUES, Ionic and electronic conductivity of La_{9.83-x}Pr_xSi_{4.5}Fe_{1.5}O_{26±δ} apatites, *Solid State Ionics* **171** (2004) 51-59.
- Accepted for publication or in press**
- D. BELO, J. MENDONÇA, M. J. FIGUEIRA, I.C. SANTOS, M. ALMEIDA, M.T. DUARTE, C. ROVIRA, J. VECIANA, Transition Metal Complexes with Dithiothiophene Ligands, *Eur. J. Inor. Chem.*
 - D. BELO, J. MENDONÇA, M. J. FIGUEIRA, H. ALVES, I.C. SANTOS, L.C. PEREIRA, V.GAMA, R.T. HENRIQUES, M. ALMEIDA, M.T. DUARTE C. ROVIRA, J. VECIANA, Nickel Complexes, based on Dithiothiophene Ligands; Magnetic Properties of Metallocenium Salts-II, *Inor. Chem.*

- F.M. FIGUEIREDO, V.V. KHARTON, J.C. WAERENBORGH, A.P. VISKUP, E.N. NAUMOVICH, J.R. FRADE Influence of Microstructure on the Electrical Properties of Iron-Substituted Calcium Titanate Ceramics, *J. Amer. Ceram. Soc.*
- A.P. GONÇALVES, H. NOËL, Isothermal section at 850°C of the U-Fe-Al ternary system, *Intermetallics*.
- A.P. GONÇALVES, L. HAVELA, Crystal Structure of a new UGa₂ phase, *J. Alloys Comp.*
- V.V. KHARTON, J.C. WAERENBORGH, D.P. ROJAS, A.A. YAREMCHENKO, A.A. VALENTE, A.L. SHAULA, M.V. PATRAKEEV, F.M.B. MARQUES, J. ROCHA Mössbauer spectra and catalytic behavior of perovskite-like SrFe_{0.7}Al_{0.3}O_{3-δ}, *Catal Lett.*
- L.C.J. PEREIRA, D.P. ROJAS, J.C. WAERENBORGH Structural and magnetic characterization of DyFe_xSn₂ (0 ≤ x ≤ 0.3) intermetallics, *Intermetallics*.
- X. RIBAS, M. MAS-TORRENT, A. PÉREZ-BENÍTEZ, J. C. DIAS, H. ALVES, E.B. LOPES, R.T. HENRIQUES, E. MOLINS, I.C. SANTOS, K. WURST, P. FOURY-LEYLEKIAN, M. ALMEIDA, J. VECIANA, C. ROVIRA, Organic spin-ladders from TTF derivatives, *Adv. Funct. Mat.*
- X. RIBAS, A. SIRONI, N. MASCIOCCHI, E. B. LOPES, M. ALMEIDA, J. VECIANA, C. ROVIRA, X-ray Powder Diffraction Characterization of New Crystalline Phases of Nickel and Platinum-Doped [(DT-TTF)n][Au(mnt)₂] (n = 1, 2), *Inorganic Chemistry*.
- D.P. ROJAS, L.M da SILVA, F.G. GANDRA, L.C.J PEREIRA, P. SALAMAKHA, E.B. LOPES, J.C. WAERENBORGH, Evidences for intermediate valence behavior in CeNi₅In, *J. Alloys Comp.*
- P.S. SALAMAKHA, O.L. SOLOGUB, C. RIZZOLI, J.R. HESTER, J. STEPIÉN-DAMM, A. P. GONÇALVES, E.B. LOPES, M. ALMEIDA, Ternary RPt₄B (R=La, Ce, Pr, Nd) compounds; structural and physical characterisation, *Intermetallics*.
- A.L. SHAULA, V.V. KHARTON, J.C. WAERENBORGH, D.P. ROJAS, F.M.B. MARQUES, Oxygen ionic and electronic transport in apatite ceramics, *J. European Ceram. Soc.*
- A.L. SHAULA, V.V. KHARTON, M.V. PATRAKEEV, J.C. WAERENBORGH, D.P. ROJAS, F.M.B. MARQUES, Defect Formation and Transport in SrFe_{1-x}Al_xO_{3-δ}, *Ionics*.
- P. M. VAN DER WERFF, E. MARTINEZ-FERRERO, S. R.BATTEN, P.JENSEN, C. RUIZ-PÉREZ, M.ALMEIDA, J.C. WAERENBORGH, J. D. CASHION, B. MOUBARAKI, J. R. GALÁN-MASCARÓS, J. M. MARTINEZ-AGUDO, E. CORONADO, K. S. MURRAY, Hybrid Materials Containing Organometallic Cations and 3-D Anionic Metal Dicyanamide Networks of Type [Cp*₂M][M'(dca)₃], *J. Chem. Soc., Dalton Trans.*
- J.C. WAERENBORGH, L. C. J. PEREIRA, A. P. GONÇALVES, H. NOËL, Crystal structure, ⁵⁷Fe Mössbauer spectroscopy and magnetization study of U_xFe₆Sn₆ (0 ≤ x ≤ 0.6), *Intermetallics*.

Conference Proceedings

Published

- A. DIONÍSIO, M. RODRIGUES, M.A. SEQUEIRA BRAGA, H. ANDRÉ, J.C. WAERENBORGH, D.P. ROJAS, M.J. BASTO, M.J. MATIAS, L. AIRES-BARROS, Study of heat induced colour modifications in monument limestones, *Proc. 6th Int. Symp. on Conservation of Monuments in the Mediterranean Basin*, Lisbon, Portugal. Eds. L. Aires-Barros, F. Zezza, A. Dionísio, M. Rodrigues, 237-242, Lisbon (2004).

Communications

- H. ALVES, D. SIMÃO, I.C. SANTOS, E.B. LOPES, R.T. HENRIQUES, V. GAMA, H.M. NOVAIS, M. ALMEIDA, The series of M(dcbdt)₂ complexes, *Workshop on Molecular Materials*, ITN, Feb. 2004, oral.
- D. BELO, M.J. FIGUEIRA, J. MENDONÇA, H. ALVES, I.C. SANTOS, E.B. LOPES, L.C. PEREIRA, M.T. DUARTE, V. GAMA, R.T. HENRIQUES, M. ALMEIDA, C. ROVIRA, J. VECIANA, Metal bistihiophenedithiolates as new building blocks in molecular materials, *Workshop on Molecular Materials*, ITN, Feb. 2004, oral.
- D. BELO, M. FIGUEIRA, J. MENDONÇA, I.C. SANTOS, M.T. DUARTE, V. GAMA, R.T. HENRIQUES, M. ALMEIDA, C. ROVIRA, J. VECIANA, Os Aniões [M(xtpdt)₂]^{x-} como Unidades Estruturais em Novos Materiais Moleculares, *XIX Encontro Nac. SPQ*, Coimbra, Portugal, April 2004, poster.
- D. BELO, M.J. FIGUEIRA, J. MENDONÇA, H. ALVES, I. C. SANTOS, E. B. LOPES, L.C. PEREIRA, M.T. DUARTE, V. GAMA, R. T. HENRIQUES, M. ALMEIDA, C. ROVIRA, J. VECIANA, Metal Bistihiophenedithiolates as Building Blocks in Molecular Materials, *22nd Eur. Crystallographic Meet., ECM22*, Budapest, Hungary, August 2004, poster.
- J. DIAS, Searching for new spin ladder systems: DT-TTF salts with Cu(mnt)₂ and Au(bdt)₂, *Workshop on Molecular Materials*, ITN, Feb. 2004
- A. DIONÍSIO, M. RODRIGUES, M.A. SEQUEIRA BRAGA, H. ANDRÉ, J.C. WAERENBORGH, D.P. ROJAS, M.J. BASTO,

- M.J. MATIAS, L. AIRES-BARROS Study of heat induced colour modifications in monument limestones *6th Int. Symp. on Conservation of Monuments in the Mediterranean Basin*, Lisbon, April 2004, oral.
- P. GACZYŃSKI H. DRULIS, Mössbauer effect studies of $RFe_{11}Ti$ and $RFe_{11}TiH$ ($R = Y, Gd, Er$), *Workshop on Magn.&Intermetallics*, Nov. 2004.
 - A.P. GONÇALVES, A.S. CASCAIS, P.A. CARVALHO, O. TOUGAIT, H. NOËL, Study of the U-Fe-B ternary system, *11th Workshop on Magnetism and Intermetallics*, Nov. 2004, oral.
 - A.P. GONÇALVES, F. WASTIN, E. COLINEAU, P. JAVORSKÝ, M. ALMEIDA, J. REBIZANT, Crystallographic and physical properties of the $AnFe_4Al_8$ ($An=U, Np, Pu$) compounds, *34^{ièmes} Journées des Actinides*, Heidelberg, Germany 17-20 April 2004, oral.
 - A.P. GONÇALVES, M. ALMEIDA, P.S. SALAMAKHA, O.L. SOLOGUB, L.C. ALVES, A.S. CASCAIS, P.A. CARVALHO, Determination of boron content in ternary uranium intermetallic borides, *34^{ièmes} Journées des Actinides*, Heidelberg, April 2004, poster.
 - D. GRAF, E.S. CHOI, J.S. BROOKS, J.C. DIAS, R.T. HENRIQUES, M. ALMEIDA, M.MATOS, Charge density wave to mixed density wave phase transition at high magnetic fields, *ICSM 2004*, Wollongong, Australia 28 June-2 July 2004, oral.
 - E.B. LOPES, J.C. DIAS, J.P. SEIÇA, I.C. SANTOS, J. MORGADO, R.T. HENRIQUES, M. ALMEIDA, X. RIBAS, K. WURST, J. VECIANA, C. ROVIRA, P. FOURY-LEYLEKIAN, Phase Transitions Sequence in the Family of Compounds $(DT-TTF)_4[M(L)_2]_3$, $M=Au, Cu$ and $L=pds, pdt, bdt$, *Workshop on Molecular Materials*, ITN, Feb. 2004, poster.
 - L.C.J. PEREIRA, A.P. GONÇALVES, J.C. WAERENBORGH, D.P. ROJAS, M. ALMEIDA, H. NOËL, Crystallographic and magnetic properties of the UFe_3Al_9 aluminide, *34 Journées des Actinides*, Heidelberg, April 2004, poster.
 - L.C.J. PEREIRA, D.P. ROJAS, J.C. WAERENBORGH, Isothermal section of the Dy-Fe-Sn phase diagram at 800°C, *11th Workshop on Magnetism and Intermetallics*, Nov. 2004, oral.
 - S. RABAÇA, L.C.J. PEREIRA, I.C. SANTOS, M.T. DUARTE, V. GAMA, Magnetic materials based on decamethylmetallocenium donors and metal bis-benzenedithiolate acceptors, *Workshop on Molecular Materials*, ITN, Feb. 2004, poster.
 - S. RABAÇA, L.C.J. PEREIRA, I.C. SANTOS, M.TERESA DUARTE, V. GAMA Structure-magnetic properties correlation in electronic transfer salts based on decamethylmetallocenium and on transition metal bis decalcogenates, *Workshop on Molecular Mater.*, ITN, Feb. 2004.
 - D.P. ROJAS, E. B. LOPES, J.P. SEIÇA, L.C.J. PEREIRA, J.C. WAERENBORGH, L.M. da SILVA, F.G. GANDRA, Thermodynamic and electronic transport properties of $CeNiIn_2$ *Int. Conf. on Strongly Correlated Electron Systems, SCES'04*, Karlsruhe, Germany, July 2004, poster.
 - I. C. SANTOS, D. BELO, E. B. LOPES, M.T. DUARTE, R. T. HENRIQUES, M. ALMEIDA, 5,6-Dicyano-2,3-dithiopyrazine (dcdmp) Chemistry: $Au(III)(dcdmp)_2$ Complex, Charge Transfer Salts with TTF type Donors and (tctata)", *22nd Eur.n Crystallographic meeting ECM22*, Budapest, Hungary, August 2004, poster.
 - S. SÉRIO, J.C. WAERENBORGH, M.M. CRUZ, S. MIRAGLIA, D. FRUCHART, M. ALMEIDA, M. GODINHO, Study of the magnetic interaction in $(U)_xFe_xAl_{12-x}$ systems, *11th Workshop on Magnetism and Intermetallics*, Nov. 2004, oral.
 - D. SIMÃO, H. NOVAIS, H. ALVES, M. ALMEIDA, Synthesis of New Ligands and Donors Based on Cyanobenzenedithiolates, *Workshop on Molecular Materials*, ITN, Feb. 2004, poster.
 - A.L. SHAULA, V.V. KHARTON, F.M.B. MARQUES, A.A. YAREMCHENKO, J.C. WAERENBORGH, D.P. ROJAS, Oxygen ionic and electronic transport in apatite solid electrolyte ceramics *Electroceramics IX, Int. Conf. on Electroceramics and their Applications*, Cherbourg, France, May 2004, oral.
 - A.L. SHAULA, V.V. KHARTON, M.V. PATRAKEEV, J.C. WAERENBORGH D.P. ROJAS, F.M.B. MARQUES, Defect Formation and Transport in $SrFe_{1-x}Al_xO_{3-\delta}$ *Patras Conf. on Solid State Ionics - Transport properties*, Greece, Sept. 2004, oral.
 - J.C. WAERENBORGH Mössbauer spectroscopy of molecular materials in *ITN Workshop on Molecular Materials; 30 Years of Research in Portugal*, ITN, Sacavém, Feb. 2004, poster.

Theses

PhD

- H. ALVES, *Materiais Moleculares com Base em Ditiolatos de Metais de Transição*, PhD in Chemistry, Instituto Superior Técnico, 2004. Supervisors: M. Almeida (ITN) and R.T. Henriques (IST).
- S. RABAÇA, *Síntese e caracterização estrutural e magnética de sais de transferência electrónica baseados em decametilmetalocénios e em aceitadores planares*, PhD in Chemistry, Instituto Superior Técnico, 2004. Supervisors: V. Gama (ITN) and T. Duarte (IST).
- S. SÉRIO, *Estudo das interações magnéticas dos sistemas $(U,Y)Fe_xAl_{12-x}$* , PhD in Physics, Lisbon University, 2004. Supervisor: M. Godinho (FCUL).

Atmospheric Elemental Dispersion

Journals

Published

- A.M.G. PACHECO, M.C. FREITAS, M.G. VENTURA, A Nonparametric Assessment of the Relative Output of INAA and PIXE on Joint Determinands in Environmental Samples (Atmospheric Biomonitoring), *Nucl. Inst. and Meth. B* **222** (2004) 587-592.
- M.C. FREITAS, A.M.G. PACHECO, M.G. VENTURA, Anthropogenic Sources of PM_{2.5}'s Arsenic, Lead, Mercury and Nickel in Northern Metropolitan Lisbon, Portugal, *Nucl. Inst. and Meth. B* **219-220** (2004) 153-156.
- A.P. MARQUES, M.C. FREITAS, M.A. REIS, H.TH. WOLTERBEEK, T. VERBURG, MCCTFA Applied to Differential Biomonitoring in Sado Estuary Region, *J. Radioanal. Nucl. Chem.* **259/1** (2004) 35-40.
- A.M.G. PACHECO, M.C. FREITAS, Are Lower Epiphytes Really that Better than Higher Plants for Indicating Airborne Contaminants? An Insight into the Elemental Contents of Lichen Thalli and Tree Bark by INAA, *J. Radioanal. Nucl. Chem.* **259/1** (2004) 27-33.
- M.M. FARINHA, M.C. FREITAS, S.M. ALMEIDA, Air Quality Control Monitoring at an Urban and Industrialized Area, *J. Radioanal. Nucl. Chem.* **259/2** (2004) 203-207.
- M.C. FREITAS, S.M. ALMEIDA, M.A. REIS, M.G. VENTURA, Neutron Activation Analysis: Still a Reference Method for Air Particulate Matter Measurements, *J. Radioanal. Nucl. Chem.* **262/1** (2004) 235-239.
- R. JAYASEKERA, M.C. FREITAS, M.F. ARAÚJO, Bulk and Trace Element Analysis of Spices: the Applicability of k₀-Standardization and Energy Dispersive X-Ray Fluorescence, *J. Trace Elem. Med. Biol.* **17/4** (2004) 221-228.
- A.P. MARQUES, M.C. FREITAS, M.A. REIS, H.TH. WOLTERBEEK, T. VERBURG, J.J.M. DE GOEIJ, Biomonitoring-transplants: effects of positioning towards wind direction, *J. Atmos. Chem.*
- R.M. GODINHO, M.C. FREITAS, H.TH. WOLTERBEEK, Assessment of Lichen Vitality during a Transplantation Experiment to a Polluted Site, *J. Atmos. Chem.*
- M.M. FARINHA, Z. SLEJKOVEC, J.T. VAN ELTEREN, H.TH. WOLTERBEEK, M.C. FREITAS, Arsenic Speciation in Lichens and in Coarse and Fine Air Particulate Matter by HPLC-UV-HG-AFS, *J. Atmos. Chem.*
- B.J. VIEIRA, M.C. FREITAS, A.F. RODRIGUES, A.M.G. PACHECO, P.M. SOARES, N. CORREIA, Element-Enrichment Factors in Lichens from Terceira, Santa Maria and Madeira Islands (Azores and Madeira Archipelagoes), *J. Atmos. Chem.*
- R. JAYASEKERA, M.C. FREITAS, Concentration Levels of Major and Trace Elements in Rice from Sri Lanka as Determined by the k₀-Standardization Method, *Biol. Tr. Elem. Res.*
- B.J. VIEIRA, P.M. SOARES, M.I. PRUDÊNCIO, M.C. FREITAS, A.F. RODRIGUES, Chemical Characterization (Rare Earths and other Elements) of Soils from Santa Maria and Terceira Islands (Azores, Portugal), *Geociências.*
- A.P. MARQUES, M.C. FREITAS, H.TH. WOLTERBEEK, O. M. STEINEBACH, T. VERBURG, J.J.M. DE GOEIJ, Cell-Membrane Damage and Element Leaching in Transplanted *Parmelia sulcata* Lichen Related to Ambient SO₂, Temperature and Precipitation, *Env. Sci. Techn.*
- A.F. RODRIGUES, A. APTROOT, M.C. FREITAS, E. SOUSA, C. RODRIGUES, A.S. AMARAL, B. VIEIRA, P. SOARES, Additions to the Lichen Flora Found on *Cryptomeria japonica* D. Don in the Azores, *Arquipélago-Life e Marine Sciences.*
- M.C. FREITAS, M.M. FARINHA, M.G. VENTURA, S.M. ALMEIDA, M.A. REIS, A.M.G. PACHECO, Gravimetric And Chemical Features of Airborne PM₁₀ and PM_{2.5} in Mainland Portugal, *Env. Monit. and Assess.*

Accepted for publication or in press

- A. MACHADO, M.C. FREITAS, A.M.G. PACHECO, Relative Response of Biological and Non-Biological Monitors in a Coastal Environment, *J. Atmos. Chem.*
- M.C. FREITAS, A.M.G. PACHECO, Bioaccumulation of Cobalt in *Parmelia sulcata*, *J. Atmos. Chem.*

- M.C. FREITAS, M.M. FARINHA, M.G. VENTURA, S.M. ALMEIDA, M.A. REIS, A.M.G. PACHECO, Atmospheric Selenium in an Industrialized Area of Portugal, *J. Radioanal. Nucl. Chem.*
- S.M. ALMEIDA, C.A. PIO, M.C. FREITAS, M.A. REIS, M.A. TRANCOSO, Source Apportionment of Fine and Coarse Particulate Matter in a Sub-Urban Area at the Western European Coast, *Atmos. Environ.*
- M.T. VASCONCELOS, Resposta de Monitores Biológicos e Não Biológicos a Elementos Químicos numa Atmosfera Industrial e Urbana, *Proc. 8ª Conf. Nac. de Ambiente*, Lisboa, 27-29 October, (ed. CD-ROM).
- M.C. FREITAS, M.G. VENTURA, S.M. ALMEIDA, M.A. REIS, A.M.G. PACHECO, Control of Air Particulate Matter Analysis by Comparing Two Techniques, *Proc. Int. Conf. On QA/QC in the Field of Emission and Air Quality Measurements: Harmonization, Standardization and Accreditation*, Prague, 21-23 May, (ed. European Commission, Ispra).

Conference Proceedings

Published

- A.F. RODRIGUES, M.C. FREITAS, B. VIEIRA, P. SOARES, E. SOUSA, A.S. AMARAL, C. RODRIGUES, A. APTROOT, Mercury Levels on the Eastern Flanks of the Mid-Atlantic Ridge (Azores Region), *Proc. 7th Int. Conf. on Mercury as a Global Pollutant*, Ljubljana, June/July, (ed. RMZ-Materials and Geoenvironment), vol. 51/2, Ljubljana, 2004
- M. LODENIUS, C. FREITAS, M. HORVAT, E. STEINNES, How to Measure Dry Deposition of Mercury? – Some Questions and Critical Remarks, *Proc. 7th Int. Conf. on Mercury as a Global Pollutant*, Ljubljana, June/July, (ed. RMZ-Materials and Geoenvironment), vol. 51/2, Ljubljana, 2004.
- M.C. FREITAS, M.M. FARINHA, M.G. VENTURA, A.M.G. PACHECO, Mercury and Selenium Levels in the Atmosphere, *Proc. 7th Int. Conf. on Mercury as a Global Pollutant*, Ljubljana, June/July, (ed. RMZ-Materials and Geoenvironment), vol. 51/2, Ljubljana, 2004.
- R.M. GODINHO, M.C. FREITAS, H.TH. WOLTERBEEK, Estudo do Comportamento de Duas Espécies de Liqueus Epifíticos Usados como Biomonitorios de Poluição Atmosférica, *Proc. 8ª Conf. Nac. de Ambiente*, Lisboa, 27-29 October, (ed. CD-ROM).
- S.M. ALMEIDA, C.A. PIO, M.C. FREITAS, M.A. REIS, M.A. TRANCOSO, Contribuição da Circulação Automóvel para o Aerossol Atmosférico na Zona Norte de Lisboa, *Proc. 8ª Conf. Nac. de Ambiente*, Lisboa, 27-29 October, (ed. CD-ROM).
- M. BATISTA, J.P. CABRAL, M.T. VASCONCELOS, A. MACHADO, M.C. FREITAS, A.M.G. PACHECO, Comparação entre a Capacidade em Acumular Chumbo, Cobre, Níquel e Estrôncio da Atmosfera, por Parte de Materiais Biológicos e Substratos Orgânicos Sintéticos, *Proc. 8ª Conf. Nac. de Ambiente*, Lisboa, 27-29 October, (ed. CD-ROM).
- A. MACHADO, M.C. FREITAS, A.M.G. PACHECO, M. BATISTA, J.P. CABRAL,

Other publications

- A. MACHADO, Results of the Arsenic Speciation in Lichens and Bark, Bilateral Slovenia/Portugal Collaboration Report (2004), Ljubljana, Slovenia.
- A. MACHADO, INAA, ICP-MS and ICP-OES of Lichens and Bark, 1st and 2nd IAEA POR/04001 Training Reports (2004), Delft, The Netherlands.
- B. VIEIRA, Compton suppression and ENAA in Aerosol Samples, 1st, 2nd and 3rd IAEA C6/POR/03003 Training Reports (2004), Austin, Texas, USA.
- M.G. VENTURA, Results of the Selenium Speciation in Food Items, Bilateral Slovenia/Portugal Collaboration Report (2004), Ljubljana, Slovenia.
- M.G. VENTURA, INAA of Selenium in Food Items, Report to Gulbenkian Foundation (2004), Delft, The Netherlands.
- M.A. REIS, L.C. ALVES, T. PINHEIRO, R.M. GODINHO, P. C. CHAVES, INAA and PIXE for the Microcharacterization of Trace Elements and Their Species in Environmental samples, Bilateral Slovenia/Portugal Collaboration Report (2004), Lisbon, Portugal.

Communications

- M.G. VENTURA, M.C. FREITAS, A.M.G. PACHECO, Selenium Contents in Typical Constituents of Portuguese Diets, *2nd Int. IUPAC Symp. on Trace Elements in Food*, Brussels, Belgium, October 2004, poster.
- E. FERREIRA, M.C. FREITAS, A.M.G. PACHECO, Nutrientes and Other Elements in Honey from Azores and Mainland Portugal – How to Deal with Samples for INAA, *50th Annual Conf. on Bioassay, Analytical and Environmental Radiochemistry*, Cincinnati, Ohio, USA, November 2004, poster.
- M.C. FREITAS, B.J. VIEIRA, A.F. RODRIGUES, A.M.G. PACHECO, P.M. SOARES, Identification of Sources in Terceira

- and Santa Maria Islands (Azores, Portugal) through Epiphytic Lichens, *50th Annual Conf. on Biossay, Analytical and Envir. Radiochem.*, Cincinnati, USA, Nov. 2004, poster.
- M.C. FREITAS, A.M.G. PACHECO, Elemental Concentrations in Environmental Samples Around Utility Power Plants, *Sym. on Air Quality Measurement Methods and Technology – 2004*, Durham, USA, April 2004, poster.
 - B.J. VIEIRA, M.C. FREITAS, A.F. RODRIGUES, A.M.G. PACHECO, P.M. SOARES, An Intercomparison Between the Responses of Biological Monitors to Anthropogenic and Natural Inputs in a Mixed Environment, *11th Int. Conf. on Modern Trends in Activation Analysis*, Guildford, UK, June 2004, poster.
 - M.C. FREITAS, A.M.G. PACHECO, Chemical Concentrations in Aerosols Near Portuguese Power Plants by INAA and PIXE, *11th Int. Conf. on Modern Trends in Activation Analysis*, Guildford, UK, June 2004, poster.
 - M.C. FREITAS, C.S. HIPÓLITO, Capability of INAA and PIXE in Sediment Extractable Contents Determination, *11th Int. Conf. on Modern Trends in Activation Analysis*, Guildford, UK, June 2004, oral.
 - A.F. RODRIGUES, M.C. FREITAS, B. VIEIRA, P. SOARES, E. SOUSA, A.S. AMARAL, C. RODRIGUES, A. APTROOT, Mercury Levels on the Eastern Flanks of the Mid-Atlantic Ridge (Azores Region), *7th Int. Conf. on Mercury as a Global Pollutant*, Ljubljana, Slovenia, June/July 2004, poster.
 - M. LODENIUS, C. FREITAS, M. HORVAT, E. STEINNES, How to measure dry deposition of mercury? – Some questions and critical remarks, *7th Int. Conf. on Mercury as a Global Pollutant*, Ljubljana, Slovenia, June 2004, oral.
 - M.C. FREITAS, M.M. FARINHA, M.G. VENTURA, A.M.G. PACHECO, Mercury and selenium levels in the atmosphere, *7th Int. Conf. on Mercury as a Global Pollutant*, Ljubljana, June/July 2004, poster.
 - I.R. KHAN, L.E. FERREIRA, M.C. FREITAS, A.M.G. PACHECO, Water Quality in Rivers of the Natural Park of 'Sudoeste Alentejano e Costa Vicentina', Portugal, *ESA 89th Annual Meeting*, Portland, USA, August 2004, poster.
 - R.M. GODINHO, M.C. FREITAS, H.TH. WOLTERBEEK, Estudo do Comportamento de Duas Espécies de Líquenes Epifíticos Usados como Biomonitorios de Poluição Atmosférica, *8^a Conf. Nac. de Ambiente*, Lisboa, Oct.2004, oral.
 - S.M. ALMEIDA, C.A. PIO, M.C. FREITAS, M.A. REIS, M.A. TRANCOSO, Contribuição da Circulação Automóvel para o Aerossol Atmosférico na Zona Norte de Lisboa, *8^a Conf. Nac. de Ambiente*, Lisboa, October 2004, oral.
 - M. BATISTA, J.P. CABRAL, M.T. VASCONCELOS, A. MACHADO, M.C. FREITAS, A.M.G. PACHECO, Comparação entre a Capacidade em Acumular Chumbo, Cobre, Níquel e Estrôncio da Atmosfera, por Parte de Materiais Biológicos e Substratos Orgânicos Sintéticos, *8^a Conf. Nac. de Ambiente* Lisboa, October 2004, oral.
 - A. MACHADO, M.C. FREITAS, A.M.G. PACHECO, M. BATISTA, J.P. CABRAL, M.T. VASCONCELOS, Resposta de Monitores Biológicos e Não Biológicos a Elementos Químicos numa Atmosfera Industrial e Urbana, *8^a Conf. Nac. de Ambiente* Lisboa, October 2004, poster.

Theses

PhD

- S.M. ALMEIDA, Composição e Fontes do Aerossol Atmosférico numa Região Urbano/Industrial, Aveiro University, 2004. Supervisors: M. C. Freitas (ITN) and C. Pio (Aveiro University)

MSc

- R.M. GODINHO, Cultura de *Gymnodinium microreticulatum* a partir de Quistos Isolados da Costa Portuguesa: Estudo da Germinação, Crescimento e Enquistamento, Universidade Nova de Lisboa, 2004. Supervisors: V. Brotas (Universidade Nova de Lisboa), the MSc ended with R.M. Godinho as part of the group DEA/ITN.
- M. BATISTA, Comparação e Desempenho de Biomonitorios e Monitores Orgânicos Sintéticos, como Acumuladores de Cobre, Chumbo, Estrôncio e Níquel Atmosféricos, Porto University, 2004. Supervisors: J. P. Cabral (Porto University), R. Boaventura (Porto University) and M. C. Freitas (ITN, scientific responsible project POCTI/38411/CTA/01, basis of the MSc).

Graduation

- E. FERREIRA, Mel: Carga Microbiana e Composição Elementar, University of Trás-os-Montes, Vila Real, 2004. Supervisors: M. C. Freitas (ITN), M. L. Botelho (ITN) and C. Martins (Trás-os-Montes e Alto Douro University).

Elemental Characterization and Speciation Group

Journals

Published

- M.C. FREITAS, S.M. ALMEIDA, M.A. REIS, M.G. VENTURA, Neutron activation analysis: Still a reference method for air particulate matter measurements, *J. Rad. Nucl. Chem.* **262** (2004) 235-239.
- A.P. MARQUES, M.C. FREITAS, M.A. REIS, H.TH. WOLTERBEEK, T. VERBURG, MCTTFA applied to differential biomonitoring in Sado estuary region, *J. Rad. Nucl. Chem.* **259** (2004) 35-40.

Accepted for publication or in press

- M.A. REIS, P.C. CHAVES, J.C. SOARES, Particle Induced X-ray Emission – Relative Yield Ion Energy Dependence, an IBA chemical speciation method, *Nucl. Inst. and Meth. B*
- M.A. REIS, P.C. CHAVES, V. CORREGIDOR, N.P. BARRADAS, E. ALVES, F. DIMROTH AND A.W. BETT, Detection angle resolved PIXE and the equivalent depth concept for thin films characterization, *X-ray Spectrometry*.

Conference Proceedings

Published

- M.A. REIS, L.C. ALVES, M.C. FREITAS, B. VAN OS, J. DE GOEIJ, H. T. H. WOLTERBEEK, Lichen *Parmelia sulcata* surface-layer model coefficients, *Proc. III Int. Workshop on Biomonitoring of atmospheric pollution (with emphasis on trace elements)*, IJS, LjubLjana 2004 (ed. CD-ROM).

- M.A. REIS, P.C. CHAVES, V. CORREGIDOR, N.P. BARRADAS, E. ALVES, F. DIMROTH AND A.W. BETT, Grazing detection geometry for PIXE characterization of thin films, *Proc. X Int. Conf. on PIXE and its Analytical Applications*, Portorož, Slovenia, June 4-8, IJS, LjubLjana 2004 (ed. CD-ROM).
- P.C. CHAVES, M.A. REIS, Comparative study of W-K and L shells relative yield ion energy dependence, *Proc. X Int. Conf. on PIXE and its Analytical Applications*, Portorož, Slovenia, June 4-8, IJS, LjubLjana 2004 (ed. CD-ROM).
- P.C. CHAVES, O.R. OLIVEIRA, V. CORREGIDOR, N.P. BARRADAS, M.A. REIS, CdTe detector use in PIXE characterization of Sn doped CdO thin films, *Proc. X Int. Conf. on PIXE and its Analytical Applications*, Portorož, Slovenia, June 4-8, IJS, LjubLjana 2004 (ed. CD-ROM).

Communications

- M.A. REIS, A.P. MARQUES, M.M. FARINHA, B. VIEIRA, M.C. FREITAS, H.TH. WOLTERBEEK. Biomonitoring a Macroscopic Approach to Environmental Monitoring, *Seminar IGBP 2004*, Évora, 15 - 17 April 2004, poster.

Internal Reports

- M.A. REIS et al., First Report on the “INAA and PIXE for the microcharacterization of trace elements and their species in environmental samples” Portugal-Slovenia Cooperation.
- M.A. REIS, P.C. CHAVES, CEEFI Annual Report 2004, ITN/Física/REL-01/2004.

Environmental Analytical Chemistry

Journals

Published

- P.M. ALVARENGA, M.F. ARAÚJO, J.A. SILVA, Elemental uptake and root-leaves transfer in *Cistus ladanifer* L. growing in a contaminated pyrite mining area (Aljustrel-Portugal), *Water, Air, and Soil Pollution* **152(1/4)** (2004) 81-96.
- M.F. ARAÚJO, L. BARROS, A.C. TEIXEIRA, A.A. MELO, EDXRF study of prehistoric artefacts from Quinta do Almaraz (Cacilhas, Portugal), *Nucl. Inst. & Meth. B* **213** (2004) 741-746.
- P.M. CARREIRA, J.M. MARQUES, M. ANDRADE, H. MATIAS, R. LUZIO, F.M. SANTOS, D. NUNES, Isotopic, geochemical and geophysical studies to improve Caldas de Monção thermomineral waters conceptual circulation model (NW-Portugal), *Revista de Xeologia Galega e do Hercínico Peninsular* **29** (2004) 147-170.
- C. CORREDEIRA, M.F. ARAÚJO, Anthropogenic influences in the chemical composition of sediment cores from the Guadiana Estuary adjacent region – SW Iberian Continental Shelf, *Geochimica et Cosmochimica Acta* **68/11S** (2004) A371.
- R. JAYASEKARA, M.C. FREITAS, M.F. ARAÚJO, Bulk and trace element analysis of spices: the applicability of k_0 -standardization and energy dispersive X-ray fluorescence, *J. of Trace Elem. in Medicine & Biology* **17/4** (2004) 221-228.
- J.M. MARQUES, J. ESPINHA MARQUES, P.M. CARREIRA, L. AIRES-BARROS, J. MARTINS CARVALHO, F. SODRÉ BORGES, A new approach on the hydrogeochemical signatures of Caldas do Moledo thermomineral system (N Portugal): Implications for the hydrogeologic conceptual model elaboration, *Revista de Xeologia Galega e Hercínico Peninsular* **29** (2004) 119-146.
- A.M. SOARES, M.F. ARAÚJO, L.C. ALVES, Análise química não-destrutiva de artefactos em ouro pré e proto-históricos: alguns exemplos, *Revista do Instituto Português de Arqueologia* **7/2** (2004) 125-138.
- A.C. SOUSA, P. VALÉRIO, M.F. ARAÚJO, Metalurgia antiga do Penedo do Lexim (Maфра). Calcolítico e Idade do Bronze, *Revista do Instituto Português de Arqueologia* **7/2** (2004) 97-117.
- P. VALÉRIO, A.A. de MELO, L. de BARROS, M.F. ARAÚJO, Archaeometallurgical study of pre-historical artefacts from Quinta do Almaraz (Cacilhas, Portugal) – Abstract, *Historical Metallurgy* **38/1** (2004) 62.

Accepted for publication or in press

- M.F. ARAÚJO, C. CORREDEIRA, A. GOUVEIA, Rare earth elements distribution in sediments of the Northwestern Iberian Continental Shelf, *J. Radioanalytical and Nuclear Chemistry*.
- M.F. ARAÚJO, F. ROCHA, M. LAMBERIA, A. GOUVEIA, T. DRAGO, Geochemical and mineralogical palaeoenvironmental patterns in the Douro estuary, *Revista Memórias e Notícias*.
- P.M. CARREIRA, D. BURDLOFF, M.F. ARAÚJO, Razões isotópicas ($\delta^{13}\text{C}$ e $\delta^{18}\text{O}$) em estudos ambientais: sistemas aquíferos costeiros e sedimentos da plataforma – Portugal, *Revista Memórias e Notícias*.
- P.M. CARREIRA, J.M. MARQUES, R.C. GRAÇA, L. AIRES-BARROS, Isotopic constraints in ^{14}C dating CO_2 -rich mineral waters: a case study of some hydromineral systems of N-Portugal, *IAH-Hydrogeology Journal (Springer)*.
- P.M. CARREIRA, A.M. MONGE SOARES, P. VALÉRIO, M.F. ARAÚJO, T. BARBOSA, Teores em trítio nas águas de precipitação em Portugal continental: variabilidade e factores condicionantes, *Revista Memórias e Notícias*.
- C. CORREDEIRA, M.F. ARAÚJO, A. GOUVEIA, J.M. JOUANNEAU, Geochemical characterisation of sediment cores of the Minho/Galicia coastal zone and continental shelf, *Ciencias Marinãs*.
- T. DRAGO, C. FREITAS, F. ROCHA, M. CACHÃO, J. MORENO, F. NAUGHTON, C. FRADIQUE, F. ARAÚJO, T. SILVEIRA, A. OLIVEIRA, J. CASCALHO, F. FATELA, Paleoenvironmental evolution of estuarine systems during the last 14000 years – the case of Douro estuary (NW Portugal), *J. Coastal Research*.
- P.G. FERNANDES, M. BAHIR, J. MENDONÇA, P. CARREIRA, Y. FAKIR, M.O. SILVA, Anthropogenic features within Sines (Portugal) and Essaouira (Morocco) coastal aquifers by PCA – hydrochemical evolution comparative study, *IAH – Hydrogeology Journal (Springer)*.
- P.G. FERNANDES, P.M. CARREIRA, M.O. SILVA, New approach in the characterization of Sines coastal aquifer (S Portugal) using environmental isotope techniques, *Cadernos do Laboratorio Xeoloxico de Laxe*.
- L. GOURCY, L. ARAGUAS; A. ARGIROU, P. BONO, P.M. CARREIRA, M.F. DIAZ-TEIJEIRO, A. DIRICAN, A.M. EI-ASRAG, J. GAT, N. HORVATINCIC, B. OUDA, D. RANK, Y. TRAVI, P. VRECA, Isotopic composition of precipitation in relation to air circulation patterns in the Mediterranean basin, *Chemical Geology*.

- A. MACHADO, F. ROCHA, M.F. ARAÚJO, F. VITALI, C. GOMES, J.A. DIAS, Geochemical characterisation of surficial sediments from the Southwestern Iberian Continental Shelf, *Ciencias Mariñas*.
- A. MACHADO, F. ROCHA, C. GOMES, M.F. ARAÚJO, A. GOUVEIA, A. DIAS, Mineralogical and geochemical characterization of superficial sediments of the Southwestern Iberian continental shelf, *Thalassas*.
- J.C. SENNA-MARTINEZ, M.F. ARAÚJO, P. VALÉRIO, H. PEIXOTO, Estudos sobre a arqueometalurgia do Grupo Baiões/Santa Luzia: uma ponta de lança do Castro da Senhora das Necessidades (Sernancelhe), *O Arqueólogo Português*.
- P.G. FERNANDES, P.M. CARREIRA, M.O. SILVA, Análise multivariada (ACP) na identificação de contaminações por actividades agrícolas e pecuárias - Sistema aquífero da Bacia do Sado, *Actas das Jornadas Luso-Espanholas sobre as Águas Subterrâneas no Sul da Península Ibérica - APRH*, Faro, 23-27 June (2004) ed. CD-ROM.
- J.M. MARQUES, M.J. MATIAS, M.J. BASTO, R.C. GRAÇA, L. AIRES-BARROS, M. ANDRADE, P.M. CARREIRA, M. GOFF, L. ROCHA, Water-rock interaction responsible for the origin of high pH mineral waters (S-Portugal), *Proc.11th Int. Symp. Water-Rock Interaction*, Saratoga Springs, USA, 27 June – 2 July (2004) pp. 293-297.

Conference Proceedings

Published

- M. BAHIR, M.O. SILVA, J.L. MENDONÇA, P. CARREIRA, P.G. FERNANDES, M. BENBIBA, M. ELMERAJI, Apports des analyses isotopiques à la connaissance du fonctionnement des aquifères de la cuvette synclinal d'Essaouira (Maroc Occidental), *Séminaire Int. Isotopes et Ressources en Eau*, Marrakech, Maroc, 30 Sept. – 1 Oct. (2004) pp. 14-16.
- D. BURDLOFF, M.F. ARAUJO J.M. JOUANNEAU, Sources of fine organic matter on the Southwestern Iberian Continental Shelf, *Book of Extended Synopses (IAEA-CN-118) Int. Conf. on Isotopes in Environmental Studies, Monaco, 25-29 October* (2004) pp. 417-421, poster.
- P.M. CARREIRA, P.G. FERNANDES, D. NUNES, M.F. ARAÚJO, M.O. SILVA, Contribution of environmental isotopes in the identification of groundwater salinization mechanisms in the Lower Tagus – Lower Sado basin – Portugal, *Book of Extended Synopses (IAEA-CN-118) Int. Conf. on Isotopes in Environmental Studies, Monaco, 25-29 October* (2004) pp. 240-241.
- P.M. CARREIRA, J.M. MARQUES, M. ANDRADE, D. NUNES, F.M. SANTOS, Evolução hidrogeoquímica e isotópica das águas termominerais de Caldas de Monção, *Actas do 7º Congresso da Água/Água-Qualidade de Toda a Vida*, Lisboa, 8-12 March (2004) ed. in CD-ROM.
- P.M. CARREIRA, P. VALÉRIO, D. NUNES, M.F. ARAÚJO, Temporal and seasonal variations of stable isotopes ($\delta^2\text{H}$ and $\delta^{18}\text{O}$) and tritium in precipitation over Portugal, *Book of Extended Synopses (IAEA-CN-118) Int. Conf. on Isotopes in Environmental Studies, Monaco, 25-29 October* (2004) pp. 112-113.
- P.G. FERNANDES, P.M. CARREIRA, D.N. ANDRÉ, M.O. SILVA, Modelo de funcionamento do sistema aquífero da bacia do Sado: resultados isotópicos e físico-químicos, *Actas das Jornadas Luso-Espanholas sobre as Águas Subterrâneas no Sul da Península Ibérica - APRH*, Faro, 23-27 June (2004) ed. CD-ROM.
- F.A. MONTEIRO SANTOS, J.M. MARQUES, M. ANDRADE, P.M. CARREIRA, A. ANDRADE AFONSO, A. DUPIS, R.C. GRAÇA, L.A. AIRES-BARROS, L.A. MENDES VICTOR, Origin and circulation paths of CO₂-rich mineral waters (N-Portugal): a geophysical and geochemical approach, *Actas do 4ª Assembleia Luso Espanhola de Geodesia e Geofísica*, Figueira da Foz, 3-7 February (2004) pp. 399-400.

Accepted for publication or in press

- E. FIGUEIREDO, M.F. ARAÚJO, A.A. MELO, EDXRF studies of prehistoric metal artefacts from “Castro de Pragança” (Estremadura, Portugal). *Metallurgy – a Touchstone for Cross-Cultural Interaction*, London, England, 28-30 April (2005).
- P. VALÉRIO, M.F. ARAÚJO, J.C. SENNA-MARTINEZ, J.L.I. VAZ, Non-invasive EDXRF analysis of artefacts from Baiões/Santa Luzia Late Bronze Age metallurgy. *Metallurgy – a Touchstone for Cross-Cultural Interaction*, London, England, 28-30 April (2005).

Communications

- M.F. ARAÚJO, A.C. CORREDEIRA, P. VALÉRIO, EDXRF elemental characterisation of fine sediments deposited along the Portuguese Shelf – origin and dispersal pathways, *Abstracts Book EXRS 2004, Eur. Conf. X-Ray Spectrometry*, Alghero, Italy, 6-11 June (2004), oral.
- M.F. ARAÚJO, F. ROCHA, T. DRAGO, Geochemical and mineralogical sedimentary palaeoenvironmental records in the Douro estuary – Portugal, *23rd IAS Meeting of Sedimentology*, Coimbra, 15-17 September (2004) poster.
- P.M. CARREIRA, M.F. ARAÚJO, P.G. FERNANDES, M.O. SILVA, Environmental isotopes as tracers of salt origin in coastal aquifers

- South Portugal, *Séminaire Int. Isotopes et Ressources en Eau*, Marrakech, Maroc, 30 September – 1 October (2004) pp. 10-11, oral.
- P.M. CARREIRA, M.F. ARAÚJO, D. NUNES, Isotopic composition of rain and water vapour samples from Lisbon region – characterization of monthly and daily events, *Research Co-ordination Meeting “Isotopic composition in the Mediterranean basin in circulation patterns and climate”*, Vienna, Austria, March 2004, oral.
 - P.M. CARREIRA, P.G. FERNANDES, D. NUNES, Identification of interaction process between surface waters and shallow groundwater within Sado hydrographical basin, Southwest Portugal, *1st Research Coordination Meeting – CRP F3.30.15. Isotopic Age and Composition of Streamflow as Indicators of Groundwater Sustainability*, Vienna, Austria, Nov. 2004, oral.
 - P.M. CARREIRA, J.M. MARQUES, M. ANDRADE, D. NUNES, Groundwater flow patterns in Caldas de Monção thermomineral systems evaluated from isotopic geochemical data – NW Portugal, *Int. Workshop on the Application of Isotope Techniques in Hydrological and Environmental Studies, Paris, France, 6-8 September* (2004) pp. 47-48, oral.
 - C. CORREDEIRA, M.F. ARAÚJO, Anthropogenic influences in the chemical composition of sediment cores from the Guadiana Estuary adjacent region – SW Iberian Continental Shelf, *13th Annual V.M. Goldschmidt Conf.* Copenhagen, Denmark, June 2004, poster.
 - A. CRUCES, M.F. ARAÚJO, M.C. FREITAS, M. PIEDADE, C. ANDRADE, Contributo da geoquímica na identificação da origem dos sedimentos lagunares, *1^o Seminário sobre Sistemas Lagunares Costeiros*, Vila Nova de Santo André, 30 September – 2 October (2004) oral.
 - A. CRUCES, M.C. FREITAS, M.F. ARAÚJO, C. ANDRADE, T. FERREIRA, Environmental characterisation of the interdunal depression of Lagoa da Sancha (SW Portugal), *Interdisciplinary Symp. on Wetlands*, Faro, 25-28 May (2004) oral.
 - P.G. FERNANDES, P.M. CARREIRA, M.O. SILVA, Anthropogenic inputs traced by hydrogeochemical features in Sines coastal aquifers - SW Portugal, *Séminaire Int. Isotopes et Ressources en Eau*, Marrakech, Maroc, 30 September – 1 October (2004) pp. 18-19, oral.
 - P.G. FERNANDES, P.M. CARREIRA, M.O. SILVA, Identification of anthropogenic inputs through PCA into Sines Coastal Aquifer (SW Portugal), *32nd Int. Geological Congress*, Florence, Italy, 20-28 August (2004) ed. CD-ROM, poster.
 - P.G. FERNANDES, P.M. CARREIRA, M.O. SILVA, Use of environmental isotopes in assessing Sado Coastal Aquifer dynamics, SW Portugal, *32nd Int. Geological Congress*, Florence, Italy, 20-28 August (2004) ed. CD-ROM, poster.
 - L. GOURCY, L. ARAGUAS; A. ARGIROU, P. BONO, P.M. CARREIRA, M.F. DIAZ-TEIJEIRO, A. DIRICAN, A.M. EL-ASRAG, J. GAT, N. HORVATINCIC, B. OUDA, D. RANK, Y. TRAVI, P. VRECA, Isotopic composition of precipitation in relation to air circulation patterns in the Mediterranean basin, *Int. Workshop on the application of Isotope Techniques in Hydrological and Environmental Studies*, Paris, France, 6-8 September (2004) pp. 129-130, oral.
 - A.R. MIRANDA, M.F. ARAÚJO, M. MATOS, H. SILVA, V. MATOS, Influência de actividades antrópicas na composição de solos na região de Lisboa, *I Congresso Ibérico da Ciência do Solo*, Bragança, 15-18 June (2004) p. 104, poster.
 - F. MORENO, M.F. ARAÚJO, J. MORENO, F. FATELA, T. DRAGO, Geoquímica de sedimentos fluvio-estuarinos do rio Minho: avaliação preliminar do actual grau de enriquecimento/contaminação por metais, *Congresso Int. sobre o Rio Minho 2004*, Melgaço, May 2004, oral.
 - M. PIEDADE, M.C. FREITAS, M.F. ARAÚJO, A. CRUCES, C. ANDRADE, Caracterização geoambiental da lagoa de Santo André e seus afluentes, *1^o Seminário sobre Sistemas Lagunares Costeiros*, Vila Nova de Santo André, 30 September – 2 October (2004) pp. 48-49, poster.

Theses

Graduation

- E. FIGUEIREDO, A espectrometria de fluorescência de raios X na caracterização química de um conjunto de artefactos metálicos pré-históricos do Castro de Pragança, Graduation in Conservation and Restoration, Universidade Nova de Lisboa, 2004. Supervisor: M. F. Araújo (ITN).
- M. PIEDADE, Caracterização Geoambiental da Bacia Hidrográfica da Lagoa de Santo André, Graduation in Geology, Universidade de Lisboa, December 2004. Supervisor: M. F. Araújo (ITN) and M. Conceição Freitas (Dept. Geologia, FCUL).

Biomedical Studies

Journals**Published**

- M.D. YNSA, F.J. AGER, J.C. MILLÁN, M.A. GÓMEZ-ZUBELBIA, T. PINHEIRO, Effect of Hormone Replacement Therapy on the elemental contents of uterus tissue, *Biol. Trace Elem Res.* **101** (2004) 37-46.
- J. SILVA, P. FILIPE, R. SILVA, J.L. CIRNE-DE-CASTRO, L. ALVES, A. VERÍSSIMO, T. PINHEIRO, Localisation of titanium dioxide nanoparticles in human skin, *J. Europ. Academy of Dermatol. Venereol* **18 Suppl.2** (2004) 170-171.

Accepted for publication or in press

- P. NAPOLEÃO, T. PINHEIRO, C. SOUSA REIS, Elemental characterisation of tissues of Octopus vulgaris along the Portuguese coast, *Sc. Total Env.*
- P. NAPOLEÃO, C. SOUSA REIS, L.C. ALVES, T. PINHEIRO, Morphologic characterisation and elemental distribution of Octopus vulgaris Cuvier, 1797 vestigial shell, *Nucl Instr. and Meth.*
- P. AGUER, L.C. ALVES, PH. BARBERET, E. GONTIER, S. INCERTI, C. MICHELET-HABCHI, ZS. KERTESZ, A.Z. KISS, P. MORETTO, J. PALLON, T. PINHEIRO, J.E. SURLEVE-BAZEILLE, Z. SZIKSZAI, A. VERISSIMO, M.D. YNSA, Skin morphology and layer identification using different STIM geometries, *Nucl Instr. and Meth.*
- M.C. SANTOS, A.L. OLIVEIRA, A.M. VIEGAS-CRESPO, L. VICENTE, A. BARREIROS, P. MONTEIRO, T. PINHEIRO, A. BUGALHO DE ALMEIDA, Chronic Obstructive Pulmonary Disease and Oxidative Stress, *Atemwegs unt LunggenKrankheiten*
- M.C. SANTOS, A.L. OLIVEIRA, A.M. VIEGAS-CRESPO, L. VICENTE, A. BARREIROS, P. MONTEIRO, T. PINHEIRO, A. BUGALHO DE ALMEIDA, Systemic markers of redox balance in Chronic Obstrutive Pulmonary Disease, *Biomarkers.*

Conference Proceedings**Published**

- M.A. BARREIROS, C. RALHETA, A. VERÍSSIMO, T. PINHEIRO, M.C. SANTOS, A. M. VIEGAS-CRESPO, A. OLIVEIRA, P. MONTEIRO, A.BUGALHO DE ALMEIDA, Alterations in the plasma iron and selenium concentrations of patients with chronic obstructive pulmonary disease, *Proc. Eur. Conf. on X-ray Spectrometry*, Alghero, Italy, 6-11 June 2004.
- T. PINHEIRO, C.C. MARQUES, S.I. GABRIEL, M.A. BARREIROS, C. RALHETA, M.L. MATHIAS, Bioavailability of iron, Copper and Zinc in small mammals in a pyrite mining area, south Portugal, *Proc. Eur. Conf. on X-ray Spectrometry*, Alghero, Italy, 6-11 June 2004.
- T. PINHEIRO, P. NAPOLEÃO, P. LOPES, A. M. VIEGAS-CRESPO, L. PAVÃO, M.C. SANTOS, P. MONTEIRO, A. BUGALHO DE ALMEIDA, Reference values of some trace elements in blood for human biomonitoring in pathology, *Proc. Eur. Conf. on X-ray Spectrometry*, Alghero Italy, 6-11 June 2004.
- R. FLEMING, I. BATISTA, R. SILVA, P. FILIPE, J.N. SILVA, T. PINHEIRO, Using skin to monitor iron accumulation in human metabolic disorders, *Proc. Eur. Iron Club Meeting*, Rennes, France, 8-11 September 2004.
- P.A. LOPES, P. NAPOLEÃO, T. PINHEIRO, M.C. SANTOS, M.O. RODRIGUES, L. COSTA, F. CEIA, L. VICEINTE, M.L. PAVÃO, J. NEVE, A.M. VIEGAS-CRESPO, Preliminary report on redox balance and blood elemental levels in atherosclerosis: relationship with Apo E polymorphism, *Proc. XIV Congresso Nac. de Bioquímica*, Vilamoura, Portugal, 2-4 Dec. 2004.

❖ Inorganic Chemistry, Radiochemistry and Radiopharmacy

Inorganic and Organometallic Chemistry

Journals

Published

- H. D. AMBERGER, H. REDDMANN, S. JANK, M. I. LOPES, N. MARQUES, Crystal Field Strengths, Nephelauxetic Effects, and Experimentally Based Molecular Orbital Schemes (in the f Range) of Selected Cyclopentadienyl Complexes of Samarium (III)", *Eur. J. Inorg. Chem.* (2004) 98-109.
- D. ROITERSHTEIN, Â. DOMINGOS, N. MARQUES, Alkali-metal complexes of a tetramethylcyclopentadienyl-functionalized pyrazolylborate ligand. Structures of $[\text{Li}_2(\text{THF})_3\text{B}(3\text{-Mepz})_3(\text{C}_5\text{Me}_4)]$ and $[\text{K}_2(\text{THF})_2\text{B}(3\text{-Mepz})_3(\text{C}_5\text{Me}_4)]_\infty$ *Organometallics* **23** (2004) 3483-3487.
- M. A. ANTUNES, G. M. FERRENCE, Â. DOMINGOS, R. MCDONALD, C. J. BURNS, J. TAKATS, N. MARQUES, Uranium (III) Scorpionates: Synthesis and Structure of $[(\text{Tp}^{\text{Me}_2})_2\text{U}\{\text{N}(\text{C}_6\text{H}_5)_2\}]$ and $[(\text{Tp}^{\text{Me}_2})_2\text{U}\{\text{N}(\text{SiMe}_3)_2\}]$, *Inorg. Chem.* **43** (2004) 6640-6643.
- J. M. CARRETAS, J. MARÇALO, A. PIRES DE MATOS, Gas-Phase Reactions of Lanthanide Cations with Alcohols, *Int. J. Mass Spectrom.* **234** (2004) 51-61.
- H. F. P. MARTINS, J. P. LEAL, M. T. FERNANDEZ, V. H. C. LOPES, M. N. D. S. CORDEIRO, Toward the prediction of the activity of antioxidants: Experimental and theoretical study of the gas-phase acidities of flavonoids, *J. Am. Soc. Mass Spectrom.* **15** (2004) 848-861.
- J. CARRETAS, J. BRANCO, J. MARÇALO, N. VALENTE, J. C. WAERENBORGH, A. CARVALHO, N. MARQUES, Â. DOMINGOS, A. PIRES DE MATOS, Synthesis and Characterization of Samarium, Europium and Ytterbium Aryloxides. Crystal Structure of $[\text{Yb}_6(\text{OH})_4(\text{OC}_6\text{H}_4\text{OMe})_{14}]\cdot 4\text{THF}$, *J. Alloys Comp.*, **374** (2004) 289-292.
- C. J. DIAS, J. BRANCO, A. P. GONÇALVES, T. ALMEIDA GASCHÉ, A. PIRES DE MATOS, Actinide Heterobimetallic oxides (Th, U). Reduction Studies, *Thermochim. Acta* **420** (2004) 169.
- M. H. CASIMIRO, M.L. BOTELHO, J.P. LEAL, M.H. GIL, Study on Chemical, UV and Gamma Radiation Induced Grafting of 2-Hydroxyethyl Methacrylate onto Chitosan, *Rad. Phys. and Chem.* **72/6** (2004) 731-735.

Accepted for publication or in press

- J. K. GIBSON, R. G. HAIRE, M. SANTOS, J. MARÇALO, A. PIRES DE MATOS, Oxidation Studies of Dipositive Actinide Ions, An^{2+} (An = Th, U, Np, Pu, Am) in the Gas Phase. Synthesis and Characterization of the Isolated Uranyl, Neptunyl and Plutonyl Ions: $\text{UO}_2^{2+}(\text{g})$, $\text{NpO}_2^{2+}(\text{g})$ and $\text{PuO}_2^{2+}(\text{g})$, *J. Phys. Chem. A*
- J. K. GIBSON, R. G. HAIRE, J. MARÇALO, M. SANTOS, A. PIRES DE MATOS, J. P. LEAL, Determination of the Ionization Energy of NpO_2 and Comparative Ionization Energies of Actinide Oxides, *J. Nucl. Mater.*
- M. H. CASIMIRO, J. P. LEAL, M. H. GIL, Characterization of Gamma Irradiated Chitosan/pHEMA Membranes for Biomedical Purposes, *Nucl. Inst. Meth. B*
- R. MELO, J. BRANCO, V. FARINHA, S. CABO VERDE, M. LUISA BOTELHO, Impact of Ionizing Radiation on Slaughterhouse Wastewater-chemical and Microbiological Aspects, *Radiat. Phys. Chem.*
- J. BRANCO, D. BALLIVET-TKATCHENKO, A. PIRES DE MATOS, Reduction of Heterobimetallic Copper-Lanthanide Oxides, *Thermochimica Acta*

Conference Proceedings

Published

- M. SANTOS, J. MARÇALO, J. P. LEAL, A. PIRES DE MATOS, J. K. GIBSON, R. G. HAIRE, Gas-Phase Thermochemical Studies of Actinide Oxides, *Advances in Nuclear and Radiochemistry (Proc. 6th Int. Conf. Nuclear and Radiochemistry, Aachen, Aug/Sept. 2004)*, Ed. S.M. Qaim, H.H. Coenen, Forschungszentrum Jülich, 2004, pp. 75-76.

Communications

- N. MARQUES, f-Element Chemistry with functionalised TACN Ligands", *XXXVI Int. Conf. on Inorganic Chemistry, Merida, Mexico, July 2004*, invited lecture.

- C. HIPOLITO, J. P. LEAL, Entalpias de Formação Padrão de Metil Fenóxidos de Metais Alcalinos, *XIX Encontro Nac. da Sociedade Portuguesa de Química*, Coimbra, Portugal, April 2004, poster.
- M. A. ANTUNES, B. MONTEIRO, A. CARVALHO, J. P. LEAL, I. C. SANTOS, A. DOMINGOS, N. MARQUES, Novos Complexos de Urânio Com O Ligando $\{(SiMe_2NPh)_3-Tacn\}$, *XXX Encontro Nac. da Sociedade Portuguesa de Química*, Coimbra, Portugal, April 2004, poster.
- M. A. ANTUNES, M. DIAS, B. MONTEIRO, A. CARVALHO, J. P. LEAL, I. C. SANTOS, A. DOMINGOS, N. MARQUES, Triamidotriaza-cyclononane Anchored Amidouranium Complexes, *XXXV th Int. Conf. on Coordination Chemistry*, Merida, Mexico, July 2004, poster.
- C. HIPOLITO, J. P. LEAL, Standard Enthalpies of Formation of Alkaline-Earth Phenoxides, *The 18th IUPAC Int. Conf. on Chemical Thermodynamics*, Beijing, China, August 2004, poster.
- M. SANTOS, J. MARÇALO, J. P. LEAL, A. PIRES DE MATOS, J. K. GIBSON, R. G. HAIRE, Gas-Phase Thermochemical Studies of Actinide Oxides, *6th Int. Conf. on Nuclear and Radiochemistry (NRC6)*, Aachen, Alemanha, August-September 2004, poster.
- M. H. CASIMIRO, J. P. LEAL, M. H. GIL, Graft Copolymerisation of HEMA onto Chitosan – Chemical Initiation Vs. Γ Radiation Induced Polymerisation, *II Iberian Congress on Biomaterials*, Évora, Portugal, Sept. 2004, poster.
- M. H. CASIMIRO, J. P. LEAL, M. H. GIL, Characterisation of Gamma Irradiated Chitosan/pHEMA Membranes for Biomedical Purposes, *6th Int. Symp. on Ionizing Radiation and Polymers*, Houffalize, Bélgica, Sept. 2004, poster.
- M. SANTOS, J. MARÇALO, A. PIRES DE MATOS, J. K. GIBSON, R. G. HAIRE, Probing the Participation of 5f Electrons in Gas-Phase Reactions of Actinide Cations with Small Alkanes and Alkenes, *34ièmes Journées des Actinides*, Heidelberg, Germany, April 2004, poster.
- J. K. GIBSON, R. G. HAIRE, J. MARÇALO, M. SANTOS, A. PIRES DE MATOS, J. P. LEAL, Thermodynamic Properties of Actinide Oxide Molecules from Gas-Phase Ion Chemistry, *11th Symp. on Thermodynamics of Nuclear Materials*, Karlsruhe, Germany, September 2004, oral.
- J. BRANCO, C.J. DIAS, A.P. GONÇALVES, T. ALMEIDA GASCHÉ, A. PIRES DE MATOS, N. MARQUES, Acoplamento Oxidativo do Metano usando Compostos Intermetálicos com Elementos do Bloco f como Precusores Catalíyicos. 1. Actinídeos, *XIX Encontro da SPQ*, Coimbra, May 2004, poster.
- R. MELO, M. LUÍSA BOTELHO, J. BRANCO, Estudo da Radiação Ionizante no tratamento de águas residuais: aspectos tecnológicos e sócio-económicos, 2nd Research Coordination Meeting – IAEA “*Remediation of polluted waters and wastewaters by radiation process*”, Poland, Varsóvia, June, 2004, oral.
- E. EREL, F. AUBRIET, J-F. MULLER, M. SANTOS, J. MARÇALO, A. PIRES DE MATOS, Laser Ablation FTICR mass spexctrometry of glasses – a comparative study using ultraviolet and infrared lasers, *Annual Conf. Soc. of Glass Technology*, University of Liverpool, U. K., April 2004, oral.

Internal Reports

- A.P. MATOS, J. BRANCO, J.P. LEAL, J. MARÇALO, N. PINHÃO, Tratamento e Valorização de Resíduos Plásticos, *ITN-QUI 1/2004*.
- R. MELO, J. BRANCO, M.L. BOTELHO, Slaughterhouse, Sewage Treatment using Gamma Radiation – Economical Feasibility Study, *IAEA Report*, Sept. 2004, pp 1-17.

Theses

MSc

- L.A.P. ROSA, *A Química na Net, a Net da Química*, Master in Chemistry Teaching, Faculdade de Ciências-Universidade de Lisboa, Dec. 2004 Supervisor: J. P. Leal (ITN)
- R. MELO, *Estudo da Radiação Ionizante no Tratamento de Águas Residuais – Aspectos Tecnológicos e Sócio-Económicos*, Universidade dos Açores Supervisers: M. L. Botelho, J. Branco (ITN) and T.Dentinho (Univ. Açores).

Inorganic and Radiopharmaceutical Chemistry

Books and Book Chapters

- I. SANTOS, A. PAULO, J.D.G CORREIA, Re and Tc Complexes Anchored by Phosphines and Scorpionates for Radiopharmaceutical Applications, *Topics in Current Chemistry, Contrast Agents III*, Springer-Verlag, Berlin Heidelberg (2004) 252: 45-84.
- M. A. SANTOS, S. GAMA, L. GANO, E. FARKAS, A Bis(3-Hydroxy-4-pyridinone) Derivative of Iminodiacetic Acid. Synthesis Complexation with Metal Ions and ⁶⁷Ga Biodistribution, in *Metal Ions in Biology and Medicine*, John Libbey Eurotext, Paris (2004) Vol. 8, 315-319.

Journals

Published

- C. XAVIER, A. PAULO, A. DOMINGOS, I. SANTOS, Synthesis and Structural Studies of Rhenium(V) Complexes Stabilized by a Monoanionic Cyclen Ligand, *Eur. J. of Inorg. Chem.* (2004) 243-249 (cover picture)
- C. FERNANDES, L. PATRÍCIO, R. MOREIRA, G.CANTINHO, H. PENA, P. C. CAMPELLO, I. SANTOS, Novel 3+1 Mixed-Ligand Technetium-99m Complexes Carrying Dipeptides as Monodentate Ligands, *Nuclear Medicine and Biology* **31** (2004) 139-146.
- PAULO, J. D. G. CORREIA, M. P. CAMPELLO, I. SANTOS, A short Ride on Scorpionates: From d- to f- elements, *Polyhedron* **23** (2004) 331-360. (Special issue on Scorpionates, Ed. Gerard Parkin)
- C. FERNANDES, T. KNISS, L.GANO, S. SEIFERT, H..SPIES, I. SANTOS, Synthesis and Biological Evaluation of Silylated Mixed-Ligand ^{99m}Tc Complexes with the [PNS/S] Donor Atom Set, *Nucl. Med. and Biology*, **31** (2004) 785-793.
- F. MARQUES, K. P. GUERRA, L. GANO, J. COSTA, M. P. CAMPELLO, L. M. P. LIMA, R. DELGADO, I. SANTOS, ¹⁵³Sm and ¹⁶⁶Ho Complexes with Tetraaza Macrocycles Containing Pyridine and Methylcarboxylate or Methylphosphonate Pendant Arms, *J. Biological Inorganic Chemistry* **9** (2004) 859-872.
- L. MARIA, Â. DOMINGOS, A. GALVÃO, J. ASCENSO, I. SANTOS, The Role of Neutral Coligands on the Stabilization of Mono-Tp^{IPr2} U(III) Complexes, *Inorg. Chem.* **43** (2004) 6426-6434.
- E. PALMA, J. D. G. CORREIA, Â. DOMINGOS, I. SANTOS, R. ALBERTO, H. SPIES, Rhenium and Technetium Tricarbonyl Complexes anchored

by 5-HT_{1A} Receptor Ligands Containing (PO/N) Donor Atom Sets, *J. Organometallic Chemistry* **689** (2004) 4811-4819.

- R. VITOR, S. ALVES, J. D. G. CORREIA, A. PAULO, I. SANTOS, Rhenium(I)- and Technetium(I) Tricarbonyl Complexes Anchored by Bifunctional Pyrazole-Diamine and Pyrazole-Dithioether Chelators, *J. Organometallic Chemistry* **689** (2004) 4764-4774.
- M. A. SANTOS, S. GAMA, L. GANO, G.CANTINHO AND E. FARKAS, A New Bis(3-hydroxy-4-pyridinone)-IDA Derivative as a Potential Therapeutic Chelating Agent: Synthesis, Metal-Complexation and Biological Assays, *Dalton Transactions* (2004) 3772-3781.
- P. D RAPOSINHO, T. PEDRAZZINI R. B. WHITE, R. D. PALMITER, M. L AUBERT, Chronic Neuropeptide Y infusion into the lateral ventricle induces sustained feeding and obesity in mice lacking either Npy1r or Npy5r expression, *Endocrinology* **145** (2004) 304-310.

Accepted for publication or in press

- R. GARCIA, A. PAULO, A. DOMINGOS, I. SANTOS, H.-J. PIETZSCH, Disruption of Unprecedented B-H...M Agostic Interactions: An Alternative Approach for Labeling Bioactive Molecules, *Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry*.
- R. GARCIA, C. XAVIER, A. PAULO, I. SANTOS, T. KNISS, R. BERGMANN, F. WÜST, Synthesis and Biological Evaluation of S-[¹¹C]Methylated Mercaptoimidazole Piperazinyl Derivatives as Potential Radioligands for Imaging 5-HT_{1A} Receptors by Positron Emission Tomography (PET), *J. Labelled Cpd. Radiopharm.*
- F. MARQUES, A. PAULO, M. P. CAMPELLO, S. LACERDA, R. VITOR, L. GANO, R. DELGADO, I. SANTOS, Radiopharmaceuticals for Targeted Radiotherapy, *Rad. Prot. Dosimetry*
- S. LACERDA, M. P. CAMPELLO, I. C. SANTOS, I. SANTOS, R. DELGADO, A N,N'-Diacetate Benzodioxotetraazamacrocycle and its Transition Metal Complexes, *Polyhedron*.
- C. FERNANDES, J. D. G. CORREIA, L. GANO, I. SANTOS, S. SEIFERT, R. SYHRE, R. BERGMANN, H. SPIES, Dramatic Effect of the Tridentate Ligand on the Stability of ^{99m}Tc "3+1" Oxocomplexes Bearing Arylpiperazine Derivatives, *Bioconjugate Chemistry*.
- S.ALVES, J. D. G. CORREIA, A. PAULO, L. GANO, J. SMITH, I. SANTOS, Pyrazolyl Containing Ligands as Bifunctional Chelators for Labelling Biomolecules with the fac-[M(CO)₃]⁺

Moiety (M=^{99m}Tc, Re): Synthesis, Characterization and Biological Behaviour”, *Bioconjugate Chem.*

- M. A. SANTOS, M. GIL, S. MARQUES, L. GANO AND S. CHAVES, N-arylamine/amide derivatives of 3-hydroxy-4-pyridinones: interactions with Al(III) and speciation models in view of Al-detoxification roles, *Anal. Bioanal. Chem.*

Other publications

- R. GARCIA, Complexos Organometálicos com Interesse para o Desenvolvimento de Radiofármacos, *Monografia*, FC-UL (2004).
- I. SANTOS, J.G. CORREIA, A. PAULO, S. ALVES, R. VITOR, *International Patent*: WO2004/091669_A1

Communications

- M. GIL, F. ALBERICIO, S. CHAVES, L. GANO, M.A. SANTOS, Peptide derivatives of 3-hydroxy-4-pyridinone with potential medicinal application for radiodiagnosis”, 9th Iberian Peptide Meeting, Porto, January 2004, oral.
- C. FERNANDES, T. KNISS, S. SEIFERT, S. SPIES, L. GANO, I. SANTOS, Avaliação Biológica de Complexos Lipofílicos de ^{99m}Tc Contendo Grupos Siloxo Hidrolisáveis, 10^o Enc. Medicina Nuclear dos Hospitais da Universidade de Coimbra, Coimbra, April 2004, oral.
- R. GARCIA, C. XAVIER, A. PAULO, I. SANTOS, T. KNISS, F. WÜST, R. BERGMANN, Novas Sondas Radioactivas para Visualização dos Receptores 5-HT_{1A} por Tomografia de Emissão de Positrões, *Encontro Nac. SPQ*, Coimbra, Portugal, April 2004, poster.
- S. ALVES, J. D. G. CORREIA, A. PAULO, L. GANO, Â. DOMINGOS, I. SANTOS, Marcação de Péptidos Biologicamente Activos com a Unidade fac-[^{99m}Tc(CO)₃]⁺, *Encontro Nac. SPQ*, Coimbra, Portugal, April 2004, poster.
- R. VITOR, A. PAULO, A. DOMINGOS, I. SANTOS, Complexos Organometálicos de Rénio(I) com Ligandos bifuncionais do Tipo Pirazolo-Ditioéter, *XIX Encontro Nac. Sociedade Portuguesa Química*, Coimbra, April 2004, poster.
- M. A. SANTOS, M. GIL, L. GANO, S. CHAVES, Bi-functional 3-hydroxy-4-pyridinone derivatives: interactions with Al(III) and speciation models in view of Al-detoxification roles, 3th Int. Conf. in Trace Element Speciation in Biomedical, Nutritional and Environmental Sciences, Munich, Germany May 2004, poster.
- J. D. G. CORREIA, L. GANO, R. GARCIA, E. PALMA, A. PAULO, I. SANTOS, Phosphorus and Boron Containing Chelators for Labelling

Biomolecules by the Tris-Carbonyl Approach, *COST ACTION B12 Radiotracers for in vivo assessment of biological functions*, Sacavém, May 2004, oral.

- S. ALVES, A. PAULO, J. D. G. CORREIA, L. GANO, I. SANTOS, Novel Organometallic Building Blocks with Pyrazolyl-Diamine Ligands: Applications on the Labelling of Bioactive Peptides, *COST ACTION B12 Radiotracers for in vivo assessment of biological functions*, Sacavém, May 2004, oral.
- I. SANTOS, Elementos Químicos com Relevância na Medicina, *XVII Jornadas de Engenharia Química: Engenharia Química e o Futuro da Saúde*, IST, Lisboa, May 2004, invited.
- C. FERNANDES, T. KNISS, L. GANO, H. SPIES, S. SEIFERT, I. SANTOS, Technetium-99m Mixed-Ligand Complexes with Heterofunctionalized Phosphines for Labelling CNS-Receptor Ligands, *COST ACTION B12 Radiotracers for in vivo assessment of biological functions* Sacavém, May 2004, oral.
- M. P. CAMPELLO, K. GUERRA, F. MARQUES, L. GANO, S. LACERDA, R. DELGADO, I. SANTOS, *In vitro* and *in vivo* Evaluation of Sm-153 and Ho-166 Complexes with Tetraazamacrocycles - Effect of the Incorporation of a Pyridine Head Unit, *COST Action D18, Lanthanides in Therapy: Particle Emitting Radiolanthanides and Stable Lanthanides with Radiation Induced by External Irradiation*, Mid Term Evaluation Workshop, Athens, May 2004, oral.
- F. MARQUES, A. PAULO, M. P. CAMPELLO, S. LACERDA, R. F. VITOR, L. GANO, R. DELGADO, I. SANTOS, Radiopharmaceuticals for Target radiotherapy, 10th Int. Conf. on Radiation Shielding, 10-RPS 2004, 21th Century Challenges in Radiation Protection and Shielding, Madeira, May 2004, poster.
- R. GARCIA, L. MARIA, L. GANO, A. PAULO, I. SANTOS, R. BERGMANN, H. SPIES, Development of Radiopharmaceuticals for CNS Receptor Targeting Based on the Bivalent Ligand Approach, 2nd Int. Symp. on Bioorganometallic Chemistry, Zürich, Switzerland, July 2004, poster.
- S. ALVES, J. D. G. CORREIA, A. PAULO, L. GANO, I. SANTOS, Labelling of Bioactive Peptides with the Unit fac-[^{99m}Tc(CO)₃]⁺ 2nd Int. Symp. on Bioorganometallic Chemistry, Zürich, Switzerland, July 2004, poster.
- R. VITOR, A. PAULO, I. SANTOS, R. ALBERTO, Organometallic Complexes with Anthrapyrazoles: Searching for Novel Metallointercalators, 2nd Int. Symp. on Bioorganometallic Chemistry, Zurich, July 2004, poster.

PUBLICATIONS

- S. LACERDA, M. P. CAMPELLO, I. C. SANTOS, R. DELGADO, I. SANTOS, Transition Metal Complexes with Benzodioxotetraazamacrocycles: Structural and Solution Studies, *11th Int. Symp. on Solubility Phenomena*, Aveiro, July 2004, poster.
- SANTOS, F. MARQUES, L. GANO, M. P. C. CAMPELLO, S. LACERDA, L. LIMA, R. DELGADO, Solution and Radiochemical Behaviour of Tetraazamacrocycles with Different Pendant Arms, *COST Action D18, Annual Workshop*, Coruña, September 2004, oral.
- C. FERNANDES, J. CORREIA, L. GANO, R. BERGMANN, H. SPIES, S. SEIFERT, I. SANTOS, ^{99m}Tc Mixed-ligand complexes with heterofunctionalized phosphines with high affinity for 5-HT1A receptor, *12th Eur. Symp. on Radiopharmacy and Radiopharmaceuticals*, Sopot, Poland, September 2004, oral.
- L. F. METELLO, L. CUNHA, A. RODA, S. CHAVES, C. FERNANDES, I. SANTOS, C. GOMES, M.F. BOTELHO, ^{99m}Tc-DMSA: What are we really dealing with ?, *12th Eur. Symp. on Radiopharmacy and Radiopharmaceuticals*, Sopot, Poland, September 2004, poster.
- SANTOS, Pyrazolyl Derivatives as Bifunctional Chelators for Labelling Biomolecules with the fac-[^{99m}Tc (CO)₃]⁺ Moiety, *IsoLink Mini-Symp.*, Helsinki, September 2004, invited lecture.
- SANTOS, Tricarbonyl Chemistry with Scorpionates and Pyrazolyl Containing Ligands for Radiopharmaceutical Applications, *2st RCM on Development of ^{99m}Tc-Based Small Biomolecules Using Novel ^{99m}Tc Cores/ IAEA*, Viena, Austria, November 2004, oral.
- SANTOS, J. C. SMITH, Tumour-Seeking Peptide Conjugation and Metallation Studies, *2st RCM on Development of ^{99m}Tc-Based Small Biomolecules Using Novel ^{99m}Tc Cores/ IAEA*, Viena, Austria, November 2004, oral.
- SANTOS, Synthesis and Characterization of Quinazoline Derivatives, *2st RCM on Development of ^{99m}Tc-Based Small Biomolecules Using Novel ^{99m}Tc Cores/ IAEA*, Viena, Austria, November 2004, oral.

Theses

MSc

- R. OLIVEIRA, Complexos Organometálicos Potencialmente Úteis para o Desenvolvimento de Radiofármacos para a Detecção do Melanoma, MSc in Pharmaceutical Technology, Faculdade de Farmácia, Universidade do Porto, January 2004. Supervisor: I. Santos (ITN).

Cultural Heritage and Sciences

Cultural Heritage and Sciences

Books and Book Chapters

- A.M.M. SOARES, A.C. SOUSA, Cronologia Absoluta, in *São Julião. Núcleo C do Concheiro Pré-Histórico*, Maфра: Câmara Municipal. (2004) 73-82.
- M.I. DIAS, A.C. VALERA, M.I. PRUDÊNCIO, F. ROCHA Tecnologias de produção cerâmica e exploração de matérias-primas nos Povoados do Moinho de Valadares 1 e Monte do Tosco 1. in *Monografia do Bloco 5, Minimização de Alqueva*, EDIA (in press).
- DIAS, M.I., PRUDÊNCIO, M.I., ROCHA, F., RAMOS, A.C., JORGE, A., ALBERGARIA, J. Produção de cerâmicas do Monte da Pata 1 e do Castelo das Juntas: resultados de um estudo arqueométrico, in *Monografia do Bloco 9, Minimização de Alqueva*, EDIA (in press).
- DIAS, M.I., PRUDÊNCIO, M.I., ROCHA, F., BRAZUNA, S., GOMES, S.J. Produções cerâmicas do Xerez de Baixo 13: resultados de um estudo arqueométrico, in *Monografia do Bloco 10, Minimização de Alqueva*, EDIA (in press).

Journals

Published

- A.M.M. SOARES, M.F. ARAÚJO, L.C. ALVES, Análise química não-destrutiva de artefactos em ouro pré e proto-históricos: alguns exemplos. *Revista Portuguesa de Arqueologia* 7(2) (2004). 125-138.
- J.L. CARDOSO, A.M.M. SOARES, F. REINER, A. GUERREIRO, C. BARRADAS, R. COSTA, C. CARVALHO, O concheiro de Salamansa (ilha de São Vicente, arquipélago de Cabo Verde): nota preliminar. *Portugália*, Nova Série, 22 (2003/2004) 221-231.
- J. CASTAING, M. GIROD, A. ZINK, Radiation background due to radioactivity in palaces and museums: influence on TL/OSL dating, *J. Cultural Heritage* 5 (2004) 393-397.

Accepted for publication or in press

- M.I. PRUDÊNCIO, Biogeochemistry of trace and major elements in a surface environment (volcanic rock, soil, mosses, lichens) in the S. Miguel Island, Azores, Portugal., *J. Radioanalytical Chemistry*.
- M.I. DIAS, M.I. PRUDÊNCIO, F. ROCHA, J. ALBERGARIA, A. JORGE, A.C. RAMOS, S. MELRO, Barris ibéricos no SW peninsular.

Resultados preliminares de um estudo arqueométrico. *O Arqueólogo Português*.

- B.J.H. VIEIRA, P.M. SOARES, M.I. PRUDÊNCIO, M.C. FREITAS, A.F. RODRIGUES, Caracterização química (terras raras e outros elementos) de solos das Ilhas de Santa Maria e Terceira (Açores, Portugal), *Geociências*.

Conference Proceedings

Published

- A.M.M. SOARES, Identificação e caracterização de eventos climáticos na costa portuguesa, entre o final do Plistocénico e os tempos históricos – o papel do Radiocarbono. In A.A. Tavares, M.J.F. Tavares, J.L. Cardoso, Eds., *Evolução Geohistórica do Litoral Português e Fenómenos Correlativos* (Actas). Lisboa: Universidade Aberta, (2004) 171-199.
- A. DIONÍSIO, M. RODRIGUES, M.A. SEQUEIRA BRAGA, H. ANDRÉ, J.C. WAERENBORGH, D.P. ROJAS, M.J. BASTO, M.J. MATIAS, L. AIRES-BARROS, Study of heat induced colour modifications in monument limestones. Lectures and Proc. of the 6th Int. Symp. on the Conservation of Monuments in the Mediterranean Basin, Lisbon, Portugal. Eds. L. Aires-Barros, F. Zezza, A. Dionísio, M. Rodrigues, (2004) 237-242

Accepted for publication or in press

- M.I. DIAS, M.I. PRUDÊNCIO, A.C. VALERA, M. LAGO & M.A. GOUVEIA, Composition, technology and functional features of Chalcolithic pottery from Perdígões, Reguengos de Monsaraz (Portugal). Proc. 33rd Int. Symp. on Archaeometry, Amsterdam, The Netherlands
- J. C. WAERENBORGH, M. I. PRUDÊNCIO, M. A. GASPAS, M. I. DIAS, Production technology of late roman grey ceramics from Braga (North Portugal), Proc. 33rd Int. Symp. on Archaeometry Amsterdam, The Netherlands
- F. OLIVEIRA, M.A. SEQUEIRA BRAGA, M.I. PRUDÊNCIO, M. DELGADO, M.A. GOUVEIA. The non vitrifiable red slip ware found in Braga (Northwest of Portugal). A mineralogical and chemical characterization., 7th Eur. Meet. on Ancient Ceramics, Lisboa, Portugal
- M.I. DIAS, J. ALBERGARIA, A. JORGE, A.C. RAMOS, S. MELRO, M.I. PRUDÊNCIO, F. ROCHA. Ceramic productions of Late Iron Age

- archaeological sites of the left bank of Guadiana river, Portugal, *7th Eur. Meet. on Ancient Ceramics*, Lisboa, Portugal
- A. JORGE, P.M. DAY, A.C. VALERA, M.I. DIAS, M.I. PRUDÊNCIO. Ceramics, style and exchange in the early Neolithic upper Mondego basin: a technological approach, *7th Eur. Meet. on Ancient Ceramics*, Lisboa, Portugal
 - M.I. DIAS, A.C. VALERA, M.I. PRUDÊNCIO. Pottery production technology through out the 3rd millennium B.C. on a local settlement network in Fornos de Algodres, central Portugal, *7th Eur. Meet. on Ancient Ceramics*, Lisboa, Portugal
 - M.I. PRUDÊNCIO, M.I. DIAS, A.M. ARRUDA. Amphorae in Sellium (Portugal) from Ist century to Vth century – importation and regional production, *7th Eur. Meet. on Ancient Ceramics*, Lisboa, Portugal.

Communications

- M.I. PRUDÊNCIO. Biogeochemistry of trace and major elements in a surface environment (volcanic rock, soil, mosses, lichens) in the S. Miguel Island, Azores, Portugal. *11th Int. Conf. in Modern Trends in Activation Analysis*, MTAA11, Guildford, U.K., June, 2004, poster.
- M.I. DIAS, M.I. PRUDÊNCIO, A. CARVALHO, M.J. ALMEIDA. Ceramics of the Roman *Villa* of Quinta das Longas (Elvas, Portugal). A first provenance study, *34th Int. Symp. on Archaeometry*, Zaragoza, Spain, May 2004, poster.
- M.I. PRUDÊNCIO, M.I. DIAS, A. CARVALHO. Pré-history ceramics of the Côa Valley Archaeological Park (Portugal): a first compositional ceramic study, *34th Int. Symp. on Archaeometry*, Zaragoza, Spain, May 2004, poster.
- A.M. SOARES. Coastal upwelling and radiocarbon – the reservoir effect of coastal waters off Galicia (NW Spain), *34th Int. Symp. on Archaeometry*, Zaragoza, Spain, May 2004, poster.

- M.I. DIAS, F. ROCHA, M.I. PRUDÊNCIO, A. C. VALERA. Mineralogy and geochemistry of raw materials applied to ceramic studies from Pre-history to Roman times, in the Alqueva dam impact area, Portugal, *32nd Int. Geological Congress*, Florence, Italy, Aug. 2004, poster.
- M.I. PRUDÊNCIO, M.I. DIAS. Geochemistry of clay materials applied to ceramic provenance studies. The *Bracara Augusta* case, Portugal, *32nd Int. Geological Congress*, Florence, Italy, Aug. 2004, poster.
- M. I. DIAS, M. I. PRUDÊNCIO, J. BUGALHÃO, S. GOMES, M. J. SOUSA, D. FOLGADO. A produção de cerâmicas no arrabalde ocidental da Lisboa islâmica – primeiros resultados arqueométricos. *IV Congresso de Arqueologia Peninsular*, Univ. Algarve, Sept. 2004, oral.
- A.C. VALERA, M. LAGO, C. DUARTE, M.I. DIAS, M.I. PRUDÊNCIO. Complexo Arqueológico dos Perdigões: Ponto de situação do processo de investigação em curso. *IV Congresso de Arqueologia Peninsular*, Univ. Algarve, Sept. 2004, oral.
- E. DÍAZ-MARTÍNEZ, A.M.M. SOARES, P. KRESTEN, L. GLAZOVSKAYA. Evidence for wall vitrification at the Late Bronze Age settlement of Passo Alto (Vila Verde de Ficalho, Serpa, Portugal). *IV Congresso de Arqueologia Peninsular* Univ. Algarve, Sept. 2004, oral.
- E. DÍAZ-MARTÍNEZ, A.M.M. SOARES, P. KRESTEN. Vitrified hillforts in the Iberian Peninsula: current knowledge and future perspectives. *IV Congresso de Arqueologia Peninsular*, Univ. Algarve, Sept. 2004, oral.

Theses

Graduation

- Catarina Capitão-Mor, “Geoquímica e mineralogia aplicadas ao património cultural”, graduation in Geological Engineering, Dep. of Geosciences, University of Aveiro, July, 2004. Supervisors: M.I. Dias (ITN) and F. Rocha (UA).

Nuclear Instruments and Methods

Journals**Published**

- J. SALGADO, I. F. GONÇALVES, E. MARTINHO, Epithermal neutron self-shielding factors in foils for collimated beams, *Applied Radiation and Isotopes*, 60/5, 677-681 (2004).
- I.F. GONÇALVES, E. MARTINHO, J. SALGADO, Extension to cylindrical samples of the universal curve of resonance neutron self-shielding factors, *Nucl. Inst. & Meth. B* **213**, 186-188 (2004).
- C. OLIVEIRA, T. A. GIRARD, J. G. MARQUES, J. SALGADO, J. J. COLLAR, MORLAT, D. LIMAGNE, F. GIULIANI, MCNP Optimization of filtered neutron beams for calibration of the SIMPLE detector, *Nucl. Inst. & Meth B* **213**, 172-176 (2004).
- J. SALGADO, E. MARTINHO, I. F. GONÇALVES, Methodology for the calculation of neutron self-shielding factors of a group of isolated resonances, *J. Radioanal. Nucl. Chem*, **260**, 2 (2004) 317.
- J. SALGADO, I. F. GONÇALVES, E. MARTINHO, Development of a unique curve for thermal neutron self-shielding factors in spherical scattering materials, *Nucl. Sci. & Eng.* **148**, 3 (2004) 426.
- E. MARTINHO, J. SALGADO, I. F. GONÇALVES, Universal curve of the thermal neutron self-shielding factor in foils, wires, spheres and cylinders, *J. Radioanalytical and Nuclear Chemistry*, **261**, 3 (2004) 637.
- U. ABBONDANNO *et al.* (The n-TOF collaboration), New experimental validation of the pulse height weighting technique for capture cross-section measurements *Nucl. Inst. & Meth A* **521**, 2-3, (2004) 454-467.
- J. PANCIN *et al.* (the n-TOF collaboration), Measurements of the n-TOF beam profile with micromegas detector, *Nucl. Inst. & Meth A* **524**, 1-3 (2004) 102-114.
- U. ABBONDANNO *et al.* (The n-TOF collaboration), Neutron capture cross section measurements of ¹⁵¹Sm at the CERN Neutron Time of Flight Facility (n-TOF), *Phys. Rev. Lett.* **93** (2004) 161103
- G. LORUSSO *et al.*, (the n-TOF collaboration), Time-energy relation of the n-TOF neutron beam: energy standards revisited, *Nucl. Inst. & Meth A* **532**, 3 (2004) 622-630.
- N. R. PINHÃO, Z. DONKÓ, D. LOFFHAGEN, M. PINHEIRO and E. A. RICHLEY, Comparison of kinetic calculation techniques for the analysis of electron swarm transport at low to moderate E/N values, *Plasma Sources Sci. Technol.* **13** (2004), 719-728

Accepted for publication or in press

- N. PINHÃO and H. NOWAKOWSKA, *PLASMAKIN II: A chemical kinetics library for plasma physics modelling*, *J. Optoelectronics and Adv. Matter.*
- G. TAGLIENTE *et al.* (The n_TOF Collaboration), Measurements of the ^{90,91,92,94,96}Zr(n,γ) at n_TOF, *Nucl. Phys. A*
- U. ABBONDANNO *et al.* (The n-TOF collaboration), The data acquisition system of the neutron time of flight facility, n-TOF at CERN, *Nucl. Instr. & Meth. A*

Conference Proceedings**Published**

- U. ABBONDANNO *et al.*, (The n-TOF collaboration), Measurements at n-TOF of the Neutron capture cross section of minor actinides relevant to the nuclear waste transmutation, *Conf. Nuclear Data for Science and Technology 2004*, Santa Fé, USA, Sept. 2004.
- U. ABBONDANNO *et al.*, (The n-TOF collaboration), New measurement of the capture cross section of bismuth and lead isotopes, *Conf. Nuclear Data for Science and Technology 2004*, Santa Fé, USA, Sept. 2004.
- U. ABBONDANNO *et al.*, (The n-TOF collaboration), Measurements of the ²³²Th neutron capture cross section at the CERN n-TOF facility, *Conf. Nuclear Data for Science and Technology*, Santa Fé, USA, Sept. 2004.
- U. ABBONDANNO *et al.*, (The n-TOF collaboration), The n-TOF facility at CERN: performances and first physics results, *Conf. Nuclear Data for Science and Technology 2004*, Santa Fé, USA, Sept. 2004.
- U. ABBONDANNO *et al.*, (The n-TOF collaboration), Measurements of capture cross sections of ^{90,91,92,94,96}Zr isotopes at n-TOF, *Conf. Nuclear Data for Science and Techn. 2004*, Santa Fé, USA, Sept. 2004.

- D. COORS *et al.*, Target units for XADS primary systems, *Conf. EURADWASTE 04*, Luxemburgo, Mars 2004.
- N. PINHÃO, T. SANTOS, and M. SILVA, Automatic fitting of electron collision cross sections, *Conf. Proc., ESCAMPIG 17*, Constanta, Romania, September 2004, pp.57-58
- N. PINHÃO and H. NOWAKOWSKA, *PLASMAKIN II*: A chemical kinetics library for plasma physics modelling, *Proc. ESCAMPIG 17*, Constanta, Romania, September 2004, p. 260
- L. NEMES, J. MARÇALO, N. PINHÃO, and A. KESZLER, Optical spectroscopy and mass spectrometry of laser ablated carbon, *Proc. ESCAMPIG 17*, Constanta, Romania, September 2004, pp. 219-220.
- A. CARRILLO, L. MARQUES, I. F. GONÇALVES, P. VAZ, Characterization of a neutron beam available at the RPI using a set of Bonner Spheres, *Proc. 10th Int. Conf. on Radiation Shielding, ICRS-10 and 13th Topical Meeting on Radiation Protection and Shielding, RPS-13*, Madeira. May 2004, *Rad. Protection Dosimetry*.

Other publications

- P. BRISSET, J. CHARBUCINSKI, H. W. EVANS, JOOH-HA JIN, G.E. MAGGIO, J. SALGADO, L. SCHEERS, J. TERESKA, H. TOMINAGA, P. URBANSKI, G. WALLACE, Nucleonic gauge manual and directory, *Technical Report*, IAEA (2004).

Accepted for publication or in press

- I. F. GONÇALVES, J. SALGADO, A. FALCÃO, F. M. A. MARGAÇA, F. G. CARVALHO, MCNP simulation to optimize in-pile and shielding components of the Portuguese SANS instrument, *Proc. 10th Int. Conf. on Radiation Shielding, ICRS-10 and 13th Topical Meeting on Radiation Protection and Shielding, RPS-13*, Madeira, May 2004, *Rad. Protection Dosimetry*.
- I. F. GONÇALVES, J. SALGADO, L. M. N. TÁVORA, P. VAZ, Towards the enhancement of the Photon/neutron discrimination of C6D6 detectors in the range from 1 to 10 MeV using liquid scintillator materials doped with high Z-elements, *Proc. 10th Int. Conf. on Radiation Shielding, ICRS-10 and 13th Topical Meeting on Radiation Protection and Shielding, RPS-13*, Madeira. May 2004, *Rad. Protection Dosimetry*.

Internal Reports

- N. PINHÃO, “Controlo de equipamento, aquisição e tratamento de dados”, notes on a course for under-graduated grantees, ITN, 2004.

Theses

Graduation

- L. M. CABEÇA MARQUES, “Determinação da secção eficaz de captura electrónica do ⁹⁴Zr utilizando o espectrómetro TOF no CERN”, December 2004, Faculdade de Ciências da Universidade de Lisboa. Supervisors: I.F. Gonçalves and P. Vaz (ITN).

Radiation Technologies: Processes and Products

Books and Book Chapters

- M.L. BOTELHO, S. CABO VERDE, P. MATOS, P. MAZARELO, R. TENREIRO, Detection and Prevention of Bioterrorism Agents – Portuguese Case Studies, in *Handbook on the NATO Advanced Research Workshop*, Budapest (2004), *in press*.
- S. CABO VERDE, R. TENREIRO, M.L. BOTELHO, Foodborne Agents and Bioterrorism Prevention – A Portuguese Case Study on Ionizing Irradiation, in *Handbook on the NATO Advanced Research Workshop*, Budapest (2004), *in press*.

Journals

Published

- S. CABO VERDE, R. TENREIRO, M.L. BOTELHO, Sanitation of chicken eggs by ionising radiation: HACCP and inactivation studies. *Rad. Phys. Chem*, **71**, (2004) 29-33.
- R. RIBEIRO, L. SOUSA, S. CABO VERDE, P. PINTO, M.G. LIMA, P. NUNES, A. SANTANA, M.L. BOTELHO, Sanitation of chicken eggs by ionising radiation: functional and nutritional assessment. *Rad. Phys. Chem*, **71**, (2004) 35-38.
- C. OLIVEIRA, H. YORIAZ, M.C. OLIVEIRA, L.M. FERREIRA, Monte Carlo simulation for dose distribution calculations in a CT-based phantom at the Portuguese gamma irradiation facility, *Nucl. Inst. and Meth. B* **213** (2004) 662-665.
- M.H. CASIMIRO, M.L. BOTELHO, J.P. LEAL, M.H. GIL, Study on chemical, UV and gamma radiation induced grafting of 2-hydroxyethyl methacrylate onto chitosan, *Rad. Phys. Chem.* **76** (2005) 731-735.

Accepted for publication or in press

- R. MELO, J. BRANCO, M.L. BOTELHO, Impact of Ionizing Radiation on Slaughterhouse Wastewater - chemical parameters – 2004, *Water Research*
- M.H. CASIMIRO, J.P. LEAL, M.H. GIL, Characterisation of gamma irradiated chitosan/pHEMA membranes for biomedical purposes, *Nucl. Inst. & Meth. B*

Conference Proceedings

Published

- M.H. CASIMIRO, J.P. LEAL, M.H. GIL, Graft copolymerisation of HEMA onto chitosan – Chemical initiation vs γ radiation induced polymerisation, *Proc. of the II Iberian Congress on Biomaterials and Biosensors, Évora, Portugal, 9-11 Sept. 2004*.
- M.L. BOTELHO, Microbiological Aspects in Wastewater, *Proc. Int. Symp. on Advanced Oxidation Technol. for Wastewater Treatment*, Warsaw, Poland, 18 June 2004, pp.29-34.
- L.M. FERREIRA, A.N. FALCÃO, M.H. GIL, Modification of LDPE Molecular Structure by Gamma Irradiation for Bioapplications, *Proc. 6th Int. Symp. on Ionizing Radiation and Polymers, Houffalize, Belgium, 25-30 Sept. 2004, Nucl. Inst. and Meth. B*.

Other publications

- M.L. BOTELHO, R. MELO, V. FARINHA, I. SOUSA, Impact of Ionizing Radiation on Slaughterhouse Wastewater-A Study Case-Report of the 2nd Research Coord. Meet. on “Remediation of Polluted Waters and Wastewater by Radiation Processing”, Warsaw, Poland, 13-18 June 2004, IAEA pp. 95-108
- R. MELO, J. BRANCO, M.L. BOTELHO, Slaughterhouse, Sewage Treatment using Gamma Radiation – Economical Feasibility Study, *IAEA Report*, Sept. 2004, pp 1-17.
- L.M. FERREIRA, M.H. CASIMIRO, Calorimetric Analysis by Thermogravimetry (TGA) of Non-irradiated and Gamma Irradiated Polyethylene Based Films, *Report to Hovione 2004*.
- L.M. FERREIRA, M.H. CASIMIRO, Dosimetry and Gamma Irradiation Tests of Insulators Materials, *Report to CERN – Safety Commission (2004)*.
- M.L. BOTELHO, *Progress report of Project IAEA 12017/R0/RBF*, Impact of ϵ -beam and γ radiation on the wastewater and drinking water: Comparative studies, May 2003 – 2004.
- M. L. BOTELHO, R. MELO, Estudos de absorvância de películas IMPERSOL. *Report to*

Impersol, S.A. August 2004, pp. 1- 5.

- M. J. TRIGO, A. FERREIRA, M. M SAPATA, M. B. SOUSA, T. CURADO, L. ANDRADA, E.S. FERREIRA, M.L.BOTELHO, M. G. VELOSO *Progress Report* of Project IAEA 11682/RBF, Improving Quality and Safety of Minimally Processed Fruits and Vegetables by Gamma Irradiation, Sept. 2003 – 2004, pp. 1-15

Theses

MSc

- R. MELO, Estudo da Radiação Ionizante no Tratamento de Águas Residuais – Aspectos Tecnológicos e Sócio-Económicos, Universidade dos Açores (subm. October, 2004). Supervisors: M. L. Botelho, J. Branco (ITN) and T.Dentinho (UAç).

Graduation

- R. RIBEIRO, Impacto de Agentes Letais (Calor Húmido e Radiação Ionizante) na Viscosidade de Ovos e Ovoprodutos. Escola Agrária de Santarém, ESAS, June 2004. Supervisors: M. L. Botelho and S. Cabo Verde (ITN) and A. Neves (ESAS)
- V. FARINHA, Níveis Microbianos das Águas Residuais de uma EPTAR e sua Inactivação por Radiação Ionizante, Instituto Politécnico de Santarém. October 2004. Supervisors: M. L. Botelho (ITN) and M.G. Lima (ESAS).

