

Radiological Protection and Nuclear Safety

Environmental Radioactivity

Books and Book Chapters

F.P. Carvalho, J.M. Oliveira, M.J. Madruga, I. Lopes, A. Libânio, L. Machado, Contamination of Hydrographic Bassins Mining Areas of Portugal. *Uranium in the Environment, Mining Aspects and Consequences*, B.J. Merkel and A. Hasche-Berger Ed. Springer-Verlag Berlin Heidelberg (2005) 691-702.

Journals

A. Baeza, E. Garcia, C. Miró, A. Rodriguez, M.M. Sequeira. Behaviour of Tritium in the Waters of the River Tagus. *Fusion Science and Technology*, Vol 48, Nº 1 (2005) 488-491.

F.P. Carvalho. Uso de Pórticos de Detecção de Materiais Radioactivos em Sucatas e Lixos. *Indústria e Ambiente*, 39 (2005) 36-39.

F.P. Carvalho. Transporte de Materiais Radioactivos: sinalização de acordo com as normas internacionais. *Segurança*, 169 (2005) 51-54.

Conference Proceedings

F.P. Carvalho. Environmental Impact of Radioactive Ore Mining and Milling Activities and Radiological Protection of the Population. *1st Int. Congress of Energy and Environment Engineering and Management* Portalegre, Portugal, 18-20 May 2005 (ISBN: 84-934089-9-9) (CD-ROM).

F.P. Carvalho. Residues of persistent organic pollutants in coastal environments - a review *1st Int. Conf. on Coastal Conservation and Management in the Atlantic and Mediterranean (ICCCM'05)*, Tavira, Portugal, 17-20 April, pp. 423-431. F.V.Gomes, F. T. Pinto, L. Neves, A. Sena and O. Ferreira (eds), FEUP, Universidade do Porto (ISBN: 972-752-083-9).

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 their Remediation*, IAEA Proc. Series, ISBN 92-0-104305-8 (2005) pp 41-51.

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 their Remediation*, IAEA Proc. Series, ISBN 92-0-104305-8 (2005) pp 29-40.

F.P. Carvalho, M.J. Madruga, M.C. Reis, J.G. Alves, J.M. Oliveira, J. Gouveia, L. Silva. Radioactive

Contamination around Old Uranium Mining Areas in Portugal, *2nd Int. Conf. on Radioactivity in the Environment*, P. Strand, P. Borretzen, T. Jolle Editors. Norwegian Radiation Protection Authority, Osteras, Norway ISBN: 82-90362-21-8. (2005) 35-38.

F.P. Carvalho, M.J. Madruga, A. Brogueira, M.C. Reis, J.G. Alves, J.M. Oliveira, R. Trindade, L. Portugal, C. Pires. Depleted Uranium and Environmental Radioactivity in Kosovo after the Balkan's War. *2nd Int. Conf. on Radioactivity in the Environment*, P. Strand, P. Borretzen, T. Jolle Editors. Norwegian Radiation Protection Authority, Osteras, Norway ISBN: 82-90362-21-8. (2005) 95-98.

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. *Int. Conf. NORM IV, Naturally Occurring Radioactive Materials*, IAEA-TECDOC-1472 (2005) 357-367.

I. Lopes, F. P. Carvalho, J.M. Oliveira, M.J. Madruga, G. Ferrador, M.M. Sequeira. Estudo sobre a Radioactividade de Algumas Águas de Consumo. *1st Int. Congress Energy and Environment Engineering and Management*, Portalegre, Portugal, May 2005, (ISBN: 84-934089-9-9) (CD-ROM).

J.M. Oliveira, A. Libânio, F.P. Carvalho. Radioactive Contamination of the North-Atlantic Monitored along the Portuguese Coast with Bio-indicators. *1st Int. Conf. on Coastal Conservation and Management in the Atlantic and Mediterranean (ICCCM'05)*, Tavira, Portugal, 17-20 Apr. 2005 , pp. 399-405. F.V.Gomes, F.T. Pinto, L. Neves, A. Sena and O. Ferreira (Eds: FEUP, Universidade do Porto, (ISBN 972-752-083-9).

M.J. Madruga, I. Faria. The Comparative Uptake by Shrubs of ^{226}Ra , ^{210}Pb and Essential Elements at Uranium Mill Tailings. *2nd Int. Conf. on Radioactivity in the Environment*, P. Strand, P. Borretzen, T. Jolle Editors. Norwegian Radiation Protection Authority, Osteras, Norway ISBN: 82-90362-21-8. (2005) 278-281.

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 their Remediation*, IAEA Proc. Series, ISBN 92-0-104305-8 (2005) 71-79.

Communications

A.R. Gomes, F. Rodrigues, L. Machado, M.M. Sequeira, M.J. Madruga. Aplicação da Técnica de Cromatografia de Troca Iônica à Determinação de

Actividade Beta Residual em Amostras de Águas de Superfície. *4º Encontro Nac. de Cromatografia*, Évora, 12-14 Dec., oral.

C. Faisca. O DPRSN/ITN e o Gás Radão Programa da União Europeia sobre o Radão: ERRICCA 2, *3th Nat. Journeys about Radon and Natural Radioactivity*, Nisa, Portugal, Feb., oral.

F.P. Carvalho. Nuclear and Radiological Emergencies. *Seminar of Nato Defence Group on Proliferation.*, Lisboa, 16-17 June, oral.

M.J. Madruga, M.M. Sequeira, I. Lopes, L. Silva. Radioactividade nos Rios Tejo e Zêzere. *I Jornadas Luso Brasileiras de Protecção Contra Radiações e XI Jornadas Portuguesas de Protecção Contra Radiações*, Lisboa, 23-25 Nov., oral.

M.J. Reis. A Radioactividade no Ambiente – Radioactividade Natural e Artificial, *3th Nat. Journeys on Radon and Natural Radioactivity*, Nisa, Feb., oral.

M.J. Reis. A Radioactividade no Ambiente, *Conf. A Física e a Vida*, Coimbra, 1 Oct., oral.

M.J. Reis, H. Fonseca. Activity Size Distributions of Natural Radioactive Aerosols in Outdoor Air. *I Jornadas Luso Brasileiras de Protecção Contra*

Radiações e XI Jornadas Portuguesas de Protecção Contra Radiações, Lisboa, 23-25 Nov., oral.

P. Duarte. Cartografia do Radão em Portugal. Técnicas de Redução dos Níveis de Radão. Radão no Interior de Habitações do Concelho de Nisa, *3th Nat. Journeys about Radon and Natural Radioactivity*, Nisa, Feb., oral.

Internal Reports

M.J. Madruga, M.M. Sequeira, G. Ferrador, M.A. Gameiro, M. Reis, I. Lopes, L. Silva, J. Gouveia, L. Ramos, L. Machado, M.A. Pereira, M.A. Tavares, F.P. Carvalho, J.M. Oliveira, A. Libânia. Vigilância Radiológica a Nível Nac. (Ano 2004). *DPRSN, Série A, n°29/2005*, ISBN 972-8660-30-8, Depósito Legal 194022/03.

J.M. Falcão, F.P. Carvalho, M. Leite, M. Alarcão, E. Cordeiro, J. Ribeiro, *et al.*. MinUrar- Minas de Urâno e seus Resíduos: Efeitos na Saúde da População. Relatório Científico I, July 2005, Publ. INSA, INETI, ITN.

G. Ferrador, M.M. Sequeira, I. Lopes, M.A. Tavares, M.A. Pereira, L. Ramos, M.J. Madruga. E. Oliveira, J.M. Oliveira, Water radioactivity measurement in public and mineral water suppliers (3).

Measurement Unit

Communications

L. Machado, R. Melo, J. Branco, N. R. Pinhão and M. L. Botelho, Aplicação da Cromatografia Iónica no estudo do impacto da radiação gama em lamas provenientes de águas residuais de uma indústria de tratamento de carne, *4º Encontro Nac. de Cromatografia*, Évora, 12-14 December 2005, poster.

ML Botelho, J Branco, R Melo, L Machado, M A Castelo Branco, M R Menino, Slaughterhouse Sludge

Treatment Using Ionizing Radiation - Studies on Sludge as Agriculture Fertilizers, *PACIFICHEM 2005*, Honolulu, USA, poster.

Internal reports

N. R. Pinhão Measurement and Data Treatment, ITN 2005

L. Silva, J. Cardoso, Detection and Measurement of Ionizing Radiations, ITN 2005.

Metrological Laboratory of Ionising Radiation

Communications

J. Cardoso, A. F. Carvalho, C. Oliveira. Simulation Studies on a Prototype Ionization Chamber for Measurement of Personal Dose Equivalent, $H_p(10)$. *IM2005*, Vienna, April 2005, poster.

J. Cardoso, Quantities and units in Radiation Protection. MSc. in Technological Physics Engineering, Security and Radiation Protection. Instituto Superior Técnico, April 2005, Lisbon.

J. Cardoso. Ionization Chambers. MSc. in Technological Physics Engineering, Security and Radiation Protection. Instituto Superior Técnico, July 2005, Lisbon.

Radiological Protection and Radioactive Waste Management

Books

R. Trindade, I. Paiva, L. Portugal, Manual de Procedimentos para a Gestão de Resíduos Radioactivos. Recomendações Gerais (DGIES-ITN/DPRSN), *Cadernos DGIES n° 5*, Mar 2005.

Journals

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, *Rad. Prot. Dosim.* 116: (2005) 417-422,

Conference Proceedings

R. Trindade, I. Paiva, L. Portugal, Radioactive Waste Management in Portugal , *Int. Symp. on Disposal of Low Activity Radioactive Waste*, IAEA, 2005

C.Oliveira, A.N.Falcão, R.Trindade, M.C.Lopes, M.C. Sousa, P. Rosário, Education and Training in Radiation Protection in Portugal: Present Situation and a Project for the Future, *3rd Int. Conf. on Education and Training in Radiological Protection*, ETRAP, Bruxelles, 23-25 Nov 2005.

C.Oliveira, A.N.Falcão, R.Trindade, M.C.Lopes, M.C. De Sousa, P. Rosário, Formação e Treino dos Peritos em Protecção Radiológica Situação presente e um projecto para o futuro, *I Jornadas Luso Brasileiras de Protecção contra Radiações e XI Jorn. Portuguesas contra Radiações*, IST, Nov 2005.

Communications

R.Trindade, Radioprotecção, *VIII Jornadas Nacionais de Química Industrial*, Covilhã, 12 Mar., oral.

R.Trindade, Protecção Radiológica, *Semana das Ciências Experimentais da Escola Secundária de Monserrate*, Viana do Castelo, Abril, oral.

M.I.F. Paiva, R. Trindade, L. Portugal, Environmental risks associated to the radioactivity in scrap metal overview of the Portuguese situation. *2nd Int. Conf. on Radioactivity in the Environment and 6th Int. Conf. on Environmental Radioactivity in the Artic & Antarctic*, Nice, France, 2-6 Oct., oral and poster.

F.P. Carvalho M. J. Madruga, A. Brogueira, M. Reis, J. G. Alves, J.M. Oliveira, R. Trindade, L. Portugal, C. Pires, Depleted uranium and environmental radioactivity in Kosovo after the Balkan's war; *2nd Int. Conf. on Radioactivity in the Environment and 6th Int. Conf. on Environmental Radioactivity in the Artic & Antarctic*, Nice, France 2-6 Oct., oral and poster.

C.Oliveira, A.N.Falcão, R.Trindade, M.C.Lopes, M.C. De Sousa, P. Rosário, Education and Training in Radiation Protection in Portugal: Present Situation and a Project for the Future; *3rd Int. Conf. on Education and Training in Radiological Protection*, ETRAP; Bruxelles, 23-25 Nov., oral.

C.Oliveira, A.N.Falcão, R.Trindade, M.C.Lopes, M.C. De Sousa, P. Rosário, Formação e Treino dos Peritos em Protecção Radiológica. Situação presente e um projecto para o futuro, *I Jornadas Luso Brasileiras de Protecção contra Radiações e XI Jorn. Portuguesas contra Radiações*, IST, Lisboa, Nov., oral.

Internal Reports

R. Trindade, I. Paiva, L. Portugal, P. Duarte, J. Venâncio, L. Brás, F. Gomes, L. Silva, J. Sebastião, L. Madureira, M.Reis, R. Trincheira, Discharges from nuclear medicine (2); Nuclear vessels (3); Scrap metal (11); Transport of radioactive materials (2); Medical and industrial radiological facilities (6).

Dose Assessment and Dose Registry

Communications

V. Kamenopoulou et al., Aspects of Harmonization of Individual Monitoring for External Radiation in Europe: Conclusions of a EURADOS Action, *EURADOS Annual Meeting*, Krakow, Poland, 19-21 January 2005, poster.

M.B. Martins, J.G. Alves, J.N. Abrantes, A.R. Roda, Occupational Exposure in Nuclear Medicine in Portugal in the 1999-2003 Period, *IM2005 European Workshop on Individual Monitoring of Ionising Radiation*, Vienna, Austria 11-15 April 2005, poster.

J.G. Alves, J. Mairos, In-Flight Dose Estimates for Aircrew and Pregnant Female Crew Members in Military Transport Missions, *IM2005 European Workshop on Individual Monitoring of Ionising Radiation*, Vienna, Austria 11-15 April 2005, poster.

J.G. Alves, J.N. Abrantes, S. Rangel, L. Santos, A Database for the Storage of Quality Control Parameters, *IM2005 European Workshop on Individual Monitoring of Ionising Radiation*, Vienna, Austria, 11-15 April 2005, poster.

Radiological Risk and Safety Assessment

Journals

A.D. Oliveira, Photon track evolution, *Rad. Prot. Dosim.* 115 (2005) 600-605.

A.D. Oliveira and C. Oliveira Comparison of deterministic and Monte Carlo methods in shielding design, *Rad. Prot. Dosim.* 115 (2005) 254-257.

M. Neves, A. Kling and A. D. Oliveira, Radionuclides used for therapy and suggestion for new candidates, *J. Radioanalytical & Nucl. Chem.*, 266 (2005) 377-384.

A.S. Rodrigues, N.G. Oliveira, O. M. Gil, A. Leonard, J. Rueff, Use of cytogenetic indicators in radiobiology, *Rad. Prot. Dosim.* 115 (2005) 455-460.

S.N. Silva, O. M. Gil, V.C. Oliveira, M.N. Cabral, A.P. Azevedo, A. Faber, I. Manita, T.C. Ferreira, F. Limbert, J.E. Pina, J. Rueff, J. Gaspar, Association of polymorphisms in *ERCC2* gene with non-familiar thyroid cancer risk, *Cancer Epidemiol Biomarkers Prev* 14 (2005) 2407-2412.

U. Abbondanno et.al., The data acquisition system of the neutron time of flight facility n_TOF at CERN, *Nucl. Instr. Meth. A* 538 (2005), 692.

Conference Proceedings

R. Terlizzi et al., Measurement of the $^{139}\text{La}(\text{n},\text{g})$ cross section, *Int. Conf. Capture γ -ray Spectroscopy and Related Topics*, Notre Dame, USA, 5-9 Sep., 2005.

C. Domingo-Pardo et. al., Measurement of the resonance capture cross section of Pb-204 and Pb-206 and the termination of the s-process, *Int. Conf. Capture γ -ray Spectroscopy and Related Topics*, Notre Dame, IN, USA, 5-9 Sep., 2005.

P.F. Mastinu, et al., Neutron cross section measurements at n_TOF for ADS related studies, *Eur. Physical Society, 19th Nuclear Physics Divisional Conf. New Trends in Nuclear Physics Applications and Technology* Pavia, Italy, Sep. 5-9, 2005.

A. Carrillo de Albornoz, L. Marques, I.F.Gonçalves, P. Vaz, Characterization of a Neutron Beam Available at the RPI Using a Set of Bonner Spheres, *Rad. Prot. Dosim.* 115 (2005), ICRS-10/RPS 2004.

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 MeV To 10 MeV Using Liquid Scintillator Materials Doped With High-Z Elements, *Rad. Prot. Dosim.* 116 (2005), ICRS-10/RPS 2004.

Communications

F.C. Teixeira, I.F.A. Pereira, M.J.M. Curto and M. Neves, Synthesis and characterization of new indazolebisphosphonates Sm-153 complexes, *VI^a Conf. de Química Inorgânica*, Funchal, Madeira, Portugal, March 31-April 2, poster.

A. Carrillo, L. Marques, A.D. Oliveira, I.F. Gonçalves, P. Vaz and D. Marques, Dose assessment in a 650 keV electron irradiator for industrial applications, *MC2005, The Monte Carlo Method: Versatility Unbounded In A Dynamic Computing World*. Chattanooga, USA, 17-21 April, poster.

C. Carrapico, I.F. Goncalves, J. Manteigas, A.D. Oliveira, P. Vaz, Radiological risk assessment of a storage facility for radioactive sources, *MC2005*, Chattanooga, 17-21 April, Chattanooga, USA, oral.

Wagener J.M., Zeevaart J.R., Neves M., Costa M.C., Rodrigues C., Dithebe M.K., Knoesen, Louw W.K. ^{99m}Tc -Labelled biguanide derivatives: chemical speciation modelling and evaluation in vervets, *16th Int. Symp. on Radiopharmaceutical Chemistry*, University of Iowa, USA, June 24-28, poster.

S. Torres, J.P. André, J.A. Martins, M. Isabel Prata, A.C. Santos, M. Neves, T.B. Rodrigues, P. López-Larrubia, S. Cerdán, C.F.G.C. Geraldes, Assessment of Gd(III)-EPTPA-C16, a new self-assembling Gd(III)-chelate: biodistribution and gamma imaging of the ^{153}Sm (III)-labelled ligand and MR imaging studies of the Gd(III)-chelate in a rat model. *COST D21 workshop* Cologne, Germany, Sep., oral.

M. Neves, A. Kling, A. D. Oliveira, Radionuclide Therapy: Dose Rate, Cell Cluster and Radionuclide Selection. *XX ALASBIMN American-Latin Association of Biology and Nuclear Medicine*, Punta del Este, Uruguay, 4-7 Dec., oral.

S.N. Silva, O. Monteiro Gil, V.C. Oliveira, M. N.Cabral, A.P. Azevedo, A. Faber, I. Manita, T.C. Ferreira, E. Limbert, J.E. Pina, J. Rueff, J. Gaspar, Association of ERCC2 polymorphisms with non-familiar thyroid cancer. *Keystone Symposia Genome Instability & Repair*, New México, USA, Mar., poster.

O.M. Gil, S. Silva, N. Oliveira, A. Rodrigues, A. Laires, T. Ferreira, E. Limbert, J. Rueff, J. Gaspar, ERCC2 polymorphisms and micronuclei levels in thyroid cancer patients after treatment with 131-I. *35th Annual Meeting Eur. Environmental Mutagen Society-Environmental and human genetic disease – Causes, mechanism & effects*, Kos Island, Greece July, poster.

M. J. Silva, O. M. Gil, P. Costa, A. C. Sousa , P. Cardoso, L. Pedro, A. Dias, P. Nogueira, J. Marinho-Falcão, M. Boavida, Chromosome aberrations in residents exposed to uranium mines waste, *35th Annual Meeting European Environmental Mutagen Society*, Kos Island, Greece July, poster.

Internal Reports

A.D. Oliveira, P. Vaz, M.A. Costa, Radiation Safety Reports on: Veterinary, Medicine, Industry and Research (151); Radionuclides Laboratories (4); Linear Accelerators (3); Mössbauer Spectroscopy (2); Brachytherapy (1); Nuclear Medicine (1); Industrial Accelerators (1).