

## Environmental Sciences

**◆ Health and Environmental Studies Using Ion Beams**

**Journals****Published**

CARVALHO, M.L., CASACA, C., PINHEIRO, T., MARQUES, J. P., CHEVALLIER, P., CUNHA, A.S., Analysis of Human Teeth and Bones from the Chalcolithic Period by X-ray Spectrometry, *Nucl. Instr. and Meth B* **168** (2000) 559-565.

**Accepted for publication or in press**

CARVALHO, M.L., CASACA, C., MARQUES, J.P., PINHEIRO, T., CUNHA, A.S., CHEVALLIER, P., Human Teeth Elemental Profiles by Synchrotron Radiation: Dietary Habits and Environmental Influence, *X-ray Spectrom.*, in press.

PINHEIRO, T., ALVES, L.C., PALHANO, M.J., BUGALHO DE ALMEIDA, A., Mobilisation of Toxic Elements in the Human Respiratory System, *Nucl. Instr. and Meth.*, in press.

SEIXAS, S.B., PINHEIRO, T., REIS, C.S., Study of Lead in Octopus (*Octopus vulgaris*) in Portugal, *Mar. Poll. Bull.*, in press.

**Communications**

SEIXAS, S.B., PINHEIRO, T., REIS, C.S., Lead in Octopus (*Octopus vulgaris*) in Portugal - A Preliminary Study, CIAC 2000, Aberdeen, UK, June 2000. (poster)

BARREIROS, M.A., PINHEIRO, T., ARAÚJO, M.F., COSTA, M.M., PALHA, M., SILVA, R.C., Quality Assurance in Nuclear Related Analytical Techniques,

European Conference on Analytical Chemistry *EUROANALYSIS XI*, Lisbon, Portugal 3-9 September, 2000. (poster)

BARREIROS, M.A., COSTA, M.M., PINHEIRO, T., ARAÚJO, M.F., PALHA, M., SILVA, R.C., TXRF, PIXE and EDXRF: A First Step Towards Normalization of X-ray Spectrometry for Chemical Analysis, *8<sup>th</sup> International Conference on Total Reflection X-ray Spectrometry*, Vienna, Austria, 23-27 September 2000. (oral)

PINHEIRO T., Nuclear Techniques for Toxicology and Environmental Health Studies, *NATO Advanced Research Workshop, on Monitoring of Natural and Man-made Radionuclides and Heavy Metal Waste in Environment*, Dubna, Russia, 3-6 October 2000. (invited)

SANTOS, M.C., PINHEIRO, T., RAIMUNDO, N., MONTEIRO, C., PINTO, R.E., Evidence for an Effect of Selenium Supplementation on the Concentration of Rubidium in Several Rats Tissues, "*Congresso Nacional de Bioquímica*", Póvoa do Varzim, Portugal, 28-30 September 2000. (poster)

**Theses****Lic.**

NUNO FILIPE V.N. RAIMUNDO

*Efeito da Suplementação com Selenito sobre a Acção da Dietilnitrosamina em Tecidos de Rato*  
FC-UL (Biochemistry)

Supervisors: Cristina Santos (FC-UL) and Teresa Pinheiro (ITN).

## ◆ Atmospheric Elemental Dispersion

### Journals

#### Published

FREITAS, M.C., REIS, M.A., MARQUES, A.P., WOLTERBEEK, H.TH., Dispersion of Chemical Elements in an Industrial Environment Studied by Biomonitoring using *Parmelia sulcata*, *Journal of Radioanalytical Nuclear Chemistry* **244** (2000) 109-113.

JESUS, A.P., REIS, M.A., ALVES, L.C., Anomalous X-ray Yields from Insulating Samples Bombarded by Ion Beams, *Nucl. Instr. and Methods* **B161-163** (2000) 120-124.

#### Accepted for publication or in press

FARINHA, M.M., FREITAS, M.C., ALMEIDA, S.M., REIS, M.A., Some Improvements on Air Particulate Matter Analysis by INAA, *Radiation Physics and Chemistry*, accepted for publication.

FREITAS, M.C., REIS, M.A., MARQUES, A.P., WOLTERBEEK, H.TH., Use of Lichen Transplants in Atmospheric Deposition Studies, *Journal of Radioanalytical and Nuclear Chemistry, Articles*, accepted for publication.

PACHECO, A.M.G., FREITAS, M.C., BARROS, L.I.C., FIGUEIRA, R., Investigating Tree Bark as an Air-Pollution Biomonitor by Means of Neutron Activation Analysis, *Journal of Radioanalytical and Nuclear Chemistry, Articles*, accepted for publication.

REIS, M.A., ALVES, L.C., FREITAS, M.C., VAN OS, B., De GOEIJ, J., WOLTERBEEK, H.TH., Calibration of Lichen Transplants Considering Faint Memory Effects, *Environmental Pollution*, accepted for publication.

### Books and Book Chapters

FREITAS, M.C., REIS, M.A., ALVES, L.C., WOLTERBEEK, H.TH., Nuclear Analytical Techniques in Atmospheric Trace Element Studies in Portugal, in *Trace Elements in the Environment – their Distribution and Effects*, eds. Markert and Friese, Elsevier Science B.V., 2000, Chapter 6, pp.187-213.

### Conference proceedings

#### Published

COSTA, C.J., FREITAS, M.C., REIS, M.A., MARQUES, A.P., ALMEIDA, S.M., Elemental Characterisation of Aerosols in Setúbal Península from 1994 to 1998, *Proceedings of the 15<sup>th</sup> International Clean Air & Environment Conference*, Sydney, Australia, 26-30 November, 2000.

REIS, M.A., ALVES, L.C., FREITAS, M.C., VAN OS, B., WOLTERBEEK, H.T., Mean Annual Response of Lichens *Parmelia sulcata* to Environmental Elemental Availability, *Proceedings of the International Workshop on Biomonitoring of Atmospheric Pollution (with emphasis on trace elements) – BioMAP*, Lisbon, Portugal, 21-24 September, 1997, IAEA TECDOC-1152, June 2000, pp.81-90.

#### Accepted for publication or in press

FREITAS, M.C., PACHECO, A.M.G., MARQUES, A.P., BARROS, L.I.C., REIS, M.A., Application of Nuclear Analytical Techniques to Environmental Studies, *Proceedings of the International Conference Application of Accelerators in Research and Industry'2000*, eds. Jerome L. Duggan and I. Lon Morgan, American Institute of Physics Publ., College Park MD, USA, in press.

### Communications

ALMEIDA, S.M., FREITAS, M.C., REIS, M.A., FARINHA, M.M., Air Particulate Matter Characterisation of an Industrial Area at North from Lisbon (Comparison with Reference Values), *BioMAP - 2<sup>nd</sup> International Workshop on Biomonitoring of Atmospheric Pollution*, Praia da Vitória, Azores Island, Portugal, 28 August – 3 September, 2000.

ALMEIDA, S.M., FREITAS, M.C., REIS, M.A., FARINHA, M.M., Air Particulate Matter Characterisation of an Industrial Area at North from Lisbon, *Euroconference – New and Renewable Technologies for Sustainable Development*, Madeira Island, 26-29 June, 2000.

ALMEIDA, S.M., REIS, M.A., FREITAS, M.C., PIO, C.A., Accuracy and Precision Studies in INAA and PIXE in Aerosol Filters, *BERM8 - 8<sup>th</sup> International Symposium on Biological and Environmental*

*Reference Material*, Bethesda, Maryland, U.S.A., 17-22 September, 2000.

COSTA, C.J., MARQUES, A.P., FREITAS, M.C., REIS, M.A., OLIVEIRA, O.R., A Comparative Study for Results Obtained Using Biomonitoring and PM10 Collector in Sado Estuary, BioMAP - 2<sup>nd</sup> International Workshop on Biomonitoring of Atmospheric Pollution, Praia da Vitória, Azores Island, Portugal, 28 August – 3 September, 2000.

FARINHA, M.M., MARQUES, A.P., ALMEIDA, S.M., FREITAS, M.C., REIS, M.A., Monitorization of the Waste Incinerator Effects in an Industrial Area in the North of Lisbon, BioMAP - 2<sup>nd</sup> International Workshop on Biomonitoring of Atmospheric Pollution, Praia da Vitória, Azores Island, Portugal, 28 August – 3 September, 2000.

HIPÓLITO, C.S., FREITAS, M.C., A Chemical Speciation Study in Aerosol Samples, III Scientific Conference on Trace Metals Effects on Organisms and Environment, Sopot/Poland, 6-8 June, 2000.

HIPÓLITO, C.S., FREITAS, M.C., A Chemical Speciation Study in Aerosol Samples, BioMAP - 2<sup>nd</sup> International Workshop on Biomonitoring of

*Atmospheric Pollution*, Praia da Vitória, Azores Island, Portugal, 28 August – 3 September, 2000.

MARQUES, A.P., FREITAS, M.C., OLIVEIRA, O.R., REIS, M.A., WOLTERBEEK, H.TH., Biomonitoring of Trace Element Air Pollution in Sado Estuary, BioMAP - 2<sup>nd</sup> International Workshop on Biomonitoring of Atmospheric Pollution, Praia da Vitória, Azores Island, Portugal, 28 August – 3 September, 2000.

MARQUES, A.P., FREITAS, M.C., OLIVEIRA, O.R., REIS, M.A., WOLTERBEEK, H.TH., Biological Material Analysed by PIXE and INAA: a Comparative Study, BERM8 - 8<sup>th</sup> International Symposium on Biological and Environmental Reference Material, Bethesda, Maryland, U.S.A., 17-22 September, 2000.

MATEUS, R., REIS, M.A., JESUS, A.P., RIBEIRO, J.P., Cálculo de Concentrações de Elementos Leves em Amostras Espessas, XII<sup>th</sup> National Physics Conference – “FISICA 2000”, Figueira da Foz, September, 2000.

## ◆ Environmental Analytical Chemistry

### Journals

#### Published

DRAGO, T., ARAÚJO, F., VALÉRIO, P., WEBER, O., JOUANNEAU, J.-M., Geomorphological Control of Fine Sedimentation on the Northern Portuguese Shelf, *Boletim Inst. Esp. Oceanogr.* **15** (1-4) (2000) 111-122.

MELO, A.A., ARAÚJO, M.F., Machado de Bronze de Santo Tirso, *Santo Tirso Arqueológica* **2**, 2ª Série (2000).

#### Accepted for publication or in press

ARAÚJO, M.F., JOUANNEAU, J.-M., VALÉRIO, P., BARBOSA, T., GOUVEIA, A., WEBER, O., OLIVEIRA, A., RODRIGUES, A., DIAS, J.M.A., Geochemical Tracers of Northern Portuguese Estuarine Sediments on the Shelf, *Progress in Oceanography*, in press.

BARREIROS, M.A., PINHEIRO, T., ARAÚJO, M.F., COSTA, M.M., PALHA, M., SILVA, R.C., Quality Assurance of X-ray Spectrometry for Chemical Analysis. *Spectrochimica Acta, part B*, in press.

DIAS, J.M.A., JOUANNEAU, J.-M., ARAÚJO, M.F., DRAGO, T., GARCIA, C., GONZALEZ, R., OLIVEIRA, A., RODRIGUES, A., VITORINO, J., WEBER, O., Present Day Sedimentary Processes on the Northern Iberian Shelf, *Progress in Oceanography*, in press.

MARQUES, J.M., CARREIRA, P.M.M., AIRES-BARROS, L., GRAÇA, R.C., Nature and Role of CO<sub>2</sub> in some hot and cold HCO<sub>3</sub>/Na/CO<sub>2</sub>-rich Portuguese Mineral Waters: a Review and Reinterpretation, *Environmental Geology*, **40** (1) (2000), in press.

### Books and Book Chapters

CONDESSO DE MELO, M.T.; CARREIRA, P.M.M., MARQUES DA SILVA, M.A., Evolution of the Aveiro Cretaceous Aquifer (NW Portugal) During the Late Pleistocene and Present Day: Evidence from Chemical and Isotopic Data, *in Palaeowaters in Europe*, ed. W.M. Edmunds and C.J. Milne, Geological Society, London, Special Publications, in press.

### Conference Proceedings

ARAÚJO, M.F., MARQUES, R., ROCHA, F., Caracterização Química e Mineralógica da Fração Silto-Argilosa de Sedimentos dos Rios Minho, Lima, Cávado, Ave e Douro, *3º Simpósio sobre a Margem Ibérica Atlântica*. Faro, (2000) pp.97-98.

BARREIROS, M.A., PINHEIRO, T., ARAÚJO, M.F., COSTA, M.M., PALHA, M., SILVA, R.C., Quality Assurance in Nuclear Related Analytical Techniques, Book of Abstracts, *EUROANALYSIS XI*, 2000, P-406.

DIAS, J.M.A., JOUANNEAU, J.-M., WEBER, O., ARAÚJO, M.F., DRAGO, T., GARCIA, C., OLIVEIRA, A., RODRIGUES, A., VITORINO, J., Processos Sedimentares Recentes na Plataforma Norte Ibérica. *3º Simpósio sobre a Margem Ibérica Atlântica*. Faro, (2000) pp. 273-274.

HUMANES, M., GONÇALVES, J., LOPES, M.T., ARAÚJO, F., ALVES DE MATOS, A.P., LEITÃO, J., Chemical and Biological Studies on *Demospongiae* from the Portuguese Coast, *3º Simpósio sobre a Margem Ibérica Atlântica*. Faro, (2000) pp. 339-340.

MELO, A.A., ARAÚJO, M.F.D., ALVES, H., The Bronze Axe of the "Quarta-Feira" Mine, *Proceedings of the 6<sup>th</sup> Annual Meeting of the European Association of Archaeologists, in Metals and Society Section*, (2000) pp. 115.

VALÉRIO P., BARBOSA, T., ARAÚJO, M.F., JOUANNEAU, J.-M., A Geochemical comparison of the sedimentary deposits off the major Iberian rivers: Tagus and Douro (Portugal), *3º Simpósio sobre a Margem Ibérica Atlântica*. Faro, (2000), pp.233-234.

### Communications

ARAÚJO, M. F., JOUANNEAU, J.-M., VALÉRIO, P., BARBOSA, T., GOUVEIA, A., WEBER, O., OLIVEIRA, A., RODRIGUES, A., DIAS, J.M.A., Geochemical Tracers of Northern Portuguese Estuarine Sediments on the Shelf, *OMEX II-II Final Workshop - The Carbon Cycle at the Iberian Margin*, Liège, Belgium, May 2000.

DIAS, J.M.A., JOUANNEAU, J.-M., ARAÚJO, M.F., DRAGO, T., GARCIA, C., GONZALEZ, R., OLIVEIRA, A., RODRIGUES, A., VITORINO, J., WEBER, O., Present Day Sedimentary Processes on the Northern Iberian Shelf, *OMEX II-II Final Workshop - The Carbon Cycle at the Iberian Margin*, Liège, Belgium, May 2000.