

Division of Environmental Radioactivity

Maria José Madruga

Environmental radioactivity group is the only technical body in the country with specialised equipment and trained staff to fulfil the State's national and international obligations in this field (ex. Artº 35 and Artº 36 EURATOM Treaty). In this context a national environmental monitoring network is on going. This programme concerns the determination of natural and artificial radionuclides in aquatic ecosystems, mainly rivers, whose basins receive effluents from Spanish nuclear power plants (ex. Tejo), estuaries and portuguese coast, in terrestrial environmental radioactivity (foodstuffs, drinking water, soils, etc.) due to atmospheric fallout or enhanced natural radioactivity and, in atmospheric radioactivity (rainwater and aerosols), due to cosmic radiation.

Current research projects are on going to investigate the levels of radioactive contamination in and around the old uranium mining sites in order to assess the radiological risk for the population and to assist with defining priorities for environmental rehabilitation.

Studies concerning the determination of indoor radon concentrations, radon exhalation from building materials and radon countermeasures are on going.

The technical services developed by this Division are often carried out under contract with companies or, by request from enterprises or Government organizations.

Some of these services are: the evaluation of the radioactivity levels in public water supplies (Decree-Law nº243/2001) and mineral waters, radioactivity analysis of foodstuffs and goods to export, and radon measurements in indoor atmosphere.

The group have also collaborated in the elaboration of a proposal to a new research project with Universities from Canarias, submitted to the INTERREG IIB Açores-Madeira-Canárias Programme (2000-2006). The aim of the project is to develop and implement an environmental radiological survey programme in the Açores, Madeira and Canárias archipelagos.

Another project on the potential impact of radioactivity in the terrestrial and feshwater ecosystems of the South of Spain and Portugal (acronym ECREN) was organized jointly by the University of Huelva, University of Extremadura, University of Algarve and ITN/DPRSN for submission to the European Union for funding.

Two researchers of the group are members of the "Comissão e Subcomissão de Acompanhamento da Concessão para o Exercício da Actividade de Recuperação Ambiental de Áreas Mineiras Degradadas (Base XII do Decreto-Lei 198-A-2001 de 06.07)".

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Research Team

Researchers

- M. JOSÉ MADRUGA, Principal Research (Group Leader)
- FERNANDO CARVALHO, Principal Research
- MÁRIO REIS, Auxiliar Research
- JOSÉ ALBERTO CORISCO, Research Assistant
- ISABEL FARIA (ITN grant) left in August 2003
- ANABELA LUCAS, (ITN grant) left in September 2003
- VICTOR SILVINO (ITN grant) left in December 2003

Students

- IRENE LOPES, (FCT grant)
- JORGE GOUVEIA, (ITN grant)
- LIDIA SILVA, (ITN grant)
- LUBÉLIA MACHADO, (ITN grant)
- LUIS RAMOS (ITN grant)
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Technical Personnel

- M. MANUELA SEQUEIRA
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