

# Radiological Protection and Safety Unit

Pedro Vaz

The main activities of the Radiological Protection and Safety Unit (UPSR) were i) research and development ii) technical services iii) participation in intercomparison exercises involving nuclear and radioanalytical techniques iv) education and training and v) representation in national and international technical and scientific committees.

In the last quarter of 2008, a major effort was undertaken in order to start the preparation of the accreditation of the laboratories of the UPSR for several radioanalytical techniques in use. This effort is to be pursued during 2009.

The scarcity of human resources (researchers, technicians and research fellows) required to meet the increasingly higher volume of work resulting from the legal obligations and service providing duties as well as from the involvement in research and development projects, is presently seriously limiting and hampering the intervention capacity of the UPSR.

The succinct description of the activities is as follows:

## Research and Development activities:

Special emphasis has been devoted to i) fostering and establishing partnerships between groups of UPSR researchers and experts in other sectors of ITN and in other Portuguese and foreign institutions and to ii) the participation of UPSR researchers in national and international consortia conducting R&D activities and projects funded by the European Union (ongoing in the E.U. 6<sup>th</sup> Framework Programme or submitted to the E.U. 7<sup>th</sup> Framework Programme), and by the Portuguese Foundation for Science and Technology (FCT), among others. Considering the trends in Radiation Protection and Radiation Dosimetry, as well as the UPSR mission and competences, special efforts were undertaken to strengthen the involvement of UPSR and its researchers in areas such as Computational Dosimetry, Internal Dosimetry, Biological Dosimetry and Radiobiology. Particular attention was devoted to the medical applications of ionizing radiations.

## Technical Services:

The Environmental Radioactivity Group and the Measurement Laboratory conducted the National Environmental Radiological Survey including the monitoring of the areas around the former uranium mining sites and of the *campus* of Sacavém.

The Radioprotection and Radioactive Waste Group performed activities associated to the licensing of

radioactive sealed sources, the interim storage of radioactive waste, the detection of radioactive substances in scrap metal, the management of radioactive wastes on medical, and industrial facilities, and the verification of the radiological safety of installations, among others.

The Dosimetry and Radiobiology Group pursued its technical activities related to the assessment of the safety of radiological installations, mainly in Nuclear Medicine installations and Radiotherapy vaults, in hospitals and clinics throughout the country, as well as to individual and environmental monitoring.

The Laboratory of Metrology of Ionising Radiation performed the calibration and metrological verification of equipments. The available irradiation devices were used in support of R&D activities.

## Participation in intercomparison exercises:

The UPSR staff involved in environmental radioactivity measurements and in nuclear analytical techniques and methods participated in intercomparison exercises organized by the European Commission (EC), by the International Atomic Energy Agency (IAEA), by the French IRSN and by Spanish institutions. The UPSR also participated in intercomparison exercises in the fields of Dosimetry (conducted by the Spanish CSN, by EURADOS-European Radiation Dosimetry Group) and Metrology (namely by the IAEA/WHO and the BIPM).

## Education and Training:

UPSR researchers participated in training courses in Radiological Protection for professionals in the medical and industrial sectors and taught several disciplines in post-graduation Courses in Radiological Protection and Safety in several Portuguese universities. The number of Master thesis and post-graduation works, by UPSR fellows and/or under the supervision of UPSR researchers, kept increasing. The UPSR participated in the activities of the European platforms and networks in education and training in Radiological Protection, namely EUTERP and CHERNE.

## Participation in national and international technical and scientific committees:

UPSR researchers acted as Portuguese representatives and assisted national delegates to international Committees, Working Groups and Task Forces whose activities are organized under the auspices of the EU, the IAEA and the OECD/NEA.

## UPSR Staff

### Researchers

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O. GIL, Aux.  
M. GOULART, Aux.  
A. D. OLIVEIRA, Aux.  
I. PAIVA, Aux.  
N. PINHÃO Aux. (40%)

M. REIS, Aux.  
R. TRINDADE, Aux.  
J. CORISCO, Aux.

### Technical and Admin. Personnel

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### Fellows and Collaborators

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