Reactor

José Gonçalves Marques

The Portuguese Research Reactor (RPI), as a unique infrastructure in the Iberian Peninsula, houses as well the ***Atmospheric Elemental Dispersion*** and the ***Applied Dynamics*** groups. The RPI also supports activities in the Chemistry Sector, the Physics Sector and in the Department for Radiological Protection and Nuclear Safety. A major step in ensuring the continuation of the operation of the RPI was given this year, through the core conversion to low enriched fuel.

Four young researchers were selected under the CIENCIA 2010 programme, to start working in early 2008. They will strengthen the groups of ***Atmospheric Elemental Dispersion*** (2 researchers), ***Applied Dynamics*** (1 researcher) and ***Reactor Dosimetry*** (1 researcher).

The staff involved in all aspects of the operation and use of the RPI presents its activities under the common headline of ***Operation and Exploitation of the Reactor, Reactor Dosimetry and Reactor Calculations***. Most of the research projects started in 2005, covering the areas of dosimetry, materials science and neutron tomography, are completed or close to completion, bringing new equipments and techniques into routine use.

The ***Atmospheric Elemental Dispersion*** group uses the k_0 INAA technique in the RPI and was the second main user of the reactor in 2007, accounting for 28% of the total irradiation time. The group is dedicated to cycling and impact of trace elements in the atmosphere. It addresses, specifically, the development and application of nuclear techniques, source apportionment and tracking in the atmosphere, chemical speciation, uptake and release of chemical elements in biomonitoring and monitoring, as well as health linkage through epidemiology and nutrition studies. These objectives are approached through research, included mostly in PhD theses. The activities are essentially financed by the Foundation for Science and Technology.

The research performed by the ***Applied Dynamics*** group is mostly concerned by vibration and acoustic problems displayed by components of nuclear and conventional power plants. As such, a significant part of their research results has been motivated and funded by the French *Commissariat à l'Energie Atomique (CEA)* and the Portuguese *Electricidade de Portugal (EDP)*. However, the techniques developed by this group can and have been used to solve problems, both of industrial and fundamental nature, outside the realm of power generation. In spite of being one of the smallest groups in terms of ITN staff, this fact is compensated by an active collaboration with Universities and Research Laboratories, both in Portugal and abroad. The vitality of this group is well demonstrated by their research contracts and publication

Reactor Staff

Researchers

J. G. MARQUES, Princ.
M. C. FREITAS, Princ.
A. V. ANTUNES, Princ.
A. FALCÃO, Princ.
N. P. BARRADAS, Princ. (95%)
A. KLING, Aux. (90%)
A. R. RAMOS, Aux. (90%)

Technical Personnel

J. P. SANTOS, Dosimetry
J. A. M. RIBEIRO, Reactor Operator
J. C. ROXO, Reactor Operator
N. SERROTE, Reactor Operator
R. SANTOS, Reactor Operator
R. POMBO, Radioprotection
F. B. GOMES, Radioprotection
A. RODRIGUES, Technician
V. TOMÁS, Laboratory Assistant (Retired in 2007)
I. DIONÍSIO, Laboratory Assistant

Administrative Personnel

T. FERNANDES, Secretariat