

# **GLOBAL REPORT ON THE EVALUATION OF THE RESEARCH UNITS ON EARTH AND SPACE SCIENCES**

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**General comments**

The panel has visited and evaluated all the twenty (20) research units, from Ponta Delgada in Azores, through Évora, Lisboa, Coimbra, Aveiro, Porto till Braga. So, during 10 (ten) days the panel constantly worked late into night and always felt an intense time pressure. However, the panel was impressed by the courtesy and helpfulness of the staff of the Fundação para a Ciência e a Tecnologia (FCT) that accompanied the visits and works.

All the units visited were well prepared and made very good oral presentations regarding their activities.

In general terms, there is great variation in the adequacy of office and laboratory accommodations provided by the universities to different Centres. In some cases these accommodations are very good, but in some others some improvements are needed.

In what concerns the acquisition of some essential equipment and the replacement of aged or obsolete one, the panel strongly supports their renovation.

Special attention must be given by the Fundação para a Ciência e a Tecnologia (FCT) to the lack of technical and assistance personnel working at the Centres. All the visited Centres have emphasised this lack of technicians as a very weak point in what concerns a lot of laboratory and/or field work tasks.

The panel wants to refer the good standard of Earth and Space scientific research in the visited Centres. It is interesting that in large number there are leading scientists at the Centres. A good picture of this general opinion is reflected by the fact that 65% of the evaluated units have obtained the classification of excellent (10%) or very good.

Another point the panel would like to stress out is the need to increment several types of grants such as Master, PhD. grants and post-doctoral fellowships as well as to increment short-term visiting professorships.

Existing equipment maintenance is another concern a large number of scientists have stressed out. The panel (?) this is a matter Fundação para a Ciência e a Tecnologia (FCT) should consider seriously.

### ***Special comments***

Besides the comments the panel presented in the specific evaluation of each Centre, some detailed comments are given below:

1. Centres try to develop an active cooperation in international projects, nevertheless it is recommended a stronger involvement of Portuguese scientists in international programmes.
2. On the other hand it will be productive to involve foreign research-workers in Portuguese projects. This could be promoted by launching adequate number of short visits to research groups abroad.
3. The increase of the internationalisation of Portuguese scientists requires, also, to enlarge the number of post-doctoral fellowships to work abroad.
4. A general national need for large and sophisticated equipment is a serious concern. Some accurately studied investments in this type of equipment must be made (*e.g.* the case of ELMASI is a good example) and Centres should be invited to put their needs in concern, promoting joint-laboratories in the large university towns like Lisbon, Porto and Coimbra.
5. There is a present need for Centre's scientists to publish in international recognised journals. So the Fundação para a Ciência e a Tecnologia (FCT) should promote and compensate this editorial activity.
6. There are some proposals for new Centres. The panel stresses out that besides the good and valuable approaches of the industry oriented programmes or the many interesting projects already in course, with significant social and economic

implications these new proposals have presented as their backgrounds, it is very important the development and/or the reorientation into basic scientific activities and approaches.

7. The panel thinks it will be necessary to establish a good and adequate dialogue between Fundação para a Ciência e a Tecnologia (FCT) and the Universities where the Centres are installed in order to avoid some problems concerning the physical infrastructures as well as the routine technical works are requiring adequate technical support staff.

Finally the panel would like to emphasise the Kindness of all scientists encountered during the long and very interesting journeys necessary to visit the twenty Centres working on Earth and Space Sciences. The dialogue established has always been very fruitful and instructive. The panel would also like to take this opportunity for wishing our colleagues of Earth and Space Sciences, in Portugal, all possible success in the future.