

EMBO Review of Spanish National Research Council (CSIC) Institutes for Life Sciences 2005

Executive summary and recommendations

- The CSIC Institutes for Life Sciences include very many top-class researchers. The quality of research, however, is not uniform and efforts will be needed to promote those scientists that are performing well and to reenergize those who are of low productivity.
- There was a great variation in the extent to which the institutes have considered strategic matters. For some, it was obvious that serious reflection had taken place and that the Institute generally "knew where it was going". For others, the overriding sense was that it would be "business as usual" and very often that was based on historical groupings that were devoid of strategy. The process of developing a strategy for research in many Institutes therefore is just beginning.
- The institutes under review are at varying stages of development. There are excellent institutes at each stage in the cycle from newly established through to fully mature. This illustrates that it is possible to have excellent Institutes at all stages in the Spanish system. There are other examples, again at all stages in the cycle of an Institute, which had not fulfilled their promise or the justification for their establishment. Occasionally, this was for reasons beyond their control; however attention should be paid to these such that there is a change in their fortunes in the near future.
- There is a general tendency for too many isolated research groups. The overriding philosophy of employment would appear to be to select the best scientists irrespective of their relevance to other research groups in an institute. The danger is clearly that research activities get spread too thin and actions should be taken to counteract this trend.
- The role of the Director in the institutes needs critical re-examination. The process by which Directors are selected may need to be examined in order to encourage the best to apply (including those from outside

the institute) and resources should be provided to make the position of Director one which is sought after.

- Institutes should reflect on the major theme that they wish to focus on. This should grow from the scientists who are present in the institute and should be consolidated by appointments which are made subsequently. The advantage of having colleagues working in cognate areas cannot be underestimated with benefits going to all of the groups as a result.
- It is essential that an extensive system of external advice is available to the institutes. The need for a Scientific Advisory Board (SAB) that meets frequently is particularly clear and will provide ongoing advice to the Director and the scientists. The need for an occasional external "arms-length" review is also obvious and would be particularly helpful for some of the more difficult strategic and personnel decisions which may have to be made.
- Generally there is a great need for internationalisation of the Spanish scientific system. Measures should be taken to encourage this, although it will most likely happen automatically when the quality of science in Spain has been internationally recognised as being outstanding.
- Major efforts have to be made to diminish the administrative burdens and the bureaucratic barriers which frequently block or retard logical scientific developments. If this were readily achieved in the reorganization of the CSIC, it would be a significant, beneficial change to science in Spain.
- Apart from greater coherence of science within the institutes, a renewed effort should be made to bring together research groups with overlapping interests that are found in different institutes. Some of these examples include the areas of Plant Biology, Neurobiology and Developmental Biology that are found in different locations, however there are many others that could be considered. This sense of developing a network within Spain would seem timely now that many research groups are well established and are being productive.

- Funding for research is essential in order to achieve the ambitious goals of any governmental plan. It is important that the level of funding is increased in the Life Sciences, in particular given the more expensive research approaches which are now almost obligatory to deliver high quality research.
- Decisions on infrastructure (large equipment) need to be taken in a more coherent manner in order to optimise the return on investment.
- It would be timely for reflection on the provision of major platform technologies (e.g. Proteomics, Structural Biology, DNA arrays etc.). Some of these should be centralised rather than proliferated in each of the institutes.
- It would be useful if the Life Sciences Institutes of the CSIC were re-analysed by an external review group in five years time to note changes and progress since this review.