

Summary of the ANICT 2010 Symposium

The ANICT 2010 Symposium was the first annual meeting of ANICT after its legal formation. It took place on the 8th of May at Reitoria da Universidade Nova de Lisboa, with the aim of discussing several issues of interest to the future of science in Portugal. It was attended by almost 250 researchers, about half of which were ANICT registered members, as well as several invited guests and speakers. ANICT 2010 began with a brief presentation of the history of ANICT by its president, Nuno Cerca, and was then divided into four sessions with the following topics: i) Science Policy; ii) Career Perspectives, Funding and Independence; iii) Technology Transfer and Entrepreneurship; iv) Science Communication and Dissemination.

The first session was chaired by Frank Wagner (University of Évora) and Nicolas Lori (University of Coimbra), and the guest speakers were Maria Arménia Carrondo (Vice-Rector for R&D of the New University of Lisbon), João Caraça (Director of the Science Section of the Calouste Gulbenkian Foundation) and João Sentieiro (President of the Foundation for Science and Technology – FCT). Two starting questions were posed to the speakers: i) what is missing for us to have internationally recognized centers of research excellence in Portugal at the level of the best in the world; and is this a goal of the national science program?; ii) what should be the focus of the national science policy effort, should it be focused on the pure sciences, sciences with applications to technology and medicine, social sciences, or some other area? Maria Arménia Carrondo mentioned the importance of a detailed analysis of strengths and weaknesses of each university, showing in detail how the various rankings analyze different aspects of what constitutes a university. João Caraça showed how the national investment in science has been growing, but with successive peaks and troughs, which in the opinion of the speaker should be replaced by a more stable funding policy for science. He also mentioned the importance of avoiding a narrow focus on applied science and technology, and focusing more on fundamental science. Finally, João Sentieiro stated that the policy of FCT has been to distribute funding through all areas of knowledge, and that it will be necessary to foster competitiveness so that Portuguese research centers can reach internationally recognized levels of excellence.

The second session was chaired by Miguel Santos and Miguel Jorge (both from the University of Porto), and began with a presentation by António Firmino da Costa, Professor of Sociology at ISCTE, who presented preliminary results from a survey to researchers hired under the program Ciência 2007, commissioned by FCT in collaboration with ANICT. In connection with the main theme of the session, it is important to note that although almost all researchers considered that career progression was an important motivation in applying for Ciência 2007 positions, about 70% of respondents said they did not know what their career prospects for the future were. The presentation was followed by a debate with the invited speakers: António

Rendas (Rector of the New University of Lisbon and President of the Council of Rectors of Portuguese Universities – CRUP), Alexandre Quintanilha (Secretary of the Council of Associated Laboratories – CLA – and researcher at IBMC), Maria do Carmo-Fonseca (Director of the Institute of Molecular Medicine – IMM) and Paulo Freitas (Director of INESC/INL). The initial questions posed to the panel were: i) Is there a future for a sustainable research career in Portuguese Universities/Laboratories? Would it have to be funded only by direct transfers from the State, or is there an alternative format; ii) Is research independence desirable? How does it impact the productivity of the individual researcher and of the research unit as a whole? During the discussion, António Rendas advocated the creation in Portuguese Universities of two intercrossing parallel careers (teaching and research), and emphasised that universities should take responsibility for the incorporation of researchers of high merit. Alexandre Quintanilha stressed the need for a rigorous external evaluation in order to select the best, and discussed the possibility of creating longer *senior track* contracts (10 years) for promising researchers. When invited to comment on the situation in the research center that he led for several years, he indicated that although it was a risky option, IBMC chose to incorporate researchers of high merit. Maria Carmo-Fonseca supported the creation of longer contracts for researchers that are at a more advanced stage of their career, and suggested the creation of competitive Career Advancement Fellowships, which could include the salary of the researcher, but also some seed funds to enable the researcher to lead his own research group. Paulo Freitas said that only a portion of researchers should be able to have more stable contracts, stressing that INESC already incorporated several researchers, namely those with more autonomy and scientific maturity. There was consensus among all speakers that it was essential for a researcher to have autonomy to supervise his own students and manage his own funds.

The third session was chaired by Konstantin Luzyanin (Technical University of Lisbon) and João Lopes (University of Porto) and had four representatives of companies with a strong innovation component as invited speakers: Maria João Teixeira de Queiroz (Eurotrials), António Câmara (YDreams), José Luis Moreira (Biotecnol) and Nuno Matos (Renova). The starting questions were: i) In Portugal, currently, the established level of partnership between industry and academia in terms of investments is still relatively low. What do you think is the main reason for this, and what are the plausible strategies for establishing these collaborations? Do you see the country in the future functioning in the same way as e.g. Germany, where in some regions the private investments in research approach 70% of all funds? ii) Do you think that the appearance of the so-called frontier sciences, such as e.g. nano- or biotechnology, will actually increase the level of technology transfer between the academia and industry? Or still the "old school sciences", such as chemistry can play their role, and the solution passes through redirecting the research toward the current realities, such as sustainable development? The panel members suggested possible strategies for making profit from scientific discoveries and discussed the necessary requirements for establishing fruitful collaborations between industry and academia, as well as the means to increase private investment into research and development.

The fourth session of the symposium was chaired by Myrta Grüning (University of Coimbra) and Natascha van Hattum (University of Minho), and had as invited speakers Carlos Fiolhais (Professor of Physics at the University of Coimbra), Joana Barros (Association “Viver a Ciência”), Ana Godinho (Gulbenkian Institute of Science) and Ana Simões (Historian of Science at the University of Lisbon). The starting questions posed to the panel were: i) Why, in your opinion and on the basis of your experience, should researchers invest their time in communicating science to the general public? ii) What do you consider effective in communicating research programmes and results to a wider public? What strategies have you used in your own situation? Carlos Fiolhais started off by giving a number of examples of popular physics and illustrating the need to make science more accessible for different publics, especially children. Joana Barros first explained the need for science communication to the general public and then suggested a number of strategies to communicate more effectively with different audiences. Ana Godinho emphasized the importance of training for science communication and the interaction between scientists and those they are communicating with. To finish the panel, Ana Simões commented on what we can learn from the history of Science and Technology and about how currently the history of science is not well represented when reflecting on science and technology. Despite the different views and experiences, there was a general consensus among the speakers that communicating/disseminating science should be seen as a duty of the researcher with regard to the society, and that it is beneficial both to society and to the researcher himself. The panel members also agreed that, whatever the strategy and the medium, communicating science should be a real two-way communication, in which the researcher should not only impose his knowledge but also listen to the public.

The symposium was closed with speeches by João Rodrigues, chairman of the Organizing Committee, and by Mariano Gago, Minister for Science, Technology and Higher Education. After acknowledging the audience, invited speakers and sponsors, João Rodrigues emphasised the will of ANICT to contribute in a positive and proactive way to the development of science in Portugal. In his closing speech, Mariano Gago stressed the importance of a close contact between scientists and society, because this is the only way to maintain popular support for investment in science. He also mentioned the need for a culture of evaluation and the fact that professional uncertainty is inherent to a scientific career.