STS Forum, 5-7 October 2014, International Conference Centre, Kyoto

Summary of the Fifth Funding Agency Presidents' Meeting, 6th October 2014

The 5th Annual Funding Agency Presidents' Meeting (FAPM) was held on Monday 6th October 2014 in Kyoto on the occasion of the 11th Science and Technology in Society (STS) Forum, co-chaired by Professor Dr. Frank Allgöwer, Vice-President of the Deutsche Forschungsgemeinschaft (German Research Foundation, DFG) and Dr. Michiharu Nakamura, President of the Japan Science and Technology Agency (JST). The heads of 27 funding agencies from around the world participated in this year's event, meeting to share their experiences and thoughts in open discussion of issues of common interest and concern in the promotion of Science and Technology, and to thereby facilitate and enhance networking and cooperation among the funding agencies. The two main topics of conversation were "Multidisciplinary initiatives and collaboration between the sciences, social sciences and humanities" and "Open access to research data". The discussion at this year's FAPM can be summarised as follows:

Discussion Topic 1
Multidisciplinary (transdisciplinary) initiatives and collaboration between the sciences, social sciences and humanities

Preamble
The major global challenges facing the world today cannot be tackled by researchers from any one discipline working alone. Rather, multidisciplinary and transdisciplinary approaches are necessary and therefore the promotion of such approaches is of growing importance. From that perspective, in what ways funding agencies can develop instruments to support and otherwise promote such multidisciplinary initiatives was discussed at this FAPM.

Discussion Content
The fact that our universities, research institutes and to a large extent our funding agencies are all organised by discipline presents a barrier to the promotion of multidisciplinary and transdisciplinary research collaboration. It was suggested that one of the roles of funding agencies should be to encourage a cultural change to a paradigm in which divisions between different departments are more porous,

allowing greater cross-discipline interaction. Several examples of institutions without departmental organisation were mentioned, such as the Okinawan Institute of Science and Technology where all research is multidisciplinary in nature. Multidisciplinary participation and training of young researchers is particularly important for the development of their future research capacities, and several cases of effective multidisciplinary training, such as compulsory training in social science practices for undergraduate natural scientists, were also brought up.

One particular difficulty mentioned in the promotion of multidisciplinary research was in the formation of review panels appropriate to assess the quality of proposals for research covering several disciplines. It was suggested that funding agencies should build in the required flexibility to their review processes to address this issue, enabling review panels to comprise the broad expertise necessary for thorough and effective evaluation.

It was suggested that it is the responsibility of funding agencies to implement "top-down" approaches to clearly present the added value expected of multidisciplinary research, to design and make available funding instruments to support multidisciplinary and transdisciplinary research, and to allocate those instruments significant proportions of overall budget suitable to clearly indicate their relative importance. To complement those approaches, funding agencies should also work to raise awareness of the need for collaboration across disciplines from the "bottom up", through the organisation of workshops and seminars. In addition, funding agencies have a role to play in the promotion and provision of appropriate training, facilities, infrastructure and collaboration platforms to facilitate multidisciplinary collaboration.

Discussion Topic 2
Open access to research data (other than publication)

Preamble
Against the backdrop of the global research landscape, ensuring greater availability of research data is highlighted as never before for its potential to improve validation as well as efficiency of worldwide research efforts. There is already an established trend to make more publicly available research results that are published in academic journals, and many funding agencies have already implemented

appropriate responses to that demand. At this FAPM however, it was discussed how funding agencies can fulfil an important role in promoting the open accessibility of research data that are not published in journals.

Discussion Content

The basic principles that knowledge should be the property of mankind and therefore that research that is supported by public funding should as far as possible be accessible to the public are well established. Furthermore, general acknowledgement of the numerous potential benefits of openly sharing data within the research community: greater efficiency, elimination of duplicated effort, increased transparency and reliability of research activities, has already led to the formation of bottom-up international data-sharing enabling initiatives and data-sharing platforms which deserve the active support of funding agencies, such as the Research Data Alliance (RDA), European Bioinformatics Institute (EBI) and European Life-Sciences Infrastructure for Biological Information (ELIXIR). Data sharing is also expected to be vital in response to new waves of science (Science 2.0), such as research driven by modelling and simulation and big-data informatics.

However, despite the successes of several initiatives established to enable the advantages of sharing data among researchers, it was agreed that many questions remain regarding how best to implement open data-sharing. Most importantly: Who should be the driving force for open accessibility? Who should be responsible for managing, annotating, standardising and storing shared data and how can that be achieved effectively? Should all raw data as well as metadata be made accessible (essentially, there is no such thing as “negative data” as any information may be of interest to other researchers for tackling new questions and gaining new answers)? Should it be made compulsory for researchers to share their data? Moreover, the risk of losing public trust in scientific research if results cannot be replicated by other researchers reusing the same data should also be considered. Data sharing therefore remains a controversial topic, with several issues unaddressed and different stakeholders having differing priorities, requiring the establishment of carefully-considered guidelines and regulations. Moreover, regulations and data management must be appropriate to different areas of research, but without creating barriers that would detract from data reusability in other disciplines.

In order to address these issues, it was agreed that much could be learned from

existing initiatives and research fields in which data sharing is a common practice, such as astrophysics. To facilitate that learning process, it was suggested that funding agencies should engage in thorough consultation with a wide range of relevant stakeholders to identify the most pressing concerns and solutions, and should continue to raise awareness among their research communities of the benefits of data sharing through organisation of workshops and symposia.