Summary of the 7th Funding Agency Presidents' Meeting (FAPM)

Date & Time: Monday, 3rd October, 2016 10:10-12:30
Venue: Room E, Kyoto International Conference Center
Co-Chairs: Dr. Michinari Hamaguchi, President, Japan Science and Technology Agency (JST)
Prof. Roland Fischer, Vice President, German Research Foundation (DFG)
Participants: 41 representatives from 27 countries and 1 international organization
(see the list of full participants)

The 7th FAPM was successfully held with a larger number of participants (which lead to the larger number of discussion tables), ca. 20 per cent increase compared to the 6th FAPM, although some regions were either under-represented (North and South Americas) or not present (Africa, Central Asia, Oceania). Participants looked at the following two discussion topics, on purpose in coincidence with Global Research Council (GRC)[1] 2017 themes.

1. **Capacity building and connectivity among granting agencies worldwide**
2. **Dynamic interplay between fundamental research and innovation**

Considering the higher number of participants and the effectiveness of group discussion, participants were divided into 6 groups, each consisting of 6-8 representatives. Workshop-style discussion was made, followed by summary by pre-assigned table chairs.

1. Capacity building and connectivity among granting agencies worldwide

Table 1

- Within the EU's Horizon 2020 participation of under-represented countries is encouraged by forming a group consisting of countries with high success rate and those with lower success rate. Sharing best practices such as peer review processes leads to an institutional capacity building.
- Participation of women and young researchers should be encouraged by special programmes such as maternity support, while keeping the quality of research. Further discussion is needed how to achieve this.
- Best practices, good standards and experiences should be shared among funding agencies. Networks made here at the FAPM as well as GRC are quite important in this regard.
- Science, technology and innovation can and should support the achievements of SDGs.

[1] http://www.globalresearchcouncil.org/

Table 2

- Better human resource development would require exchange of personnel, promotion of fellowship programmes, reinforcement of research infrastructures, etc.
- It is also important to encourage dialogues between scientists and policy makers to foster next-generation human resources. A place like STS forum is effective for facilitation of such activities.

Table 3

- Exchange of researchers would be essential. Activation of bi- and multi-lateral cooperation through Lead Agency Agreements would facilitate human resource developments.
- Developing countries still lacks know-how. Human resources may be developed for certain period through collaborative research with developed countries, but it is neither sufficient nor long-lasting. How about establishing international mentorship for long-term human resources development by experienced mentors? Success stories and skill sets may be shared among FAs to improve such systems.

Table 4

- FAs are requested to make use of forums like FAPM to build networks, share best practices, further support researchers exchange and collaborative researches, just as top-level researchers are connected to overseas counterparts and interchanging.
- Themes for international collaboration need to be selected in view of solving global challenges together, rather than individual countries. We need to establish a structure which allows FAs can jointly, swiftly and flexibly cope with emergency like outbreak of Ebola virus disease. In this regard, it would be desirable to have a mechanism of regular exchange of information to share best practices or organize a few days' workshop to compare review processes.

Table 5

- Most of the organizations participating here have already concluded bilateral or multilateral agreements for cooperation. However, what is lacking is the cooperation on global sustainability and the governance mechanism to deal with such cooperation. Conceptualization and regulation of Open Access is also needed. International data sharing is being promoted, but open data is not sufficiently available because of political and policy related reasons of individual countries. Exchange of personnel may be a good way to facilitate collaboration.

Table 6

- To further enhance human resource development and exchange, FAs from various countries should gather to share good practices and knowledge, and promote brain circulation.
- For example, it is essential to publish global data and collaborate globally for research on climate change. Sustainable development may only be realized through such collaboration.
- Reinforcement and enlargement of international cooperation would be the best way for STI communities to contribute to the achievements of SDGs.

2. Dynamic interplay between fundamental research and innovation

Table 1

- There are still existing barriers, low level of availability of matching funds, insufficient level of collaborations among FAs, industry, and universities. An ecosystem should be built to break these barriers.
- JST's Program to Promote Post-Earthquake Revitalization was started in April 2012 with the aim of contributing through STI to the reconstruction of the devastated areas after the Great East Japan Earthquake. "Matching planners" from JST played an important role of connecting needs from local SMEs with technological seeds from academia, which led to job creation. This is a concrete example of STI lead to economic development or reconstruction.

Table 2

- Many of the funding systems in the developing countries are not functioning well. FAs in developed countries should make certain support to their counterparts in developing countries. Transfer of know-how on funding connecting basic research, through applied research to commercialization is an example.
- Promotion of Open Science would be effective for innovation originating from basic research. However, research data published by scientists are not necessarily useful for society and the dialogue between scientists and society or policy makers would be crucial.

Table 3

- It is absolutely necessary to build an ecosystem to seamlessly support basic research to industrialization. Removing gaps between different phases, between FAs supporting basic research, FAs for applied research, and FAs for industrialization.
- Approaches like Center of Innovation (COI) to create a mixed team of industry-academia would be effective to meet the demand from industry through various angles including social sciences and humanities. Furthermore, internationalization of COI and formation of cross-border/cross-thematic R&D teams to meet the needs of developing countries would be beneficial.

Table 4

- It is necessary to put weight on continuity rather than the distinction between basic and applied research. R&D should contain the whole spectrum without separation between basics and application.
- It is understandable that each country and organization promotes R&D based on the individual strategy and priorities, e.g., clean technology, material engineering, natural resources. However, it may lead to insufficient outcome from bottom-up research.
- It is essential to involve social sciences and humanities in the research on clean technologies, cosmology, physics, or medicine, as the ultimate goal of these research is "humans". Innovation useful for society and human beings would eventually be brought by R&D taking anthropology

or sociology into consideration. In addition, natural scientists from various fields should also gather and support from R&D planning to social implementation.

Table 5

- Many of the innovation was the result of basic research. For example, GPS would not have been realized without the theories of relativity. The question is not the distinction between the basic research, applied research and innovation, but in which phase the investment is going to be made, which varies a lot according to the country.

Table 6

- Some people have a biased view that innovation cannot come from basic research. It is necessary to let society and government to understand that basic research is the first and essential step towards innovation.
- R&D must be performed involving researchers from social sciences and humanities, those from different fields, and those covering different phases. Promotion of Open Innovation and Open Science would be effective to realize that.

Questions proposed by the secretariat to guide the discussion

1. **Capacity building and connectivity among granting agencies worldwide**
   - ✧ How and in which areas FAs can work together to raise capacity in synergy, to better achieve their mission and also in tackling global challenges? For example, how FAs can globally work together for the achievements of the Sustainable Development Goals (SDGs)?
   - ✧ Is short-term exchange of personnel with others an effective way to raise capacity? Or do you prefer other mechanisms?
   - ✧ What are the appropriate skills for the local/global solution of societal challenges, such as access to energy, food security, and climate change? What are the indicators you use to monitor the performance of your organization/personnel?
   - ✧ What do you expect in terms of mutual learning at generic and informal forums like FAPM (especially through the diversity of participants)? What is your experience with other circles (formal/informal, domestic/international, etc.)?
   - ✧ Do you see any value in collecting and sharing best practices on the synergetic capacity building?

2. **Dynamic interplay between fundamental research and innovation**
   - ✧ What is the role of fundamental research in the process of innovation? (For FAs mainly supporting blue sky researches, how do you see innovation, and for those who are mainly aiming at fostering innovation, what is the role of fundamental research?)
   - ✧ How about the interplay between technological R&D and SSH (Social Sciences & Humanities)? Do you have any specific programmes within your organization to foster such interactions?
   - ✧ Is Open Science going to facilitate the innovation processes?

List of Participants, grouping, and rapporteurs (highlighted in colour):

Group	Name	Title	Organization	Country
1	Mr. António Vicente	Head of Cabinet	The European Commission	Belgium
	Prof. Warwick Anderson	Secretary General	International Human Frontier Science Program Organization (HFSPO)	International
	Dr. Michinari Hamaguchi	President	Japan Science and Technology Agency (JST)	Japan
	Prof. Zbigniew Blocki	Director	National Science Centre (NCN)	Poland
	Dr. Nabeel Al Salem	Executive Director of Outreach & Communications	Qatar Foundation	Qatar
	Professor Dr. Suthipun Jitpimolmard	President	Thailand Research Fund (TRF)	Thailand
	Ms Marlouke Durville	Director for National Process and Legal Affairs	Netherlands Enterprise Agency (RVO.nl)	The Netherlands
2	Mr. Petri Peltonen	Vice Minister of Economic Affairs	Ministry of Economic Affairs and Employment	Finland
	Prof. Dr. Roland Fischer	Vice President	German Research Foundation (DFG)	Germany
	Prof. Raghavendra Gadagkar	President	Indian National Science Academy (INSA)	India
	The Honourable Mr. Chuan Poh Lim	Chairman	Agency for Science, Technology and Research (A*STAR)	Singapore
	Prof. Dr. Arcadi Navarro	President, Secretary of Universities and Research of the Catalan Government	Agency for Management of Universities and Research Grants, Government of Catalonia	Spain
	Prof. Lars Hultman	CEO	Swedish Foundation for Strategic Research	Sweden
	Prof. Tim Wheeler	Director of Science and Innovation	Natural Environment Research Council (NERC)	U.K.
3	Dr. Yoshimasa Goto	Executive Director	Japan Science and Technology Agency (JST)	Japan
	Ms. Ekaterina Klikunova	Head of International Department	Agency of Technological Development	Russia
	Prof. Sirimali Fernando	The Chairperson	National Science Foundation of Sri Lanka	Sri Lanka
	Dr. Andreas Göthenberg	Executive Director	The Swedish Foundation for International Cooperation in Research and Higher Education (STINT)	Sweden
	Prof. Urs Baltensperger	Member of the Presiding Board, Member of the Specialised Committee International Co-operation	Swiss National Science Foundation (SNSF)	Switzerland
	Dr. Narong Sirilertworakul	President	National Science and Technology Development Agency (NSTDA)	Thailand
	Prof. Melanie Welham	Chief Executive	Biotechnology and Biological Sciences Research Council (BBSRC)	U.K.
	Dr. Paul Oquist Kelley	Minister	Government of Reconciliation and National Unity	Nicaragua
4	Ms Sabine Simmross	Assistant to the President	European Research Council (ERC)	Belgium
	Dr. Gilles G. Patry	President & CEO	Canada Foundation for Innovation (CFI)	Canada
	Dr. Jørgen Frøkiær	Chair	The Danish Council for Independent Research	Denmark
	Mr. Sotaro Ito	Deputy Executive Director	Japan Science and Technology Agency (JST)	Japan
	Prof. Teck Seng Low	Chief Executive Officer	National Research Foundation (NRF)	Singapore
	Prof. Dr. Ahmet Arif Ergin	President	Scientific and Technological Research Council of Turkey (TÜBITAK)	Turkey
5	Prof. Michael Matlosz	President and Chief Executive Officer	French National Research Agency (ANR)	France
	Prof. Hanoch Gutfreund	Executive Committee Chairperson	Israel Science Foundation	Israel
	Dr. Makoto Suematsu	President	Japan Agency for Medical Research and Development (AMED)	Japan
	Dr. Jordi Mas Castella	Executive Director	Agency for Management of Universities and Research Grants, Government of Catalonia	Spain
	Mr. Walter Steinlin	President	Commission for Technology and Innovation CTI	Switzerland
	Mr. Dzung Tien Do	Director	National Foundation for Science and Technology Development (NAFOSTED)	Vietnam
6	Dr. Georg B. Schütte	State Secretary	Federal Ministry of Education and Research (BMBF)	Germany
	Prof. Yuichiro Anzai	President	Japan Society for the Promotion of Science (JSPS)	Japan
	Dr. Sang Won Ra	Director, Center for International Affairs	National Research Foundation of Korea (NRF)	Korea
	Prof.Dr. Marc Schiltz	Secretary General	National Research Fund (FNR), Luxembourg	Luxembourg
	Mr. Zakwan Zabidi	Special Officer to the Science Advisor	Prime Minister's Office	Malaysia
	Mr. Lennart Stenberg	Senior Advisor	VINNOVA (Swedish Governmental Agency for Innovation Systems)	Sweden
	Dr. James L. Olds	Assistant Director, Directorate for Biological Sciences (BIO)	National Science Foundation (NSF)	U.S.A.