

The 10th Funding Agency Presidents' Meeting (FAPM)

Date & Time	Monday, 7 October, 2019 12:30-14:00 (see Annex II for the full programme)
Venue	Kyoto International Conference Center
Co-Chairs	Dr. Michinari Hamaguchi President, Japan Science and Technology Agency (JST) Prof. Dr. Peter Strohschneider President, German Research Foundation (DFG)
No. of participants:	42 from 36 organizations from 23 countries and regions (see Annex III for the full list of participants)

The Funding Agency Presidents' Meetings (FAPM) bring together the heads of research funding organizations worldwide on an annual basis within the framework of the Science and Technology in Society (STS) Forum in Kyoto. The 10th FAPM focused on "Science and Society: critical social sciences and humanities perspectives for emerging technologies".

The meeting was opened with comments from JST president Dr. Hamaguchi, who restated the importance of the 1999 "Declaration on Science and the use of Scientific Knowledge" and the role science plays in serving society, and DFG president Prof. Dr. Strohschneider, who pointed out the continued relevance of the "Collingridge dilemma" and the question of whether risk containment or risk avoidance was more suitable to enable ground-breaking research that was at the same time responsive towards societal preferences. Special guest Dr. Rush D. Holt., Jr., immediate former president of AAAS, looked back to the aspirations of Science and Technology research in 1945, and questioned whether 75 years later our science is actually helping to empower citizens.

Participants then discussed the topic at 6 roundtables with 5-8 representatives from different types of funding organizations. Afterwards, the table chairs at each roundtable presented the discussion results to all participants (see Annex I). In his concluding remarks, Dr. Hamaguchi proposed "public trust in science" as topic for the next FAPM in 2020.

The uncertainty of knowledge

Prof. Dr. Strohschneider explained the unplannable nature of the scientific enterprise and described the "Collingridge dilemma" from 1982, which states that due to the uncertainty of knowledge it would be difficult to foresee negative implications of technology before research had been conducted. However, it would also be difficult to stop the implementation of undesired technology or the effects of undesired technology once it had become available. Plastic was put forward as a good example of an invention which had originally been considered as useful, but had since had deleterious effects on the environment. Some participants suggested that it was possible to ask for risks associated to

a project in research proposals. Yet, even if funders could thus promote science that contributed to social good, they would also have to live up to their responsibility to support basic science, exploratory projects and high-risk ideas. Anything invented could turn out to be good or bad (and also this judgment would be subject to political debate). Funders would therefore both need to try to avoid and mitigate potential negative impacts of research.

The necessity for standards and guidelines

The FAPM participants further discussed that basic research should be allowed the freedom to flourish, without being inhibited by ELSI and RRI rules/regulations. However, as research progressed into the translation spectrum, it would be important to have basic principles and ethics established and agreed upon. This was echoed by other FAPM participants who called for placing some constraints on new inventions. For example, if the goal was to invent a new kind of plastic, one might specify that it should be auto-degradable. At the same time though, it was remarked that collaborating with a wider range of international partners could create difficulties if partners did not have same ethical standards/awareness of issues. Research funders could play a crucial role by setting these standards, but FAPM participants stressed that the main responsibility lay with the research institutions and the individual researchers.

Towards more public engagement

The FAPM participants also discussed research dissemination to the public as an important but underappreciated topic. As Dr. Rush D. Holt., Jr. mentioned in his speech, the gap between science, scientists and the non-scientific public had resulted in a gap in understanding, appreciation of science and trust. Therefore, some FAPM participants considered it worthwhile to add a supplementary budget for dissemination to the public. However, the willingness to increase public engagement in science would raise further questions as to who should be considered “a stakeholder”.

Annex I: Summary from the roundtable chairs

Table 1

- Research dissemination to public an important but underappreciated topic, could be worthwhile to add supplementary budget for dissemination.
- Though increasing openness and access to science is a positive trend, collaborating with a wider range of international partners can create difficulties if partners do not have same ethical standards/awareness of issues.
- University professors having second jobs can create conflict of interest problems, it is difficult to monitor their behavior, should we push for full disclosure?

Table 2

- The question of responsible research should not be confused with the trust crisis of modern high-tech societies; the responsibility question in nuclear physics is different from the trust crisis in populist regimes.
- The nature of science is related to uncertainty, but this is difficult to convey to policy-makers and the public.
- Trust in expertise still exists in the science system; e.g. a researcher in climate is often a non-expert in other climate fields, but his/her judgments are nevertheless deemed legitimate.
- The degradation of evidence is a problem; however, in a democratic society, governments must take decisions even if they are not based on evidence; there is a distinction between truth and majority claims.
- Ethics committees suffer from two problems; first, they deal with individual and not social ethics; second, there is a differentiation of labour between different kinds of ethics although, in the western tradition, ethics is undividable.
- The willingness to increase public engagement in science raises questions as to who should be considered “a stakeholder”. This could depend on the project to be funded or on the nature of research. Researchers could also be allowed to decide themselves whom to include.
- Education – especially with regard to the essence of science – is key to public trust.

Table 3

While the group favored supporting the common good, it identified some major issues, including the definition of social good which changes over time, geography and cultures. There was concern that basic research does not, and often cannot specify results at the outset. There are also unpredicted and unintended results and consequences. Projects conceived with good intentions might be misapplied by others. The example of plastic was offered. It was originally intended to be useful and has since had deleterious effects on the environment. For these reasons, the group sought a practical compromise by enumerating ways to promote societal good while protecting the

freedom to perform basic research, the included:

- stating societal needs after a broad and open consultation with researchers, the public, governments and industry
- including knowledgeable and sensitive reviewers
- having an ethical review at the outset, prior to submission
- bringing different points of view into larger projects
- integrating social scientists and humanists in projects actively rather than simply assigning them a role as ethical monitor or judge
- requiring the use of controls as done in medical experiments to avoid unplanned side effects
- educating young people not only on the importance of science but on values and ethics
- funding the study of new fields to determine their potential effects/impacts (e.g. Artificial Intelligence)
- placing some constraints on new inventions. For example, if the goal is to invent a new kind of plastic, one might specify that it should be auto-degradable.
- creating open areas, the environment for discovery and thinking about the future.
- designing a process where citizens understand researchers and may themselves be citizen researchers, will help ensure dialogue and the consideration of possible benefits to society

While science dedicated to social good is certainly beneficial, one must never forget the responsibility we share to support basic science, exploratory projects, high-risk ideas. Anything invented could be good or bad and we will not know prior to its invention. We must, as scientists and funders of science, be prepared to avoid and mitigate potential negative impacts of research and we must work together to find solutions to them.

Table 4

- Many of our agencies don't have constrain to support new knowledge – but all of us have legal framework, as in field of medicine and health, or code of best practices, and ethics and regulatory conditions and review process of projects or advisory boards, in special on disruptive technologies
- Some of us have participation of representative of society and interact with different stakeholders
- The questions of include social science and ELSI or RRI are more and more common in subjects like sustainability and SDG, and in many proposals, ethics are transversal to any proposal
- We agree that is possible do more like introduce questions – in the proposals - not as an evaluation criteria - about ethical and risks associate to the research

Table 5

- It is crucial that all researchers are trained in the responsible conduct of research.
- Responsible conduct needs to be embedded in the minds of all researchers and in the system, not an add-on.
- Funders play a crucial role by setting the standards, but the research institutions and individual responsibility are the most important.
- Should there be more effective ways of dealing with irresponsible research behaviour?
- There appears to be the beginning of a positive generations shift in scientists attitudes to responsible conduct
- Why is Responsible conduct so important
 - Because science serves everyone
 - A strong force for good, but can also be used for “anti-human” purposes (e.g. face recognition software).
 - “Socially desirable outcomes” are indeed desirable, but who defines what they are – caution regarding governments playing this role.

Table 6

- Basic research should be allowed the freedom to flourish, without being inhibited by ELSI and RRI rules/regulations.
- As research progresses into the translation spectrum, it would be important to have basic principles and ethics established and agreed upon. Standards and/or guidelines must be in place to create the boundary condition(s), with a human-centric approach to shape governance/framework. Public-private partnership can play a part in looking at government needs and requirements. Policy labs or sandboxes could be set up, to test out both technologies and policies without applying the normal rules/regulations.
- Funding of research programmes should not be done in silo, but a holistic perspective should be taken to craft the research questions.
- There should be political appreciation and support for science, bringing science to citizens, and citizens to science.

Annex II: Agenda and guiding questions

Programme:

12:30-12:35	Opening Remarks Introduction of Meeting	Dr. Michinari Hamaguchi (JST) Secretariat
12:35-12:40	Special Guest Speech	Dr. Rush D. Holt., Jr. (CEO Emeritus AAAS)
12:40-12:50	Tone Setting	Prof. Dr. Peter Strohschneider (DFG)
12:50-13:35	Workshop Style Discussions	
13:35-13:55	Summary Report from each Rapporteur	3-minute oral summary from each table
13:55-14:00	Concluding Remarks	From Co-chairs

The following questions were proposed by the secretariat to guide the discussion:

- How can funders ensure ELSI/RRI without compromising the progress of science?
- How can funders integrate ELSI/RRI into the formulation of research agendas/programs towards emerging technologies?
- How should funders take into account ELSI/RRI in the evaluation of research proposals? Should social sciences and humanities perspectives always be part of the evaluation of research projects on emerging technologies?
- How should funders include other stakeholder groups, end-users or citizens in the formulation of research agendas towards emerging technologies? At which stage could such an inclusion take place?

Annex III: List of Participants, grouping, and rapporteurs

*table chairs/rapporteurs are highlighted in yellow

Group	Name	Title	Organization	Country/area
1	Dr. Michinari Hamaguchi	President	Japan Science and Technology Agency (JST)	Japan
	Dr. Andreas Göthenberg	Executive Director	The Swedish Foundation for International Cooperation in Research and Higher Education (STINT)	Sweden
	Prof. Jean-Pierre Bourguignon	President	European Research Council (ERC)	EU
	Prof. Katharina Fromm	Vice-president	National Research Council	Switzerland
	Dr. Thitapha Smitinont	Executive Vice President	National Science and Technology Development Agency (NSTDA)	Thailand
	Prof. Hanoch Gutfreund	Executive Committee Chairperson	Israel Science Foundation (ISF)	Israel
	Dr. Paul Dabbar	Under Secretary for Science	U.S. Department of Energy (DOE)	U.S.A.
	Dr. Makoto Suematsu	President	Japan Agency for Medical Research and Development (AMED)	Japan
2	Prof. Dr. Peter Strohschneider	President	German Research Foundation (DFG)	Germany
	Dr. Michiharu Nakamura	Counsellor to the President	Japan Science and Technology Agency (JST)	Japan
	Prof. Dr. Sirirug Songsivilai	Secretary-General	National Research Council of Thailand	Thailand
	Dr. Rush D. Holt, Jr.	CEO Emeritus	American Association for the Advancement of Science (AAAS)	U.S.A.
	Prof. Małgorzata Kossowska	Chairwoman of the Council	National Science Centre (NCN)	Poland
	Prof. David Sweeney	Executive Chair	UKRI Research England	U.K.
	Mr. Juan Antonio Tébar	Director of European Programmes and Regional Cooperation	Centre for the Development of Industrial Technology (CDTI)	Spain
3	Dr. Roseann O'Reilly Runte	President & CEO	Canada Foundation for Innovation (CFI)	Canada
	Dr. Michael Stampfer	Managing Director	Vienna Science and Technology Fund (WWTF)	Austria
	Dr. Yoshimasa Goto	Vice President	Japan Science and Technology Agency (JST)	Japan
	Mr. André Kudelski	President	Innosuisse – Swiss Innovation Agency	Switzerland
	Prof. Adrian Curaj	CEO	Executive Agency for Higher Education, Research, Development and Innovation Funding	Romania
	Ms. Lai Fung Chan	Chairman	Agency for Science, Technology and Research (A*STAR)	Singapore

	Dr. Salem Falah Alhajraf	Deputy Director General for Strategic Thrusts Programs	Kuwait Foundation for the Advancement of Sciences (KFAS)	Qatar
	Prof. Dr. Suthipun Jitpimolmard	President	Thailand Science, Research and Innovation (TSRI)	Thailand
4	Dr. Carlos Américo Pacheco	CEO	State of São Paulo Research Foundation (FAPESP)	Brazil
	Dr. Nakita Vodjdani	Head of European & International Cooperations	French National Research Agency (ANR)	France
	Mr. Iain Stewart	President	National Research Council Canada (NRC)	Canada
	Prof. Marc Schiltz	Secretary General	Luxembourg National Research Fund (FNR)	Luxembourg
	Mr. Koji Saeki	Vice President	Japan Science and Technology Agency (JST)	Japan
	Assoc. Prof. Dr. Pongpan Kaewtatip	Vice President	Thailand Science, Research and Innovation (TSRI)	Thailand
5	Prof. Warwick Anderson	Secretary-General	International Human Frontier Science Program Organization (HFSP)	Global
	Prof. Maria Leptin	Director	European Molecular Biology Organization (EMBO)	Germany
	Dr. Arne Flåøyen	Director	NordForsk	The Nordics
	Mr. Toshihiro Mitsuhashi	Executive Director	New Energy and Industrial Technology Development Organization (NEDO)	Japan
	Mr. Chuan Poh Lim	Chairman	Singapore Food Agency	Singapore
	Ms. Karin Jaanson	Executive Director	Estonian Research Council	Estonia
	Dr. Roman Szumski	Vice President	National Research Council Canada (NRC)	Canada
6	Prof. Teck Seng Low	Chief Executive Officer	National Research Foundation (NRF)	Singapore
	Mrs. Izabela Żmudka	Deputy Director	The National Centre for Research and Development (NCBR)	Poland
	Dr. Angelo Volpi	Science Officer	National Research Council (CNR)	Italy
	Dr. Susumu Satomi	President	Japan Society for the Promotion of Science (JSPS)	Japan
	Dr. Walter G. Copan	Director	National Institute of Standards and Technology (NIST)	U.S.A.
	Dr. Cecilia Sjöberg	Director and Head of Industrial Development Division	Swedish Governmental Agency for Innovation Systems (VINNOVA)	Sweden