SCIENCE EUROPE
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DFG Deutsche Forschungsgemeinschaft
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THE RATIONALES OF OPEN SCIENCE

DIGITALISATION AND DEMOCRATISATION IN RESEARCH

REPORT OF THE

2017 SCIENCE EUROPE

HIGH-LEVEL WORKSHOP

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REPORT OF THE 2017 SCIENCE EUROPE HIGH-LEVEL WORKSHOP

Science Europe High-level Workshops bring together the heads of the European research funding and performing organisations, high-ranking representatives of the national ministries, and of the European Commission on an annual basis. The 2017 Science Europe High-level Workshop was organised by the German Research Foundation (DFG) and the Federal Ministry of Education and Research of Germany (BMBF). It focussed on the rationales of Open Science and the alleged link between digitalisation and democratisation in research.

A TIMELY DEBATE ON OPEN SCIENCE

Open Science was chosen as topic, as it represents one of the most prominent strategic goals in the current science policies at national and European level. However, several aspects of Open Science still require further critical reflection. Typically, Open Science strategies include demands for opening access to research publications and materials, for making scientific data more readily available and reusable, for fostering open source software, and for providing new ways of engaging citizens who are not professional researchers. Demands for Open Science are intrinsically tied to digitalisation, which has massively facilitated access to scientific information and the prior research process.

DEBATE ON THE IMPLICATIONS OF OPEN SCIENCE FOR THE SCIENTIFIC PROCESS

The Science Europe High-level Workshop provided a forum where the focus was not on the technological aspects of Open Science – such as the implementation of Open Access and Open Data – but on the systemic implications of digitalisation and the opening up of the research process for the very principles of science. The Open Science aspect of engaging citizens as a tool for 'democratising science' was given special attention. The aim of the workshop was to clarify both the relationship between science and democracy, and the different responsibilities and competences of politics and the scientific communities with regard to the implementation of Open Science. A booklet by the organisers presenting the main objectives of different models prepared the ground for the discussions. Owing to the interactive setting of the conference, the discussions did not only involve the panellists, but all workshop participants.

PANEL 1: DIGITALISATION AND DEMOCRACY IN RESEARCH

The first panel explored the ways in which digitally enabled citizen participation as a form of democratisation is increasingly affecting research and its framework conditions.

The keynote challenged the idea that science could be legitimised through participatory mechanisms in the same way as political decisions are legitimised in a democratic system. The democratic accountability of political institutions cannot simply be transposed on the science system, which needs to have its own mechanisms for legitimisation and quality control. Open Science in a certain sense can possibly lead to a better, but not necessarily to a more democratic science. Political decision-makers acknowledged that the scientific method cannot be democratic in the same way as the political system, but still emphasised that publicly funded scientists are accountable to society.

The process that led to the new Dutch National Research Agenda was discussed as an example of how society could be involved in research agenda setting. That process demonstrated that scientific intermediaries are indispensable. It was emphasised that the benefits of citizen participation do not only lie in the actual outcome of the consultation, but also in the involvement of the public as such, because it raises awareness about and interest in science.

Furthermore, workshop participants also discussed the possibility that citizen participation only empowers limited groups with their own agendas, thus leading to an even greater risk of alienation between such activist groups and the whole society. There was agreement that the definition of 'the citizen' will always remain contested. Others wondered how involving the public was affecting research on topics that are genuinely interesting for science, but not necessarily for the public.

Participants finally emphasised the importance of avoiding a trade-off between Open Science and academic freedom.

PANEL 2: OPEN SCIENCE – A BETTER SCIENCE?

The second panel dealt with the relation between openness and scientific quality.

The keynote emphasised that Open Science is better science because it promises to be more effective, efficient, accountable, transparent, and inclusive. There was broad agreement that Open Science has the potential for creating better scientific results and for correcting issues such as the publication flood, the reproducibility crisis, the wrong use of metrics in research evaluation, and the concentration of parts of the research process in private hands with commercial interests.

The workshop participants emphasised the need for a more differentiated approach towards Open Science within the scientific communities, also taking into account ethical and legal constraints. Raw data cannot simply be put online for reasons of confidentiality, but also due to the risk of misinterpretation. Openly available scientific information such as publications or data needs a scientifically literate public.

The overflow of scientific information in form of access to publications and data needs competent intermediaries, as opposed to profit-driven search engines. An open science system still needs to rely on peer review for quality control. Opening up scientific results and research data in one region of the world can provide a competitive advantage for other regions of the world who are not open in the same way. Some participants felt that less protection of research results would therefore also lead to more speed in innovation. However, the transfer of scientific knowledge to the market was considered to be a primarily political responsibility. The panel also touched upon possible approaches how to enable a 'cultural shift' towards Open Science within the scientific communities.

There was a common understanding that incentives are needed to support researchers in changing their publishing attitudes or to convince university leaders to recognise Open Science practices as part of the promotion of academic careers.

PANEL 3: CONCLUSIONS FOR NEXT STEPS IN OPEN SCIENCE POLICIES

In the concluding panel, political decision-makers strongly emphasised the need for practical and bold implementing actions with regard to Open Science.

Policy-makers, funders and scientists are all part of the same ecosystem with its rapid technological progress. Without openness, researchers can risk a loss of public trust, face an erosion of public support, and eventually receive less public funding. Policy-makers called upon the funding organisations to not only "pay lip service" to Open Science, but to shape Open Science themselves by using their combined power, for example with regard to the ongoing negotiations with the publishing industry. Funding organisations stated very clearly that they preferred to be in the driver's seat concerning the implementation of Open Science polices within the communities they serve, while policy-makers stressed their own responsibility to facilitate a spill-over effect from scientific results from academia to society and industry.

Foremost, funders and researchers jointly reaffirmed that openness in particular with regard to citizen involvement has its limits, and that the core values and principles of professional science must remain untouched. Participatory models, and in particular majority-rule-based decisions should not interfere with the well-defined processes to value scientific quality.

The overall agreement was that more precision – and sometimes more experimentation – is needed in order to define what kind of Open Science would be desirable. It was concluded that openness is not a goal in itself and will only help ensure societal trust in science if it addresses the genuine concerns of citizens, for example by improving the integrity of science and contributing to solving the reproducibility crisis.

The appeal was made to Science Europe to identify best-practice examples for Open Science among its Member Organisations and come up with ideas of how to foster their Europe-wide implementation.

PROGRAMME OF THE HIGH-LEVEL WORKSHOP

VENUE: Sofitel Kurfürstendamm Berlin, Augsburger Str. 41, 10789 Berlin

Thursday 14 September 2017

09.00–09.30	Registration & Welcome Coffee	*Opéra Foyer, 2nd floor*
09.30–10.00	**Welcome Speeches**	*Salon Opéra, 2nd floor*

- **Michael Matlosz**, *President, Science Europe*
- **Georg Schütte**, *State Secretary, Federal Ministry of Education and Research, Germany*
- **Peter Strohschneider**, *President, German Research Foundation (DFG)*

10.00–12.00 **Digitalisation and Democracy in Research**

Keynote Speech

Christoph Möllers, *Professor of Public Law and Jurisprudence, Humboldt University of Berlin*

Panel Discussion

Moderator: **Sven Stafström**, *Director General, Swedish Research Council (VR)*

- **Sander Dekker**, *State Secretary, Ministry of Education, Culture and Science, the Netherlands*
- **Marin Dacos**, *Scientific Advisor, Ministry of Higher Education, Research and Innovation, France*
- **Søren Harnow Klausen**, *Member of the SE Scientific Advisory Committee*
- **Christoph Möllers**, *Professor of Public Law and Jurisprudence, Humboldt University of Berlin*
- **Klement Tockner**, *President, Austrian Science Fund (FWF)*

12.00–13.30	Lunch Break	*Saint Germain, 1st floor*
13.30–15.30	**Open Science – A Better Science?**	*Salon Opéra, 2nd floor*

Keynote Speech

Robert-Jan Smits, *Director-General, DG Research and Innovation, European Commission*

Panel Discussion

Moderator: **Marc Schiltz**, *Secretary General, Luxembourg National Research Fund (FNR)*

- **Bjørn Haugstad**, *State Secretary, Ministry of Education and Research, Norway*
- **Matthias Kleiner**, *President, Leibniz Association (LG), Germany, and Member of the Open Science Policy Platform (OSPP)*
- **Robert-Jan Smits**, *Director-General, DG Research and Innovation, European Commission*
- **Milena Žic Fuchs**, *Member of the EC High Level Group on Maximising the Impact of EU Research and Innovation Programmes*

15.30–16.00	Coffee Break	*Opéra Foyer, 2nd floor*

Thursday 14 September 2017, continued

16.00–17.00 **Conclusions for Next Steps in Open Science Policies** *Salon Opéra, 2nd floor*

Concluding Discussion

Moderator and Rapporteur for the previous panels: **Michael Matlosz**, *President, Science Europe*

- **Christoph Möllers**, *Professor of Public Law and Jurisprudence, Humboldt University of Berlin*
- **Georg Schütte**, *State Secretary, Federal Ministry of Education and Research, Germany*
- **Robert-Jan Smits**, *Director-General, DG Research and Innovation, European Commission*
- **Peter Strohschneider**, *President, German Research Foundation (DFG)*
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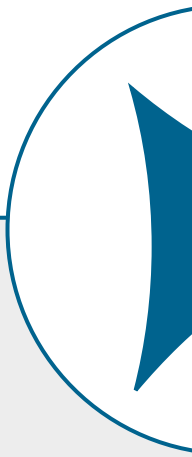

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