

Plant Biology Europe 2018 Conference (PBE2018)

The joint conference by EPSO and FESPB, in Copenhagen 18-21.6.2018

Penal discussion on "Open Science" as the science policy session Copenhagen, 19.6.2018, 13:15 to 14:45 hrs

Open science is about the way research is carried out, disseminated, deployed and transformed by digital tools, networks and media. Keywords are: Open up DATA (data and knowledge sharing and accessibility e.g. in / for agriculture), TRACEABILITY (transparent and efficient scientific processes, e.g. in the food chain to reassure people), independent SCIENTIFIC ADVICE (e.g. to policy, tell people the facts and how these were generated and what they tell us about food and health), innovative tools for scientific COLLABORATIONS and experiments (and partnerships with e.g. companies, farmers, consumers)

At each PBE conference, a policy session is part of the program as science and policies are connected in many ways and to encourage the PBE-participants to engage in debate around a current topic.

This time, students and scientists from academia and industry will discuss with policy makers the future of plant science and innovation in Europe, looking at the concept of Open Science, which is becoming more important in light of recent developments in Europe and across the globe

During the session, each panel expert will give a short inspirational note and then the audience will engage in an open discussion with the panel experts.

The inspirational notes at the start of the policy session will be:

- **Alan SCHULMAN**, Member EPSO Board, LUKE Natural Resources Institute, FI: Open Science – basis for science, innovation and our societies today and in future. How can plant scientists contribute?
- **Niels GOETKE**, Member Bioeconomy Panel of the European Commission, DK: Open Science – View on Open science and Open innovation. How can the Member States contribute? Giving examples from FACCE-JPI and SCAR.
- **Peter OLESEN**, Chair Governing Board European Institute of Technology (EIT), DK: Open Science, Open Education and Open Innovation: Openness and connectivity go hand in hand.
- **Nils STENSETH**, Member Science Council European Research Council (ERC): Open Science – how the ERC can contribute and how we may anticipate and mitigate challenges arising from e.g. BREXIT.
- **Pekka PESONEN**, Director General CopaCogeca, BE - Open Science and access to technologies and solutions – the importance of access to agricultural technologies and of building partnerships between scientists and farmers.
- **Annette SCHNEEGANS**, Senior Expert, European Commission, DG AGRI - EU agricultural research: from Open Science to Open Innovation – Contributions from Horizon Europe (FP9) and the future Common Agricultural Policy.

Karin Metzloff from the European Plant Science Organisation (EPSO) will moderate the panel discussion and is looking forward to your questions to the experts.

1 - Alan H. SCHULMAN, Member EPSO Board, Natural Resources Institute Finland (Luke); and Institute of Biotechnology, University of Helsinki, FI, on behalf of EPSO



Open Science – basis for science, innovation and our societies today and in future. How can plant scientists contribute

Open Science includes a range of ideas and approaches, which are all aimed at reducing barriers of access to the process and results of science as a basis for fostering understanding, collaboration, and progress. Much of Open Science is based in protocols and tools for remote sharing and collaboration within the process of carrying out scientific research, ranging from the development of a study design to the management of materials and data, and then to data analysis and report writing. Open Science includes the means for stable and long-term access to data and materials following publication, along with sufficient documentation that meta-analysis is possible. Long-term data storage and availability poses many challenges as the era of precision phenotyping grows to complement the nucleic acid databases derived from high-throughput and genomic sequencing. Lastly, timely and open access to scientific communications both before and after peer-review and publication is a critical component of Open Science. The goal is to democratize the development and exploitation of scientific knowledge for the benefit of all.

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2 - Niels GOETKE, Head of Division Danish Agency for Science and Higher Education, Member the European Bioeconomy Panel 2013-15, Chairman of FACCE-JPI 2013-16, Coordinator of ICT-AGRI ERA-NET, Vice-chair BBI-JU SRG, Danish representative in SCAR



Open Science – View on Open science and Open innovation. How can the Member States contribute? Giving examples from FACCE-JPI and SCAR.

Open Science has become a high priority on the research policy agenda. The Commission presented its vision for the European Open Science Cloud (EOSC) in its April 2016 Communication on the 'European Cloud Initiative as a part of the Digital Single Market Strategy. The objective of the EOSC is to give the Union a global lead in research data management and ensure that European scientists reap the full benefits of data-driven science.

We live in a unique time, where technologies, science and connectivity are all closely interrelated, and all have a wealth of data associated with them. Open data is needed to make better choices, within the agri-food area. This is recognised by SCAR and FACCE-JPI. In June 2017 FACCE-JPI (The Joint Programming Initiative with in Agriculture, Food Security and Climate Change) organised a workshop in Copenhagen with major stakeholders about the data challenges in FACCE's remit. On the basis of this workshop FACCE-JPI is now trying to operationalise interactions with key data initiatives and leverage existing resources for data sharing and appropriate centralisation of data. It is a great challenge to make the step from using the data-driven technologies in science to making them relevant and accessible to end users

SCAR (the STANDING COMMITTEE ON AGRICULTURAL RESEARCH) is following the development through its many initiatives, different H2020 projects e.g e-ROSA and ICT-AGRI ERA-NET. SCAR is also heavily involved in the discussions of the Food 2030 policy framework.

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3 - Peter Olesen, Chair of the European Institute of Innovation and Technology (EIT) Governing Board



Openness and connectivity go hand in hand Open Science, Open Education and Open Innovation.

This is quite a broad area on which to focus a talk lasting only a few short minutes. However, one important element of openness is to eliminate barriers to participation in public and public-private research and innovation programs and projects.

My organisation, the European Institute of Innovation & Technology, the EIT, is doing just that: eliminating barriers to participation.

By bringing together leading businesses, higher education institutions and research centres, in what we call the 'Knowledge Triangle', the EIT is removing obstacles to communication between these three essential actors. We create strong ecosystems for entrepreneurial innovation – the Innovation Communities, KICs – based upon diversity, mobility and connectivity. Don't underestimate how complicated this is.

This open connectivity has the effect of ensuring a free and effective exchange of information and knowhow. Were that not the case, our Innovation Communities would not be seeing the successes that they are, with accelerating numbers of start-ups, scale-ups, products and services created, and more than 1,100 partners attracted from every side of the Knowledge Triangle – and with much more to come.

In education, our six Innovation Communities are leading the way in providing entrepreneurial skills to a new generation. But more than that, they make increasingly use of MOOCs – Massive Open Online Courses. These courses are open to all.

The EIT's Regional Innovation Scheme is gathering all the experience and knowledge and good practice of the EIT Community and takes it to regions that are considered to be modest or moderate innovators, with the intention of raising their capacity to innovate.

All strong examples of eliminating barriers to openness – where strong connectivity plays a major role. But openness requires checks and accountability to ensure quality? For the EIT Community, this is carried out in a connected interplay between members of the Community and the EIT itself.

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Links: <https://eit.europa.eu/eit-community/eit-governing-board/meet-gb>

4 - Nils Stenseth, Member Science Council of the European Research Council (ERC)



Open Science – how the ERC can contribute

The European Research Council (ERC) supports the principle of open access to research results as a fundamental part of its mission. This includes journal articles, monographs, book chapters and other types of publications, but also research data, software and code, and other research outputs. The ERC recognizes the importance of preprints as one optional way to demonstrate research achievements and encourages the use of researcher identifiers such as ORCID.

As an organization that is governed by scientists, the ERC considers it crucial that the transition to Open Science takes into account the important role of researchers in this process, be it as producers of knowledge, as actors in the review and publication process (within the established system or otherwise), or as users of other researchers' output. The vast diversity of situations across different research communities makes this a complex and challenging task.

With this backdrop, I will shortly outline the ERC's approach towards open access and research data management. I will then give a quick overview of some of the initiatives that the ERC has engaged in to support the researchers it funds in opening up their results and provide a glimpse of some ideas for the future.

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5 - Pekka PESONEN, Director General CopaCogeca, BE



Open Science and access to technologies and solutions – the importance of access to agricultural technologies and of building partnerships between scientists and farmers.

Abstract pending

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6 - Annette SCHNEEGANS, Senior Expert; European Commission, DG AGRI



EU agricultural research: from open science to open innovation. Contributions from Horizon Europe (FP9) and the future Common Agricultural Policy.

Under the EU programme Horizon 2020, funding for agricultural research is mainly channelled through Societal Challenge 2 (SC2: Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy). Calls for proposals under the two first Work Programmes covering the 2014/2015 and 2016/2017 periods

have resulted in about 800m€ allocated to almost 150 projects related to agriculture. This includes research on crop and animal production, resource use, technologies, value chain organization, rural development and policy support.

The increased emphasis on innovation under Horizon 2020 as compared to its predecessors has resulted in increased attention given to Open Science and - in the area of agricultural research - to participatory research as vehicles for increasing the impact of research activities "on the ground". The multi-actor approach applied systematically under SC2 reflects this ambition.

The presentation will address the concept of Open Science from a broader perspective, i.e. go beyond open publications and open data to the notion of Open Innovation in the agricultural context. It will show how in-built links between Horizon 2020 agricultural research, the European Innovation Partnership EIP AGRI and the Common Agricultural Policy are used to effectively engage the agricultural sector in research and build a supportive framework for Open Innovation.

Discussions on the forthcoming European Research and Agricultural Policies provide opportunities for strengthening the current agricultural innovation framework and for embedding Open Science and Open Innovation more firmly into the design and implementation of research activities.

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Links: https://ec.europa.eu/agriculture/research-innovation_en;
<https://ec.europa.eu/programmes/horizon2020/en/news/final-paper-strategic-approach-eu-agricultural-research-and-innovation>

Moderator - Karin Metzloff, Executive Director European Plant Science Organisation, EPSO



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EPSO position on the next Framework Programme for Research and Innovation, FP9, 19.9.2018 www.epsoweb.org/webfm_send/2334

EPSO submission to the EC consultation on EU research and innovation missions (FP9), 30.3.2018 www.epsoweb.org/webfm_send/2373