

# Survey for the development of a UNESCO Recommendation on Open Science

## Assistance for answers

### French National Committee for Open Science - European and International College

Towards a UNESCO Recommendation on Open Science.

UNESCO is developing a recommendation on Open Science -  
<https://unesdoc.unesco.org/ark:/48223/pf0000369699>

The roadmap is accessible online -  
[https://en.unesco.org/sites/default/files/open\\_science\\_brochure\\_en.pdf](https://en.unesco.org/sites/default/files/open_science_brochure_en.pdf).

The first step in the preparation of the recommendation is the circulation of a survey for "inputs into the development of the UNESCO Open Science Recommendation." The survey is available online -  
[https://en.unesco.org/sites/default/files/questionnaire\\_unesco\\_open\\_science\\_en.pdf](https://en.unesco.org/sites/default/files/questionnaire_unesco_open_science_en.pdf)

**The survey can be completed online, in [English](#), [French](#) or [Spanish](#).**

**<https://www.surveymonkey.com/r/N958HFW>**

#### Assisting respondents.

The academic community is strongly encouraged to respond to the survey to make its opinion heard and thus fed into the first version of the text that will be produced by UNESCO, probably during the summer.

This document is neither an official position nor a framework for response. Its purpose is to provide a list of themes and focal points for consideration by the scientific community, for individual, collective, associative or institutional responses. For each item, an indicative cue

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is given to the open-ended question(s) with which the item can be associated in the UNESCO survey.<sup>1</sup>

It was drawn up by the "Europe and International" college of the French Committee for Open Science, but is not a document officially adopted by the Committee or by the Ministry.

The content of this document is freely reusable by respondents to the UNESCO survey, in both form and substance. It will be distributed to the scientific community using all possible channels, and the community will be able to circulate it freely. The document will also be published as a contribution of the College on <https://www.ouvrirlascience.fr>, where other relevant material is available.

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<sup>1</sup> As "[Q2]" to refer, for example, to question 2 of the UNESCO questionnaire, and "[QA5]" to refer, for example, to question 5 of its Annex calling for global response to contain COVID-19 pandemic.  
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**Open Science goes far beyond the issue of free and open access to content produced by the scientific community.** It is fundamentally and first and foremost concerned with the questions of sustainability and ease of access to scientific results, the reuse of the content produced, regardless of where the research is performed (universities, research centres, companies, etc.), or the reproducibility of research. [Q4]

**Open Science is of worldwide interest to all those involved in research and production of knowledge.** Today's worldwide challenges call for the development of a participative, collaborative and open emulation framework rather than closed competitions. This is demonstrated by the first responses to the current health crisis linked to COVID-19. All steps to foster, strengthen and facilitate the efforts of the international research community to open up science are welcome whether they are incentive, normative or regulatory, one-off or permanent. [Q4] [Q19] [QA6]

**(Open) Science must take into account the diversity of research practices within scholarly communities.** One cannot be complacent about uniformity in Science, but must take into account the specificities of each discipline, which inform academic cultures, customs, methods and even the objects of research.[ Q19] [Q20]

**The actual opening up of science implies the active mobilization of all actors in the chain of circulation of knowledge.** This involves both production (public research and industry) and dissemination (libraries, research departments, the publishing sector and the actors of open source software and the Internet). [Q4] [Q20]

**Within academia, ambitious support and tools for scholarly communities are to be considered in the long term.** Beyond simple awareness-raising actions for researchers, a fully comprehensive policy of training and support for digital uses in the context of Open Science

must be implemented. It is a question of setting up real services in support of Open Science, entrusted to trained and dedicated personnel<sup>2</sup>. Q11] [Q19]

**In companies, the openness of science and in particular the openness and sharing of research results and open innovation are a catalyst for innovation.** Beyond the simple transfer of knowledge, it is a question of accelerating the co-creation of value. [Q4]

**Efficiency in opening up science depends on a good interconnection between different levels of intervention.** This covers the individual level (awareness raising, incentives, recognition, careers), the local level (institutional and company policies), the national level (national strategy including support measures), the continental level (e.g. European policy) and the worldwide level (positions taken by international organisations, etc.). [Q19] [QA6]

**The opening of science to civil society is an integral part of Open Science.** This aims to bring science and the citizen closer together, in particular through free and open education or through the engagement of non-academic actors in the process of developing scientific knowledge (participatory science). [Q19]

**Bibliodiversity is a core component of Open Science. Based on the principles outlined in 2017 in the Jussieu Call for Open Science and bibliodiversity - <https://www.ouvrirlascience.fr/wp-content/uploads/2019/02/Jussieu-Call-for-Open-science-and-bibliodiversity.pdf>.**

- bibliodiversity implies supporting and promoting a diversity of publishing actors<sup>3</sup>, a plurality of languages of communication, publication formats and funding methods, or a variety of levels of intervention (support for local initiatives stemming from communities) and

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<sup>2</sup> To provide support for the deposit and full-text dissemination of research results, assistance in the development and implementation of data management plans, opening up of data that can be disseminated, participation in the dissemination of content to the non-academic world, etc.

<sup>3</sup> In particular, by limiting the concentration of the publishing sector.

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perspectives, in a context of highly variable constraints and capacities for action (e.g. the divide between North/South countries). [Q7] [Q12] [Q19] [QA6]

**Open Science relies fundamentally on a number of infrastructures that enable its free and wide-ranging dissemination.** This "technical layer" extends far beyond the academic sphere alone, and its components must be identified and supported in a sustainable manner, both in terms of access (networks and protocols) and identification (identifiers and registries). [Q8] [Q19] [QA6] [Q8]

**Instruments and mechanisms are needed to support Open Science as they form the core of this. They should be identified, coordinated and funded on a sustainable basis.** Beyond the major pooled scientific instruments, the entire scientific ecosystem of knowledge must be considered, including publication platforms, open archives, data repositories and high-performance search engines. These infrastructures are intended to be both distributed (countering vertical concentration) and open (eliminating vendor lock-in), governed by the scientific community and complying with the rules of inclusiveness, transparency, good governance and non-profitability. They are not simply technical systems which are inadequate to guarantee the proper reuse and sharing of science, but instead are appropriate to build relevant and effective ecosystems by involving communities. [Q8] [Q19] [QA6] [Q8] [Q19] [QA6]

**The interoperability of systems**, and hence their ability to link up with one another and to effect the smooth circulation of the content produced, **is essential for the advent of a more open science.** Greater international cooperation is needed on the issue of identifiers and registries, in an open and shared manner, in order to support the definition, implementation and enforcement of data and metadata exchange standards. It is essential that these issues of identifiers and registries should not be considered as technical and secondary issues: They constitute the critical *lingua franca* for the circulation of scientific content. [Q20] [QA6]

**The openness of science relates to the subject of research evaluation, both individual through its impact on researchers' careers** (individual competition for funding, scientific pre-publication processes, role of pre-prints, peer review, exploitation of research results, etc.) **and collective through the evaluation of laboratories and the scientific policies of institutions** (collective competition for funding, compliance with evaluation criteria, etc.). Open Science must therefore have the capacity to integrate transparent, thoroughly overhauled evaluation models based on the intrinsic quality of research. Open by default, it must be "as open as possible, as closed as necessary", so that it preserves the capacity for exploitation by public or private research structures, which in turn can guarantee that Open Science's ability to grow continuously is maintained. [Q4] [Q20]