

For cOAlition S,

Young Academy Finland thanks for the opportunity to provide feedback for the guidance on the implementation of Plan S and would like to state the following.

Plan S -statement¹ published in September 2018 by the cOAlition S -initiative² aims at transitioning scientific publishing funded by the cOAlition S members to be fully open starting from the year 2020 onwards. Details about guidance on the implementation of Plan S were published in December 2018 and the guidance is now open for public feedback³. Young Academy Finland supports the Plan S -statement. Open science is not only the responsible way of doing science, but it is also well-aligned with the spirit of the scientific method: the newest findings are immediately available for everybody to scrutinize and assess, and new findings (with data and code, where applicable) can contribute to new research more quickly than before. However, Plan S will, by definition, significantly disrupt the current system of scientific publishing and hence the way it is implemented is pivotal in trying to minimise the possible negative impacts that this transition to open science might have. Especially young researchers are in a vulnerable position, since they have not yet obtained a stable position in the academia. Next, we present few issues that we think need to be taken into account, but are not yet properly addressed in the implementation plan of Plan S. We believe addressing these issues is central in the process of transitioning to open science.

- We believe that for Plan S to be successfully implemented, it is vital to also change the way the quality of science is evaluated. We note that this is already recognised in the proposed implementation plan, but we feel it needs to be stressed more. The current models of assessing scientific quality frequently rely on antiquated and problematic metrics such as journal impact factors (IFs). The use of these metrics, and consequently ways of gaming them, have been ingrained in the academic practices and assessment of the quality of individual research articles, researchers, and academic institutions.

Simply put, if someone publishes papers in high-IF journals, they are regarded as a good researcher, even though we know that journal IF is a highly biased metric, and should not be used especially for assessing individual papers or researchers^{4,5}. Transitioning to open science and open publishing, these metrics should be abandoned altogether, as most high IF journals do not endorse open access, and therefore are not viable outlets for publications by scientists following Plan S principles. This leads to a seemingly problematic choice: either publish in outlets that bring you fame and success, or promote open science. Open science cannot progress if researchers are forced to make such choices. This is especially critical for young researchers who are not only constantly under scrutiny, but also should represent the future of scientific research and the culture and practices therein. We propose that in transitioning to open science, the DORA principles⁶ should be brought to effect at every level. Thus, the quality assessment of individual scientists, research institutions, and universities should be based on peer assessment and be holistic rather than based on simple, gameable metrics, such as IFs.

- Fast implementation of Plan S puts different scientific disciplines in an uneven position. At certain fields of science, such as geosciences and physics, there are already high-quality open-access publication outlets and green open-access practices⁷ in place, whereas some other disciplines, especially in the humanities and social sciences, rely on closed journals or small

1 https://www.scienceeurope.org/wp-content/uploads/2018/09/Plan_S.pdf

2 <http://scieur-org/coalition-s>

3 <https://www.coalition-s.org/feedback/>

4 Seglen, P. O. Why the impact factor of journals should not be used for evaluating research. *BMJ* 314, 498–502 (1997).

5 <https://www.nature.com/articles/4351003b>

6 <https://sfedora.org/>

7 for instance Copernicus publishers (<https://publications.copernicus.org/>) and arXiv repository (<https://arxiv.org/>)

8 https://www.copernicus.org/news_and_press/2018-11-28_new-institutional-agreement-with-helsinki-university-library.html

domestic journals which are not Plan S compatible. The gap analysis planned to be done before implementing Plan S will hopefully identify these fields and disciplines, yet after the analysis, strong emphasis should be put on establishing incentives to flip the existing journals to open access rather than supporting the creation of new open access journals/platforms, since it will take time for the new open access journals to gain the same level of credibility as the older and more established journals have. Hence the quality of science at these certain disciplines might seemingly drop when using the biased metrics mentioned above. This would put these fields of science at a disadvantage when different disciplines are competing for the same funding (external funding, governmental funding between universities or internally within universities between faculties).

- One of the principles in Plan S seems to be that all publication costs are well planned already while applying funding. However, all scientific results cannot be well-planned ahead, and ad hoc findings and ideas worth publishing come forth during research projects. Hence, flexibility on covering publication costs should be considered. One possibility could be to centralise the billing of article processing charges between e.g. university libraries and publishers, as already done in some instances⁸.
- If the Plan S compatible journals will be *de facto* the only possible publication outlets in the future, we should start to think also how to support the publications from scientists in between contracts. This concerns especially the young researchers that are often switching work places.

A successful transition to open science requires a concerted effort of researchers, universities, funding agencies and scientific publishers. Especially researchers themselves are pivotal for the process, as they can decide where to publish, which outlets they value in their own fields, in which journals they decide to serve as editors or reviewers etc. We therefore call all academies, researchers' organisations, learned societies, and universities to increase their efforts in promoting systemic changes that lead to more responsible and open science in the future.

On behalf of Young Academy Finland,

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Chair

Olli Peltola
Member of YAF board, responsible for open science issues

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