



London Mathematical Society: Response to Plan S

Whilst the London Mathematical Society is supportive of many of the principles of Plan S the Society continues to have a number of concerns. The Society has a role as a publisher, of 12 journals and two book series, and as a representative of the views of the mathematics research community.

We are concerned about the speed of the implementation of Plan S by cOAlition S funders, particularly as the publicly stated intentions of each member have yet to be clearly communicated, and that insufficient consultation with the research community has been undertaken. Many of our members, even those funded by cOAlition S, are unaware of the forthcoming changes and like many learned societies, our ability to implement major changes is limited compared to major commercial publishers as our governance relies heavily on volunteer labour.

The LMS offers a number of Open Access options within its journals. All the journals which are wholly owned and managed by the Society operate under the hybrid model except for *Transactions of the London Mathematical Society* which is a fully gold Open Access title.

We appreciate that the option for compliance by the “green” route is explicitly mentioned in the Plan S implementation document. The Society’s own journals continue to allow the deposit of the author accepted manuscript into arXiv or an institutional repository with zero embargo. However we are aware that this compliance model is currently not supported by all mathematics journals and also that in the longer-term more systematic self-archiving may erode the underlying subscription journal infrastructure underpinning green Open Access.

There are also concerns about how early career researchers in mathematics moving between posts supported by numerous funders might be supported in publishing gold Open Access when the timelines for publication in quality mathematics journals can be more lengthy and grants small compared to other disciplines. Moving to a model where the ability to publish is explicitly related to having a source of funding rather than purely based on quality is something about which the Society would have major concerns.

Although we recognise that cOAlition S are not prescribing a particular model, the rapid time to transition does seem to favour a ramping up of APC-gold via transformative deals. Around 73% of the Society’s authors are not funded by members of cOAlition S and are, on the whole, poorly funded compared to those in other disciplines. It would be difficult to justify flipping our journals to Open Access unless support from the rest of the world for Plan S was realised.

We are concerned that APC-gold favours large publishers and high-output journals. Mathematicians do not produce the same volume of articles that colleagues in other natural and biological sciences might. Increasing the volume of articles accepted by mathematics journals would lead to a dilution in quality and reputation.

A good quality mathematics paper can easily exceed 50 pages; authors expect a level of detailed review of every aspect of the paper and for the referee to replicate key aspects of the paper. This extremely thorough review process means that the volunteer work performed by each of our referees and Editorial Board members is significant but often offset by the knowledge that they are working for a journal whose owner returns surplus income to the mathematics community by means of charitable activities.

We have made some initial calculations and 27 % of the 2017/2018 articles published within these hybrid journals were funded by Plan S funders. These percentages do vary from 11 to 41% by journal and year on year due to the relatively small number of articles published annually but are very low. We are seeing less than 4% of published authors in our hybrid journals opting for gold Open Access as

many mathematicians take advantage of the zero embargo green option as a way to comply with funder mandates wherever possible. In general our authors lack the funding or appetite to opt for gold Open Access.

Even with transitional deals in place it is unlikely that the number of Open Access articles published in our hybrid journals will reach a level where a flip to full OA is feasible on the timescales that Plan S is intending. This leads to ambiguity as to how these journals can be part of larger transitional deals when the desired endpoint is unrealistic.

Transactions published five articles in 2018. There remain relatively few fully gold Open Access journals in mathematics and those that publish quality research are small in size.

We recognise that there are a growing number of mathematics journals financed by alternative models to that of levying article processing charges to funders and institutions. Although the Society recognises the potential benefits of such a model we feel on balance that the risks to the mathematics research community are far higher unless a serious ongoing financial commitment from institutions and funders to support the valuable charitable work of learned societies, including managing a rigorous peer-review process, can be secured.

The Society is keen that Open Access is implemented in such a way as not to undermine the financial sustainability of the Society. In 2017/18 the majority of the income received (66%) came from our publications. All surplus income from the LMS publishing programme is used entirely to support mathematicians and mathematics through which the Society achieves its charitable aims. Such activities are vital for the continued health of mathematics as a discipline, which is critical to the UK economy and which impacts on a wide range of societal activities.

Professor John Hunton
LMS Publications Secretary
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publications.secretary@lms.ac.uk