European Chemical Society (EuChemS) response to:

Future of scholarly publishing and scholarly communication – a report of the Expert Group to the European Commission

EuChemS, the European Chemical Society, is an umbrella organisation representing Chemistry learned societies and chemistry-related organisations in Europe, and by extension, representing some 160,000 chemists. Our vision for the future of scholarly publishing and scholarly communication is guided by our community's drive and belief in the creation and dissemination of knowledge to advance the science and solve global challenges.

We welcome the report of the Expert Group to the European Commission and the opportunity provided by the stakeholder consultation. EuChemS is generally supportive of the report's content, conclusive analysis of the report, together with the recommendations it puts forward.

EuChemS welcomes the succinct, clear and useful overview of how and why scholarly publishing and communication is the way it is today, as well as the summary of the different existing publishing and business models. Today's context is indeed one of challenges and opportunities, and one which will have important and long-lasting repercussions within the field of Chemistry. The advancement and dissemination of chemistry research is supported by an ecosystem of high quality and often specialised journals that have developed over time and with significant input from user communities. Looking to the future it makes sense – for the benefit of science, of funders of science and of citizens – to build on this existing strong infrastructure so that high-quality scientific outputs are archived and accessible in a structured and effective way for users.

The vision of the future of scholarly communications envisioned in the Expert Group report will require the understanding of the concerns and the taking into account of suggestions presented by research institutions, researchers, learned societies, libraries and publishers, if it is to succeed.

We have below provided responses to the two specific questions asked in the consultation and the guidance notes in Annex I, and have examined some of the more specific components that make up the ideal state of scholarly communication envisaged by the Expert Group.

1. In practice, how do you imagine the vision of an ideal state of scholarly communication put forward by the expert group and, more specifically, your role as an actor in that future system? You may depart from the suggested vision, if you think necessary/you disagree.

Actors and their roles/functions in the scholarly communication system

The purpose of learned societies is to advance the scholarship of their discipline, notably via the systematic advancement of its research, teaching and practise. First and foremost, it is about the science, as well as the researchers and the need to ensure and foster an environment in which they can best operate in to advance scientific knowledge.

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Learned societies play a number of pivotal roles within the scholarly communications ecosystem: as actors within the policy environment, encouraging and influencing changes from the researcher's perspective; as agents of knowledge dissemination, notably through publishing programmes; and as actors that support and recognise researchers throughout their careers.

Within the scholarly communications function, learned societies that have developed journal programmes are important to all four functions listed (registration, certification, dissemination and preservation).

Registration is primarily the responsibility of the researchers, although society journals have strict codes of conduct governing authorship and other aspects of registration, including how authors must recognise previous and/or competing work.

Certification, the peer review process, is at the heart of learned society journal programmes who strive to ensure the highest quality in terms of scientific expertise used and integrity of the process. Through our communities' direct leadership and involvement in every aspect of setting and maintaining scientific quality standards via the peer review process, learned societies journals are among the highest quality and most respected in their fields.

In terms of dissemination, EuChemS calls for a managed global transition towards open access publishing, at a pace that benefits the science, researchers and society at large. In February 2019, EuChemS responded to the open consultation on Plan S put forward by a coalition of science funders and supported by the European Commission (cOAlition S).

We strongly believe that an ideal state of scholarly communication should be driven through cooperation and with the continuous aim of encouraging high-quality scientific output. Mutual understanding and communication between all stakeholders are vital to ensure that the needs of each are understood and respected. Partnerships and collaboration between funders and other actors are needed to drive changes that benefit science. It is important that top down approaches, policy and citizen-led initiatives work in close tandem with the expert input from researchers.

Evaluation of research

Learned societies have consistently advocated that evaluation of research should be led through expert peer review processes, and not rely too heavily or solely on metric-based systems. Societies are indeed uniquely placed to provide this expert peer review as they represent communities of researchers, whose role in peer evaluation and support is at the heart of many of their functions.

It is through expert peer review that professional bodies (of which some learned societies are) accredit and evaluate individual researcher contributions to their field and their level of expertise in the practise of their discipline.

Moreover, the recognition of community members, whether through prizes or award programmes, are managed through transparent criteria and guidelines for both nominators and applicants. Expert panels evaluate applicants against published criteria – it is this combination of transparent criteria combined with expert judgements that ensures the best decisions are made.

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These principles are notably reflected in the San Francisco Declaration on Research Assessment (DORA).

Types of scholarly contributions, venues and paths for dissemination, business models and their financial aspects

While EuChemS anticipates that articles will remain the primary method of communicating the outputs of research, there is necessity to make research overall more transparent, via providing resources for open data, methods, preprints etc. as appropriate to aid reproducibility etc, researchers will need to be supported and incentivised to enable this.

As an example, our members the Royal Society of Chemistry and the Gesellschaft Deutscher Chemiker, together with the American Chemical Society recently launched a jointly owned and governed pre-print server (ChemRxiv). This particular method of research dissemination is more democratic and encourages wider participation. It moreover allows for the dissemination of “negative” results which are critical to informing the research community, but which do not have a home in many existing journals. The ChemRxiv project underlines both their commitment to the rapid and unfettered dissemination of knowledge as well as recognising that final publication in a journal provides the peer review added value.

In terms of business models and more particularly the transition to Open Access, EuChemS is of the opinion that hybrid journals (under a transformational deal) be accepted by organisations and funders pushing for a rapid shift in the publication landscape, as they allow a smooth and managed transition to Open Access.

Mirror journals, as a special variety of hybrid journals, employ transparent cost models for both subscription and Open Access journals, allowing the quality of established journals to be maintained while serving both the subscription-based and Open Access-based publishing models.

This is exemplified by the recent Projekt DEAL agreement reached in Germany with Wiley as a good way towards Open Access publishing. Such “publish and read” transformational agreements relieve the author from paying Article Processing Charges (APCs) (since this is done centrally) and does not jeopardise existing journals.

EuChemS in turn also strongly favours the Green Open Access route as well as the support for reasonable embargo periods. These ensure that there is a fair market for competition between publishers choosing different paths to the open access transition (as well as for Plan S compliance), as well as ensuring that countries with less research grant money are not punished under new business models.

Flexibility and experimentation in the market is needed (including for librarian customers), and any new business models must recognise the different political, policy and research environments that exist on a global scale within scholarly communications. Indeed, a one size fits all for a transition timeline to different publishing models for all communities across the world may not be in the best interests of science, the research community and society. Additional funding for publishing open access may also be needed, but it is important that this not be done at the expense of research funding itself.

EuChemS recognises that the impact of digitalisation should also be taken into account in any future vision of scholarly communications. The move to ever more digitalised forms and processes will instigate important changes in terms of transparency, ways of evaluating

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scientific contributions, data access, management and analysis, as well as allowing for more effective reproducibility.

2. What would you as an actor concretely need to do – and/or not do, to get us from where we are now to the state of affairs described in the vision put forward by the expert group? Critically, what would other stakeholders have to do – and/or not do?

Learned societies play a crucial role in fostering ties between scientists and play a central role in bridging the needs and concerns of scientists with the processes that drive scholarly communication. Learned societies are in many cases also publishers of curated journals of a very high standard, recognised by the scientific community as providing specialised and respected options for disseminating their work.

Moreover, strong commitment to transparent research evaluation through expert peer review will ensure an outcome that works for science, researchers and society as a whole. Closer partnerships between stakeholders is needed, including with the European Commission. The conversation and debate engendered by the Expert Group's report is a welcome opportunity to find sustainable solutions that secure the interests of researchers, societies, funders, librarians and publishers involved in the crucial task of disseminating scientific knowledge.

About the European Chemical Society (EuChemS)

EuChemS, the European Chemical Society, coordinates the work of 47 Chemical Societies and other chemistry-related organisations in Europe, representing about 150,000 chemists. Through the promotion of chemistry and by providing expert and scientific advice, EuChemS aims to take part in solving today's major societal challenges.

For further information, please visit www.euchems.eu or contact us at secretariat@euchems.eu

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