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September 23, 2014

Re: *Strategy for American Innovation*

To the National Economic Council and the Office of Science and Technology Policy:

Pursuant to the Request for Information (“RFI”) published in the Federal Register on July 29, 2014 (79 Fed. Reg. 44064), I am pleased to submit the following comments on behalf of the Association of American Publishers Professional and Scholarly Publishing division (“AAP/PSP”) regarding the upcoming update of the *Strategy for American Innovation* to be undertaken by the Office of Science and Technology Policy (“OSTP”) and the National Economic Council (“NEC”).

The core mission of the scholarly and professional publishers who make up the membership of AAP/PSP is to support innovation through the communication of scholarship and technical information. Our members create the vast majority of materials used in the U.S. by scholars and professionals in science, medicine, technology, business, law, reference, social science and the humanities. Our members include the worldwide disseminators, archivists, and developers of the public record on scientific research via print and electronic means. They are non-profit professional societies, commercial publishers and university presses that produce books, journals, computer software, databases and electronic products in virtually all formats and all areas of human inquiry and activity.

The primary goals of the peer-review publishing activity undertaken by our members is to enable the creation of quality content and broadly disseminate, provide access, and offer a high-quality and user-friendly environment in which to discover, analyze, and link to the latest breakthroughs and developments in scientific and other scholarly research. In particular, publishers of scientific journals have, for more than 100 years, played an integral role in building and documenting the unrivalled U.S. scientific research enterprise, and their continuing innovation and investment in high-quality publication of scientific research is critical to any strategy that would promote that innovation. Publishers have supported innovation not only in existing disciplines and the areas in which they publish, but also have recognized and nourished emerging fields of discovery. We welcome the opportunity to support any efforts to maximize the dissemination and discoverability of knowledge, consistent with publishing models that are economically sustainable. The latter is critical to ensure the integrity and long-term availability of the scholarly record upon which innovation is built.

Such sustainability is essential to support America’s historic and future economic strength and innovation leadership. Not only are the products of professional and scholarly publishing key ingredients for such innovation, but publishers also are critical contributors to the American economy. Collectively, members of AAP/PSP represent tens of thousands of publishing employees, editors and authors throughout the country who regularly contribute

to the advancement of American science, learning, culture and innovation in America. They comprise the bulk of a \$10 billion commercial and non-profit publishing industry that contributes significantly to the U.S. economy.

Because of publishers' focus on developing new models for the communication and dissemination of information and contributions to developments in the sharing of digital data, we believe that we are uniquely situated to comment on Question 21 and Question 23 of the OSTP/NEC RFI. Moreover, we believe that the comments we offer above and in response to the questions also bear relevance to the entire effort being undertaken in the Strategy for American Innovation. In submitting these comments, we therefore also express our willingness to offer our expertise to contribute to any further discussions in support of the Strategy for American Innovation.

### ***Question 21: Intellectual Property/Antitrust***

Advances in technology continue to create significant opportunities for increased use and dissemination of material in digital form. In this continually innovating and evolving space, the diversity of models of innovation and distribution are a positive feature, enabling creators, rightsholders, and users to experiment and develop appropriate models to support the creation and sharing of content. In all cases, protecting copyright is essential to ensure continued innovation and constantly improving availability of the scholarly content that underpins innovation.

In considering the role of copyright in the digital age, it is important to remember that the essential principle – enshrined in the Constitution – is that copyright is designed to “promote the progress of science and useful arts,” to wit, innovation. This incentive role for copyright is not limited to simply the creation of original works, but also to promote their dissemination and use. In this, research shows that intermediaries like scholarly publishers are critical to ensure the availability and innovative use of such materials.<sup>1</sup>

The government has recognized the critical importance of the incentivizing effect of intellectual property with respect to federal investments in research with the Bayh-Dole Act, to great effect. Under this rule, researchers (and their institutions) preserve the right to patent discoveries funded by the federal government in order to enable and accelerate commercialization. This wisely balanced approach has reaped benefits for the public in the form of increased innovation and the leveraging of federal investments for additional research and development. The same principle of allowing researchers to have exclusive rights, for a limited period, to reports of federally funded research in peer-reviewed articles also accrues benefits for the communication of science. Copyright provides a healthy balance between essential protection and exceptions and limitations that permit innovative uses that do not conflict with the rightsholders. In addition, copyright provides the incentives for the dissemination of ideas which are not protected and that are used to advance innovation. High-quality peer-reviewed research articles, curated into journals and disseminated in forms and fora that researchers use, enable the further scholarship upon which innovation depends.

In the publishing industry, copyright has provided an incentive for investments in new technologies and publishing models that meet the needs of today's digitally-based users, as well as the infrastructure needed to peer review, publish and distribute scientific communication. As the technology for disseminating works has changed and improved, so have the investments publishers have made to meet new user demands. Therefore, the need for investment incentives has become even more crucial for the publishing industry.

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<sup>1</sup> See Adam Mossoff, *How Copyright Drives Innovation in Scholarly Publishing* (April 2, 2013). *George Mason Law & Economics Research Paper No. 13-25*. Available at SSRN: <http://ssrn.com/abstract=2243264> (describing how copyright continues to be important in the digital age to spur both authors to invest in new works and publishers to invest in innovative, private-ordering mechanisms to distribute these works) and Mark Schultz, *Copyright, Economic Freedom and the RSC Policy Brief*, Copyright Alliance Blog (Nov. 20, 2012), available at <http://www.copyrightalliance.org/2012/11/copyright-economic-freedom-and-rsc-policy-brief> (explaining that copyright's constitutional mandate is rooted in both utilitarian and natural rights theory, which justify why copyright is a valid property right secured both to creators and to the private firms who disseminate their works).

The current intellectual property regime has spurred scholarly publishers, harnessing the power of the internet, to develop new models that enable innovators to build on knowledge and use scholarly material in new and previously unimagined ways. To cite just two examples that illustrate a theme:

1. Many publishers have developed new discovery tools to support researcher practices – enabling researchers to find material that supports their researcher more quickly and efficiently, or enabling them to find and use research in other disciplines that connects to their area of study in new and different ways that they otherwise would not come across. Such tools increase the speed of research and innovation across science and scholarship.
2. Many publishers have also developed tools to enable researchers to make more extensive use of the research literature once they have found articles of interest. These include extensive interlinking to related articles or associated data, as well as tools for interacting with the findings in an article in new and different ways. Such tools not only encourage individual discovery and innovation, but allow new forms of collaboration.

Of course, AAP/PSP members and other publishers are continually innovating, so new examples are being created all of the time.<sup>2</sup>

The best way to preserve such innovation is to ensure strong support for copyright, and enable the use of copyrighted material through licensing. Such approaches have proven to be viable and appropriate in a wide variety of settings, and are flexible enough to allow creators and rightsholders to set the appropriate permissions without undermining their rights. The rights conferred under license can be extremely broad (as in an “attribution rights reserved” regime) or narrow to accommodate any purpose. In addition, scholarly practice has provided a pragmatic system to balance formal intellectual property rights with certain informal practices that support the research needs of the communities served by their journals. While technically coming close to the rights held by publishers and other rightsholders, these practices – which include the sharing with colleagues of various versions of articles - do not undermine the most critical protections provided by copyright and demonstrate the continued viability of existing copyright regimes.

Where more explicit rights are required, licenses have proven to be a flexible tool to enable such rights consistent with copyright. For example, licenses can enable researchers to utilize text and data mining (“TDM”) tools to analyze text to find patterns and connections between words in a document and between documents. For example, a researcher might want to search through the research literature to discover similarities between manufacturing processes. Data mining is an analytical process that looks for trends and patterns in data sets that could reveal new insights. It is expected that other technologies and research tools not yet imagined will be consistent with copyright and licensing, and we encourage OSTP and NEC to tread carefully before upending the successful intellectual property regime that continues to enable such innovation.

### ***Question 23: Novel Government Tools for Promoting Innovation***

Publishers are extensively engaged in international efforts to support the sharing of data and intellectual property, and hope to continue to do so in support of private sector innovation both within and beyond the scholarly communication space. As mentioned above, publishing organizations have actively developed tools to enable more productive use of data and IP, including manipulation, visualization, TDM, and more.

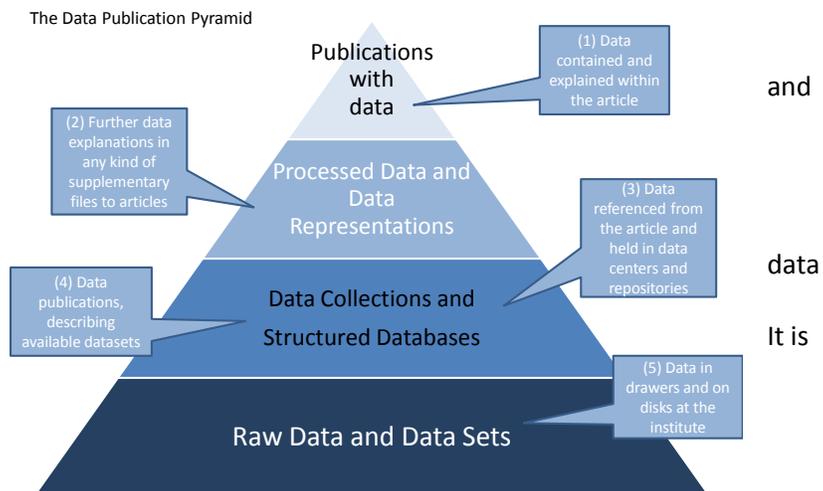
The dissemination of information is an area of publishers’ professional expertise. AAP/PSP members are experimenting in expanding access to data not only as publishers of peer-reviewed scientific journals, but also as disseminators of information whose innovative products and services enhance and add value to taxpayer-funded research activities. This innovation and these contributions are expected to do continue to reap benefits for America.

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<sup>2</sup> As noted in AAP’s testimony before the House Judiciary Committee, “key themes for the future of innovative business models for digital content delivery [include]: (1) the importance of on-demand access to content; (2) seamless portability across devices; and (3) new partnerships between content, technology, and consumers.”

([http://www.publishers.org/attachments/docs/copyright\\_policy/aapnewbusinessmodelsphs112613.pdf](http://www.publishers.org/attachments/docs/copyright_policy/aapnewbusinessmodelsphs112613.pdf))

It is important to recognize that Federal assets that support innovation come in many forms, even if the assets under consideration are limited to simply data intellectual property. The Data Publications Pyramid displayed here,<sup>3</sup> derived from open science pioneer Jim Gray's e-science pyramid, provides a model for understanding how research can be presented in a variety of ways with increasing levels of curation and analysis. It is critical that the federal government continue to distinguish between data and various types of presentation of data and preserve and respect intellectual property protection and copyright ownership as appropriate. By doing so, policies will continue to allow the engine of innovation to be harnessed to the rights inherent in intellectual property. Innovation is best supported by federal policies that account for these differences between information products at different levels of the pyramid.



Publishers are already working collaboratively with stakeholders, including primary researchers, secondary researchers, funders, libraries and data centers, on projects that will enable innovation in both the dissemination and use of data in the lower tiers of the pyramid. To cite just a few examples, publishers are very active with the Research Data Alliance ([rd-alliance.org](http://rd-alliance.org)), Codata ([www.codata.org](http://www.codata.org)), and others, and were instrumental in supporting Dryad ([www.codata.org](http://www.codata.org)) and other initiatives to make research data more discoverable and usable. Individual publishers are pursuing their own solutions to enhance the availability of primary research data as well. These include such diverse approaches as data-focused journals such as the Geoscience Data Journal ([www.geosciencedata.com](http://www.geosciencedata.com)); extensive data linking within peer-reviewed journals as described in Elsevier's Article of the Future projects ([www.articleofthefuture.com](http://www.articleofthefuture.com)); and approaches to surface the data through links as in Thompson Reuters' Data Citation Index ([wokinfo.com/products\\_tools/multidisciplinary/dci](http://wokinfo.com/products_tools/multidisciplinary/dci)). AAP/PSP members and other publishers are continuing to innovate in this area, and these projects can scale to support the sharing of government data. On the other hand, with other intellectual property, including especially the data evidenced at the top tier of the pyramid, it is important to balance the need for "openness" with a respect for the private sector investments and innovations that make the material available in the first place. When it comes to federally-funded research, it is critical to note that publishers' "peer-reviewed scholarly publications" that report, describe, explain, analyze or comment on federally funded research do NOT "result from" such research in any sense that can legally justify the assertion of Federal Government control over the contents or distribution of such publications. Although federal funding may facilitate or otherwise contribute to the research processes and discoveries that are the subjects of peer-reviewed articles published in scientific journals or other scholarly publications, the creation of the articles themselves – as well as the creation of the publications containing them – are a separate creative act. Activities including certifying quality control; improving accessibility; ensuring integrity, reliability, and provenance; enabling discovery; promoting global dissemination and collaboration; standardizing outputs; and preserving the scholarly record for future generations are not funded by or otherwise attributable to the Federal Government. Instead, such articles and publications are literary works that are subject to the rights of copyright ownership that belong to their authors or their authors' exclusive licensees, which are typically the publishers who have provided significant added-value to the work, such as extensive pre-publication editing and style processes that include peer review. As noted above, such copyright is critical to the innovation in presentation, dissemination, and preservation upon which other innovation relies.

<sup>3</sup> As appearing in the October 17, 2011 *Report on Integration of Data and Publications*, a report of Opportunities for Data Exchange which brings together stakeholders including researchers, publishers, libraries and data centers to support a more connected and integrated scholarly record. Full report available at [http://www.alliancepermanentaccess.org/wp-content/uploads/downloads/2011/11/ODE-ReportOnIntegrationOfDataAndPublications-1\\_1.pdf](http://www.alliancepermanentaccess.org/wp-content/uploads/downloads/2011/11/ODE-ReportOnIntegrationOfDataAndPublications-1_1.pdf)

In fact, the government recognizes the difference between the peer-reviewed article and other outputs of research is explicitly recognized in such policies as the National Institutes of Health public access mandate. In this policy, the NIH asks only for the final, peer-reviewed manuscript, not any other report of the research, despite the fact that the NIH already receives extensive reports on funded research as a condition of any grant it issues. That the government prefers the peer-reviewed article over any report is clear evidence of the contributions being made by publishers in stewarding this research communication to publication and the importance of those contributions to the advancement of science, and, subsequently, innovation.

That said, publishers – both as a fundamental character of our organizations and as a reason for being – share the government’s interest in ensuring the widest possible dissemination and discoverability of all of the knowledge we publish, including that which reports on federally-funded research. We support the OSTP and NEC’s goals of broadening access while preserving the high-quality, peer-reviewed articles on which the science community and the public rely. The key to the success of the policy, however, depends on how the agencies use their flexibility to avoid negative impacts to the successful system of scholarly communication that advances science, technology and innovation.

AAP/PSP members provide a variety of ways to support such access, and all rely on an economic model to support access and the initial creation of material. These methods include subscriptions as well as sponsored, author-enabled, and editor-selected approaches to ensure the availability of high-quality peer-reviewed articles at no cost to the public. Where policies, mechanisms, and approaches appropriate to each journal and the disciplines and communities it serves are put in place, there is no conflict between providing broad access and ensuring a healthy and sustainable business. This has been shown in countless individual journal policies, and also in a broad study by the European Union.<sup>4</sup> However, the wrong policies can undermine the very innovation that OSTP and NEC seek to promote by reducing the ability of publishers, like the members of AAP/PSP, to ensure the quality and integrity of the scholarly record that support American innovation, jobs, and economic growth.

In particular, while efforts at openness that build on publicly accessible material do have the potential to increase innovation, the viability and usefulness of the copyright in that material must be respected. Where the material in question is the final accepted manuscript of a peer-reviewed article, periods of exclusivity, often called embargoes, are critical. Studies have suggested that different embargo periods would be appropriate for different disciplines.<sup>5</sup> Policymakers around the world have recognized the need for flexible approaches to public access, and the need to proceed carefully when implementing public access mandates. We recommend that federal agencies that fund science, in setting any public access policies, use a transparent, collaborative, and evidence-based process involving all stakeholders to determine appropriate embargo periods based on the practices of individual funded disciplines.

The opportunities for collaborative approaches to yield success are strong. For example, to respond to an increasing interest and opportunity to provide public access to the peer-reviewed publications that report on federally funded research, publishers envisioned and set-up a new non-profit organization to develop and implement a system called the Clearinghouse for the Open Research of the United States (CHORUS). This system will provide readers with the full text of peer-reviewed articles, free of charge (after an embargo if applicable); ensure ongoing, long-term access to and preservation of these articles; support federal agencies in advancing science and promoting public access through a public-private partnership that minimizes government costs, as encouraged in the OSTP memo on public access;<sup>6</sup> and, ensure continued innovation and sustainability in the delivery of scholarly communication. By working collaboratively, CHORUS envisions being able to support the

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<sup>4</sup> The Publishing and the Ecology of European Research (PEER) project indicated that when a journal can choose an embargo period for free access to the articles it publishes there are no adverse effects

[http://www.peerproject.eu/fileadmin/media/reports/20120618\\_PEER\\_Final\\_public\\_report\\_D9-13.pdf](http://www.peerproject.eu/fileadmin/media/reports/20120618_PEER_Final_public_report_D9-13.pdf)

<sup>5</sup> See, for example, [www.publishers.org/usagestudy](http://www.publishers.org/usagestudy)

<sup>6</sup> “Increasing Access to the Results of Federally Funded Scientific Research” issued February 22, 2013.

[http://www.whitehouse.gov/sites/default/files/microsites/ostp/ostp\\_public\\_access\\_memo\\_2013.pdf](http://www.whitehouse.gov/sites/default/files/microsites/ostp/ostp_public_access_memo_2013.pdf)

Administration's "Open Government" framework<sup>7</sup> while maintaining the sustainability of their various publishing business models. CHORUS was recently recognized for its efforts and usefulness in the Department of Energy's public access plan (see [http://energy.gov/sites/prod/files/2014/08/f18/DOE\\_Public\\_Access%20Plan\\_FINAL.pdf](http://energy.gov/sites/prod/files/2014/08/f18/DOE_Public_Access%20Plan_FINAL.pdf)) and AAP/PSP sees this as a valuable contribution to American Innovation.

Tools such as CHORUS represent a potential model of novel tools to support innovation, developed in collaboration with the government but not simply government tools. To promote the greatest possible innovation, the government should leverage private sector expertise. In this case, publishers are in the business of disseminating knowledge, so they understand the importance of investing in top-of-the-line digital infrastructure to support dissemination. Therefore, CHORUS includes a number of technical aspects to ensure its interoperability and support for further innovation, including:

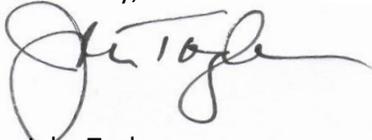
- A system to identify articles that report on or analyze federally funded research and a real-time dashboard for agencies, institutions and the public to demonstrate compliance and accessibility;
- An open API infrastructure to enable search and discovery through familiar search engines such as Google Scholar, Microsoft Academic Search, government and library search systems or new products and services;
- A framework to allow text and data mining tools to be applied across publishers' platforms under protocols protecting the user and the source content; and
- The use of existing and developing communication tools, resources and protocols for discoverability, search, archiving and preservation, including CrossRef, FundRef and ORCID.

### **Conclusion**

Publisher activities and investments over the last decades have contributed to U.S. economic growth directly through the high-skilled workers they employ, as well as through the dissemination of knowledge that leads to innovations beneficial to the safety and health of all Americans. We invest heavily in staff and technology resources to promote quality and integrity in this system, and, as private-sector entities, are continually innovating to ensure we meet new needs. With respect to peer-reviewed articles reporting on federally funded research, sustainable partnership with publishers is the best way to continue supporting the U.S. economy, thus ensuring a robust peer-review publishing system and the productivity of the scientific enterprise that supports innovation and the creation of new jobs and industries. With respect to other federal assets mentioned, our expertise can be helpful to ensure the most efficient and innovative development of new systems and tools to enable such products to promote innovation.

AAP/PSP and its members stand ready to work in partnership with the Federal Government and its research funding agencies toward shared goals of increasing the dissemination of research discoveries, improving access to published scholarly works, and advancing science, innovation and the U.S. economy. We would welcome the opportunity to have further discussions on these or any related issues with OSTP and/or NEC personnel.

Sincerely,



John Tagler  
Executive Director  
Professional and Scholarly Publishing

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<sup>7</sup> As articulated in Memorandum for the Heads of Executive Departments and Agencies on Transparency and Open Government (January 21, 2009), available at [http://www.whitehouse.gov/the\\_press\\_office/TransparencyandOpenGovernment](http://www.whitehouse.gov/the_press_office/TransparencyandOpenGovernment) and Memorandum for the Heads of Executive Departments and Agencies on Open Government Directive available at <http://www.whitehouse.gov/open/documents/open-government-directive>