



OFFICE OF THE VICE PRESIDENT - RESEARCH AND INNOVATION

OFFICE OF THE PRESIDENT
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April 13, 2020

Dr. Lisa Nichols
Assistant Director for Academic Engagement
Office of Science and Technology Policy
Submitted via email: OpenScience@ostp.eop.gov

RE: Docket ID [OSTP-2020-0004](#) Request for Information: Public Access to Peer-Reviewed Scholarly Publications, Data and Code Resulting From Federally Funded Research (RFI Response: Public Access)

Dear Dr. Nichols:

I write on behalf of the University of California (UC) system with regard to the Request for Information (RFI): Public Access to Peer-Reviewed Scholarly Publications, Data and Code Resulting From Federally Funded Research, issued on February 19, 2020.

The UC system is comprised of ten research-intensive campuses, six medical schools and three affiliated U.S. Department of Energy national laboratories. As a public institution and the nation's largest academic recipient of federal research funds, having received more than \$2.95 billion in 2018, UC believes that publicly funded research should be made available freely and immediately upon publication. Unfortunately, the current academic publishing landscape typically results in such taxpayer-funded research being paywalled behind costly subscription models; this should not be the case.

In response to this RFI, the UC system unequivocally recommends a zero-embargo policy for peer-reviewed author accepted manuscripts resulting from federally funded scientific research as a reasonable and considered step to minimize delay and maximize access to published research outputs. The data and code associated with federally funded research publications should also be made available to the public, where permissible, according to the [FAIR Principles](#), to support discovery, accessibility, reproducibility, interoperability and reuse. Our specific comments on the topics presented in the RFI notice are provided below.

The UC is committed to cultivating open research practices and values public and immediate access to scholarly publications, data and code. This systemwide commitment is demonstrated by the Academic Senate and Presidential [open access policies](#), the Faculty [Declaration of Rights and Principles to Transform Scholarly Communication](#) and [the university's work](#) to transition away from subscription-based scholarly communications towards sustainable, open access publishing

models. UC is also actively involved in the development of community-led open infrastructure for [data sharing](#) and [scholarly journal publishing](#) to further support open access to research results.

While UC will continue to support and further unfettered public access to its published research, we need the help of our federal partners. OSTP is optimally positioned to bring about a significant shift in the scholarly communications landscape by ensuring federally funded research is made available to all without delays or added costs to readers.

What current limitations exist to the effective communication of research outputs (publications, data, and code) and how might communications evolve to accelerate public access while advancing the quality of scientific research? What are the barriers to and opportunities for change?

The advancement of scientific research and industry is greatly impeded when access to the latest scholarly research is published behind a paywall or only publicly released after an embargo period. To fully embrace the potential of modern collaborative research, all stakeholders, be they policy makers, doctors, journalists, entrepreneurs, community welfare organizations, researchers or citizen scientists, need immediate access to published research results. Delays to the public availability of these results slow down discoveries that can benefit all citizens. Furthermore, research increasingly necessitates text and data mining to analyze large amounts of research results to identify patterns, trends and other findings through statistical analysis and machine learning. Such practice calls for content to be open rather than restrictively licensed.

Publishers and research institutions across the globe are already striking [open access agreements](#) and establishing new and innovative business models that support immediate dissemination of scholarly publications. UC has already signed four such transformative agreements, with the [Association for Computing Machinery \(ACM\)](#), [Cambridge University Press](#), [JMIR Publications](#) and the [Public Library of Science \(PLOS\)](#). Nevertheless, progress is slow; as of 2017, [less than 15%](#) of global research was immediately made available to the public upon publication. While many publishers see the transition to open access business models as an imperative in a rapidly transforming market, there are still others that wish to maintain the status quo (a subscription-based business model), which does not serve the public, industry or scientific research.

To advance scientific knowledge, the UC system asks OSTP to work across federal agencies and departments to enhance public access to government-funded research. UC urges OSTP to require federal funding agencies to implement a zero-day embargo period for access to peer-reviewed author accepted manuscripts resulting from federally funded scientific research.

In terms of access to underlying data necessary to validate research findings, data sharing policies, as of now, vary widely across funders and publishers, hindering the ability to verify findings or find new discoveries from federally funded datasets. UC recommends that OSTP work with federal funding agencies to standardize requirements for data sharing in accordance with the [FAIR Principles](#) and provide guidance on appropriate ways to maintain sensitive data. The access to and sharing of sensitive data is governed by a complex, fragmented set of ethical and legal requirements. Frameworks for accommodating these data, at scale, have not been developed. Guidance on appropriate ways to maintain sensitive data, including standards for uncontrolled

access, de-identification, and application of confidentiality policies, would decrease administrative burden on researchers and grantee institutions, and promote the goals of long-term data maintenance and accessibility in accordance with the FAIR Principles.

What more can Federal agencies do to make tax-payer funded research results, including peer-reviewed author manuscripts, data, and code funded by the Federal Government, freely and publicly accessible in a way that minimizes delay, maximizes access, and enhances usability? How can the Federal Government engage with other sectors to achieve these goals?

The Federal Government's existing outreach to and engagement with open science stakeholders, including higher education institutions, researchers, publishers and the public, is an important step in ensuring federally funded research results are made more readily available.

Scholarly societies are key leaders in the open access transformation of the scholarly publishing landscape and UC urges OSTP to engage them directly. Many societies are already working towards a full transition to open access; as noted, [ACM](#) recently struck a transformative agreement with UC as well as three other leading universities: Carnegie Mellon University, Massachusetts Institute of Technology and Iowa State University. Other societies are working with initiatives like [Transitioning Society Publications to OA](#), the [Society Publishers Coalition](#) and [Subscribe to Open](#), which all support society adoption of open access business models.

As noted, UC strongly recommends a zero-embargo policy for peer-reviewed author accepted manuscripts resulting from federally funded scientific research. This recommendation is broadly accepted in the U.S., as evidenced by the outpour of support in recent months, including from [21 Nobel Prize award-winning scientists and scholars](#) and the [Open Research Funders Group](#), a partnership of 16 philanthropies (including the Arcadia Foundation, Alfred P. Sloan Foundation, Bill & Melinda Gates Foundation, Gordon and Betty Moore Foundation and other) with combined assets of more than \$100 billion.

To ensure the success of any such public access policy, there must also be consistency of requirements and mandates. OSTP can play an important role in streamlining requirements across federal funding agencies. Researchers often hold grants from multiple agencies concurrently; therefore, uniform requirements and procedures regarding public access and deposit of peer-reviewed literature should be established across all funding agencies. Uniformity of deposit requirements will reduce the complexity and cost while at the same time increasing the rate of compliance.

In addition, and as reflected in the FAIR Principles, metadata associated with these articles should be viewed as a means for enabling specific actions to facilitate use, reuse and analysis of published work, rather than simply an item description. Metadata should be machine-readable, machine-interoperable and support the proper context for published resources.

Further, it is critical that federal agencies continue to fund publishing. As noted, UC is pursuing transformative agreements under which final, published versions of articles are immediately available upon publication directly through the publisher. While UC is transitioning its

subscription funding towards these agreements, our model also calls on authors to contribute grant funding. Federal funders currently support the use of grants towards publishing charges; UC asks that this support continue and that funders prominently and consistently remind grantees to consider their publishing needs when finalizing their budgets. As a further step, federal funders could directly pay institutions for supporting open access publishing costs through increasing institutions' ability to recover indirect costs. The current 26% cap on indirect cost recovery constrains universities' ability to pay for the infrastructure and additional resources necessary to ensure public access to research results.

How would American science leadership and American competitiveness benefit from immediate access to these resources? What are potential challenges and effective approaches for overcoming them? Analyses that weigh the trade-offs of different approaches and models, especially those that provide data, will be particularly helpful.

Immediate public access to scholarly publications, data and code accelerates innovation and the creation of new knowledge in ways unmatched by subscription-based publishing models, where public access to knowledge is paywalled or significantly delayed. This is evident in the scientific community's response to the coronavirus "with unprecedented speed and openness" and the devastating public health costs of locking important Ebola virus research behind a paywall. See, for example:

- "[Coronavirus and Ebola: could open access medical research find a cure?](#)" The Guardian
- "[Scientists are unraveling the Chinese coronavirus with unprecedented speed and openness](#)" The Washington Post
- "[Yes, We Were Warned About Ebola](#)" The New York Times

Aside from public health, federally funded research contributes to advancements across all sectors of the U.S. economy that drive innovations in information technology, energy and agricultural products.¹ Delaying access to federally funded research slows progress, putting American innovators at a disadvantage because they are limited to research results that are available to them rather than that which is most relevant. An open access policy with a zero-embargo period would empower startup ventures and businesses to deploy new technologies at pace with novel ideas. Not to mention, such a policy allows more users to stay abreast of new knowledge, ensuring that U.S. higher education institutions provide the best possible education to all students and training to scientists. At present, not even well-funded institutions can afford to subscribe to all of the journals required to meet their campus needs.

The pursuit of open access does not require one business model or approach; this is the foundational belief underlying the UC Libraries 2018 [Pathways to Open Access](#) report. UC has found that different approaches and strategies for advancing open access are not only more productive in facilitating the open access transition, but they mutually reinforce each other. At the heart of the matter, a zero-embargo policy for federally funded research is a critical component of the broader collective effort to make research results openly accessible. Such a policy supports

¹ Singer, Peter L. "Federally supported innovations: 22 examples of major technology advances that stem from federal research support." ITIF, February (2014). Accessed online: <http://www2.itif.org/2014-federally-supported-innovations.pdf>

both the pursuit of “green” open access through deposit of research outputs in open repositories, and “gold” open access facilitated through a publisher. UC supports both approaches.

Any additional information that might be considered for Federal policies related to public access to peer-reviewed author manuscripts, data, and code resulting from federally supported research.

Costs Related to Research Data Management and Sharing

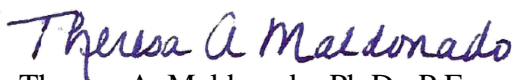
There are significant costs associated with long-term data management and sharing. Beyond curation and preservation costs, increasing data sharing activities often requires support from personnel outside of the traditional laboratory environment, including librarians and data scientists, to provide the necessary expertise and guidance needed to comply with a data sharing policy and build good data management practices into an investigator’s research process. UC strongly urges OSTP to work across federal funding agencies to allow researchers to budget for long-term data curation and preservation costs as part of the allowable costs; or at a minimum clarify that grantee institutions may pre-pay from their awards these long-term costs. UC also recommends that if these long-term costs are not permitted on a grant-by-grant basis, that funding agencies offer additional supplemental funding to institutions to enable the use of broader network-level infrastructure for data management and storage.

Advancing the Public’s Knowledge of Scientific Resources

While embargos and paywalls are a hindrance to public access to research results, they are not the only barrier in the dissemination of scientific knowledge. Public awareness of these resources through various outreach platforms should be addressed by the federal government, to ensure that Americans are aware of the vast repositories of knowledge freely available to them.

Thank you for your consideration of these comments on behalf of the University of California. We look forward to continued engagement on this issue.

Sincerely,



Theresa A. Maldonado, Ph.D., P.E.
Vice President for Research & Innovation