



OFFICE OF THE PRESIDENT
California Digital Library

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May 5, 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 California Digital Library of the University of California (UC) 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. CDL appreciates the deep interest the Office of Science and Technology Policy (OSTP) is taking in this important issue and the concerted effort made to bring in stakeholder voices, including that of the libraries.

The California Digital Library (CDL) is a unit within the UC Office of the President and provides transformative digital library services, grounded in campus partnerships and extended through external collaborations that amplify the impact of the libraries, scholarship, and resources of the University of California. CDL seeks to be a catalyst for deeply collaborative solutions providing a rich, intuitive and seamless environment for publishing, sharing and preserving our scholars' increasingly diverse outputs, as well as for acquiring and accessing information critical to the University's scholarly enterprise. Increasing public access—open access—to scholarly works is a core concern and goal of the CDL, so I am pleased to provide the following response to this OSTP RFI.

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?

Effective communication of research outputs is profoundly limited by a patchwork distribution system wherein some research is openly available at publisher sites; some research is restricted at publisher sites, but is available via open versions in repositories or on personal websites; and most research is entirely paywalled, restricting access to only those who license the content. The progress of scientific

discoveries, clinical trials, and industry is necessarily slowed by such variable and restrictive access to relevant and timely research findings. Although efforts are being made to help researchers navigate this patchwork system, including the development of tools that search for open versions of restricted publications, accessing research can still be difficult and time consuming, especially for researchers who are not affiliated with large research institutions that have subscriptions to thousands of journals. As we have seen most recently in the context of COVID-19 research, these barriers to information must be broken down to enable the global community to move with alacrity on matters of urgency that require shared knowledge and information.

In light of the artificial delays created by the current research distribution system and the pressures to move quickly in areas such as public health, climate change, etc., we are seeing a rise in the number and usage of pirate sites. These sites serve two distinct needs that the commercial marketplace does not satisfy: providing access to content for those who lack journal subscriptions and offering a frictionless access model through aggregated search and retrieval across all publications for even those who already have legal pathways to access these materials. Rampant use of illegal websites strongly signals the need for systemic change in the way research is disseminated: paywalls and silos slow access to information. If we hope to advance as a global society facing significant complexities, we must reimagine the systems we use to distribute the knowledge we acquire. If the marketplace evolved to address the needs and solve the problems of its consumers, these illegal sites would no longer attract a significant audience.

The primary barrier to the timely distribution of knowledge is the legacy subscription system, which enables publishers of scholarly content to claim copyright in published research and aggressively defend their copyright in order to maximize their profit margins. These publishing companies are financially incentivized to restrict access to the materials they publish, a model that is at cross-purposes with the values and needs of the broader research community. Providing public access to scholarship at the point of publication would address these needs and support timely progress toward both scientific discoveries and commercial inventions.

This is not an argument for the dissolution of publishers as we know them: rather, publishers can continue to thrive under business models built around this immediate public access rather than paywalled content. As of 2017, [less than 15%](#) of publications were immediately available upon publication (either published open access or available in an open access repository with no embargo). Recognizing the growing demand for public access to research, new business models are being developed as part of [open access agreements](#) between publishers and libraries, including four recent agreements established between the University of California (UC) and the [Association for Computing Machinery \(ACM\)](#), [Cambridge University Press](#), [JMIR Publications](#) and the [Public Library of Science \(PLOS\)](#). These agreements are creating an environment in which all parties - the academy, commercial player, societies - are incentivized to make research openly available upon publication, thus leveraging their assets for the good of science and society, and doing so in a sustainable way.

Academic institutions are also stepping up to provide open access publishing services themselves in support of scholarly communication. These “library publishing programs” help punctuate institutional efforts to develop new agreements with publishers by providing alternatives for faculty who seek to transition their journals to open access or launch new open access publications. Rather than simply outsourcing the distribution of their research to commercial interests, universities and colleges are increasingly insisting on their own publishing role -- providing the kind of infrastructure and support that enable their faculty to establish open access publications that ensure timely and expansive sharing

of the research in their fields. These institutional publishing programs are also well positioned to help scholarly societies who are looking to transition to open access; offering both consulting services and publishing platforms, these institutions provide a safe environment to explore new business and sustainability models. For more information about efforts to support society transitions to open access, see [Transitioning Society Publications to OA](#), the [Society Publishers Coalition](#) and [Subscribe to Open](#), as well as UC's own [Office of Scholarly Communication toolkit](#) for transitioning journals to open access.

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?

This RFI and the Federal Government's ongoing engagement with higher education institutions, researchers, publishers, and the public is an important step for ensuring that federally funded research results are made readily available to all parties who would benefit from access to this research.

The next step must be stronger requirements for zero-embargo policies, which would ensure the posting of the author accepted manuscript in an open repository immediately upon publication in a journal and, consequently, would incentivize further innovation in open access business models. Similarly, data and code should be openly distributed through appropriate venues, and current policies regarding data and code produced through federally funded research should be strengthened by requiring updated assertions of reciprocal connections between publications and publicly available data sets, software, and any other tools.

OSTP has the opportunity to accelerate the much-needed transition to open access to meet the needs of the global community with leadership and policy guidance. To ensure steady progress toward public access to scientific knowledge, the California Digital Library (CDL) strongly urges OSTP to establish a zero-embargo for all author accepted manuscripts resulting from federally funded research, regardless of place of publication, and to coordinate the adoption of this policy across all federal agencies and departments. Such a policy would both ensure that federally funded research would be made available immediately upon publication, with no restrictions to access, and reinforce library efforts to establish open access publishing agreements with commercial publishers; without the opportunity to restrict access to new publications and control their distribution for profit, these publishers would be strongly motivated to work with libraries on open access agreements that could sustain their business while transitioning to an open access publishing model.

Because access to related datasets and code is crucial for improving scientific rigor and [maximizing impact](#) (by enabling reproducibility and new research), CDL also urges OSTP to spearhead the use of [FAIR Principles](#) as a basis for standardized data sharing requirements, which will also ease the compliance burden on researchers. In addition to providing funding for essential components such as data management, research data support staff, and data repository costs, OSTP has an opportunity to encourage the use of consistent federal guidance regarding 1) data preparation and management (e.g. machine-actionable Data Management Plans and use of persistent identifiers) and 2) characteristics of acceptable data repositories, both of which would have significant impact in spurring the reuse of data sets. Finally, while CDL champions access to and openness of research data, we also recognize the importance of guidelines and policies protecting privacy and security, as in the case of personally

identifiable or other sensitive data. These issues too could be more thoroughly attended to at the federal level, through OSTP coordination.

Finally, increased support and guidance for grant recipients would help create a culture shift toward open dissemination. Requiring a strategy within grant applications for open dissemination of research results, and encouraging researchers to allocate funds for the open publication of research, would incentivize more authors to actively choose open publication venues.

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.

Openly available research outputs--including [research publications](#), data, and code--are downloaded and cited significantly more frequently than their paywalled counterparts. Ensuring that American research results are immediately available to the rest of the world is the most effective way of fortifying American scientific leadership and can also lead to more productive global partnerships in research ventures; disseminating research results openly helps keep global conversations aligned with American research priorities. Similarly, American innovation can flourish when scientists and industry have immediate access to new findings and breakthroughs worldwide - and are not stalled by paywalled barriers to access. Our competitiveness across a broad array of disciplines and economic spheres of activity grows relative to the speed at which public and private researchers have access to the latest scientific results.

CDL believes that there are many forms of potentially transformative open access: “green” zero-embargoed open access (depositing research outputs in open repositories regardless of publication model), “gold” open access (publishing in open access with a publisher), and “diamond” open access (publishing in open access without publication fees) are all effective in delivering scientific findings to the scholars who need them -- but no single model is likely to single-handedly effect the change we seek in the near term. The green approach faces challenges of compliance and the complexities of helping researchers identify and deposit their “author’s accepted manuscript”; the gold approach requires that we reach sustainable agreements with publishers in establishing what is effectively a major overhaul of their long-established business models; and the diamond approach requires institutions to scale up their publishing efforts substantially to provide expansive publishing services. But all three efforts, together, are likely to have a synergistic effect and get us to a tipping point. We recognize, and have ourselves deployed, myriad strategies for advancing open access, understanding that there is no single model that is optimal for all sectors. We must work collaboratively to attain the goal of public access by approaching the challenge from a number of angles - a multi-varied approach that we actively support, including endorsing and organizing community conversations around the UC Libraries 2018 [Pathways to Open Access](#) report.

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.

A zero-embargo policy for federally funded researchers is a measured yet impactful step towards ensuring broader public access to research, with all of its attendant benefits. This policy will incentivize publishers to innovate new business models that are rooted in open-ness, rather than sustaining business models that are to the detriment of science and society by gating access through a paywall.

Publishers, in a recent OSTP meeting, expressed a desire for “thoughtful experimentation with a zero embargo policy,” suggesting that OSTP should move slowly and carefully toward establishing any such policy. Many academic institutions worldwide, however, have long-established open access policies (at the University of California, adopted by the faculty in 2013) that declare the desire and intention of making scholarly research openly available regardless of publisher policy. These policies, as well as the NIH PubMed Central policy, effectively constitute that experimentation. Hundreds of thousands of research articles have been made open access in the past decade without compromising the standing of the publisher as the source of the “publication of record.” Now is not the time to move tentatively; now is the time to move boldly toward a new normal that insists on the free exchange of knowledge and information in the service of advancing science, technology, and society.

Thank you for considering these comments and for encouraging a robust discussion of this important issue.

Sincerely,

A handwritten signature in blue ink, appearing to read "Günter Waibel".

Günter Waibel
Associate Vice Provost & Executive Director
California Digital Library, UC Office of the President