The Pennsylvania State University Response to Request for Information: Public Access to Peer-Reviewed Scholarly Publications, Data and Code Resulting From Federally Funded Research

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The Pennsylvania State University (Penn State) thanks the Office of Science & Technology Policy (OSTP) for requesting stakeholder responses on this topic – which is now more timely and relevant than ever. Penn State is a top-25 U.S. research university with $968 million in annual research expenditures and $593 million in federal research funding. As an extremely active research university with Land Grant, Sea Grant, Sun Grant, and Space Grant status, Penn State shares OSTP’s commitment to expanding public access to and benefit from federally funded research. We are grateful for the opportunity to submit our responses to the questions in Document 85 FR 9488, Request for Information (RFI): Public Access to Peer-Reviewed Scholarly Publications, Data and Code Resulting from Federally Funded Research.

Investments in research drive innovation and our understanding of science; lack of access to research outputs hampers the speed of scientific advancement and reduces the value of critical investments.

Governmental investments in scientific research can create positive American economic impact orders of magnitude greater than the original investment. In order to maximize the benefits of the funding and investment of the United States government, funders should require full and immediate open access to all research outputs resulting from federally funded research work, including peer-reviewed author manuscripts, data, code, protocols, and research workflows. Peer-reviewed author manuscripts resulting from federally funded research should be distributed via funder repositories in open and machine-readable formats that support text and data mining and computational analysis, with licenses that allow for appropriate reuse. Supporting materials needed to replicate results, such as data, should always be immediately and openly available upon research publication. Other data should be available under FAIR (Findable, Accessible, Interoperable, Reusable) principles. While we encourage and applaud public access to research data, we also recognize the importance of certain research that can only be conducted with confidential data, such as patient records, that should not be made public. These research outputs should be preserved for the long term in an appropriate repository: for peer-reviewed author manuscripts, in a digital repository maintained by the funding agency, and for other research outputs, in an appropriate institutional or disciplinary repository.

Additionally, while it is important to make data and peer-reviewed author manuscripts publicly accessible immediately upon publication, this alone is not enough to replicate and validate the quality of research. Just as the data is essential, so too is any code used to clean or manipulate
the data, as well as the research steps and processes. We recommend that OSTP require public access to code, protocols and workflows as outputs of research.

On March 14, 2020, Penn State, like many institutions of higher education, moved to remote research and teaching methods. During this unprecedented period, many publishers and database vendors have temporarily opened up their digital platforms for wider, open access. Moves by publishers to open all COVID-19 related research demonstrate that immediate barrier-free availability of research outputs hastens scientific work. The scientific collaboration and speed that has resulted from the mass adoption and use of pre-print repositories to share research prior to peer review is astonishing, and we strongly support supplemental policies to encourage the use of pre-print repositories to increase the reach and speed of research. However, they are no substitute for immediate public access to peer-reviewed author manuscripts and the other fruits of funded research.

The pandemic both brings the benefits of open science into sharp relief and poses a heavier burden on research institutions than ever before. Robust science requires robust and frictionless access to peer-reviewed research, and without action towards embargo-free immediate access to research publications, research outputs and the value of American investments in research will suffer. Even before the pandemic, even the most well-resourced universities could not afford to subscribe to every journal and database needed by their researchers. Publishers charge more every year for access to the same content, far outstripping the rate of inflation and the Consumer Price Index (CPI). Universities cannot afford to continually increase subscription budgets. The end result is a reduction of scientists’ access to peer-reviewed research, which further slows the benefits of scientific endeavor. This will pose heavy burdens on researchers as they search and on libraries and librarians as they work to provide access to materials they cannot afford. Immediate public access to all components required for research replicability allows research institutions to continue critical research and teaching in the face of substantial budget cuts and reduced access to paywalled journal articles.

Public access to peer-reviewed author manuscripts and other research outputs should remain in already familiar funder-operated, institutional, and disciplinary repositories. Federal agency public access repositories, such as PubMed Central, do an excellent job of providing public access to peer-reviewed author manuscripts. For other research outputs, research institutions already operate institutional repositories with mechanisms designed to make sharing data and code as easy as possible for researchers. Continuing to use and build upon existing infrastructure maintained by federal agencies, research institutions and their libraries, disciplinary repositories, and others that provide free tools that enable researchers to widely share their work is the most cost-effective way to obtain immediate public access to research outputs.

For the public interest in maintaining access to science, important for both non-commercial research and businesses alike, immediate open access without an embargo period should be the default for all federally funded research. This is an opportunity for the United States to truly
lead the vision for the future of scholarly publications and access to research, as well as to take full advantage of its investments in research. Thank you for your time and consideration of this topic.

Respectfully,

Brandy Karl and Cynthia Vitale

on behalf of The Pennsylvania State University