

**Subject: Re: Public Access to Peer-Reviewed Scholarly Publications
Resulting From Federally Funded Research**

Date: January 2, 2012 1:34:08 AM EST

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I am writing in response to the request for information on public access to federally funded research. As a member of a small private research lab without university level access to most publications, I am constantly obstructed by the lack of public access to papers in computer science, mathematics, and many other areas of interest. Open access to federally funded research would have a significant streamlining effect on the daily work of myself and many other researchers and developers in similar positions. Detailed responses to the specific questions follow:

Question 1:

Are there steps that agencies could take to grow existing and new markets related to the access and analysis of peer-reviewed publications that result from federally funded scientific research? How can policies for archiving publications and making them publically accessible be used to grow the economy and improve the productivity of the scientific enterprise? What are the relative costs and benefits of such policies? What type of access to these publications is required to maximize U.S. economic growth and improve the productivity of the American scientific enterprise?

Response 1:

The single and most important step to take is to explicitly grant the authors of federally funded scientific papers the right to make copies of their work freely available, either through personal or institutional websites or public sites such as arxiv.org. I believe the overwhelming majority of researchers already want this freedom, but many are prevented from doing so by publishing agreements with private journals. Therefore, mandating public access is unnecessary if researchers have full rights to distribute their own work alongside journal and conference publication. Specific policies for archiving publications are useful but less important than the right to distribute, since arxiv, Google Scholar and other services already provide ready methods for archiving and finding publications.

The main benefit of such a policy is reduced overhead for individuals and smaller institutions which cannot avoid blanket access to the majority of journals (as would typically be available through a university). The main downside is reduced revenue for conventional publishers. However, government policy should not be geared towards the interests of publishers: the sole metric should be interests of the taxpaying public as a whole.

Question 2:

What specific steps can be taken to protect the intellectual property interests of publishers, scientists, Federal agencies, and other stakeholders involved with the publication and dissemination of peer-reviewed scholarly publications resulting from federally funded scientific research? Conversely, are there policies that should not be adopted with respect to public access to peer-reviewed scholarly publications so as not to undermine any intellectual property rights of publishers, scientists, Federal agencies, and other stakeholders?

Response 2:

The easiest way to safeguard the rights of scientists is to make open access an optional but guaranteed right, as mentioned above. In the long term, mandatory open access to federally funded research may be desirable, but I believe most of the benefits can be achieved with rights alone. Moreover, open access to research need not interfere with the patent system, which is the primary mechanism for helping scientists and institutions to commercially profit from their work. The intellectual property rights of publishers could be maintained for past work by enforcing the right to open distribution only for future research. Although open access to past work is also highly desirable, a retroactive forced change to publishing agreements would constitute far more interference with private contracts, and is therefore more questionable.

Question 3:

What are the pros and cons of centralized and decentralized approaches to managing public access to peer-reviewed scholarly publications that result from federally funded research in terms of interoperability, search, development of analytic tools, and other scientific and commercial opportunities? Are there reasons why a Federal agency (or agencies) should maintain custody of all published content, and are

there ways that the government can ensure long-term stewardship if content is distributed across multiple private sources?

Response 3:

The pros of a decentralized approach are flexibility and diversity in exploring new methods of distribution, peer review, and search. The pros of a centralized approach are uniformity and simplified access, and institutional levels of security and redundancy. I do not believe it is important to discuss cons of either, since both centralized and decentralized approaches can exist simultaneously. If researchers are guaranteed the right to open distribution, they will naturally take advantage of a variety of distribution mechanisms, including arxiv, self-distribution on websites, and any open government databases. The relative success of the various options can then be judged and evaluated on their merits. In this framework, a government database of open work would constitute both an alternative access point and a long term backup of published work, without interfering with nongovernmental mechanisms and institutions.

Question 4:

Are there models or new ideas for public-private partnerships that take advantage of existing publisher archives and encourage innovation in accessibility and interoperability, while ensuring long-term stewardship of the results of federally funded research?

Response 4:

Access to existing archives is a more delicate issue, since it requires enforced or negotiated change to past publishing agreements. Therefore, it may be best tackled after open access to future works, especially since solutions for the latter will inform those for past work.

Question 5:

What steps can be taken by Federal agencies, publishers, and/or scholarly and professional societies to encourage interoperable search, discovery, and analysis capacity across disciplines and archives? What are the minimum core metadata for scholarly publications that must be made available to the public to allow such capabilities? How should Federal agencies make certain that such minimum core metadata associated with peer-reviewed publications

resulting from federally funded scientific research are publicly available to ensure that these publications can be easily found and linked to Federal science funding?

Response 5:

Due to the availability of efficient search, I do not believe it is necessary to mandate any particular set of metadata for text publications themselves. Instead, any government publication databases should provide support for optional metadata such as source code and data sets, or at a minimum links to external storage of such metadata.

Question 6:

How can Federal agencies that fund science maximize the benefit of public access policies to U.S. taxpayers, and their investment in the peer-reviewed literature, while minimizing burden and costs for stakeholders, including awardee institutions, scientists, publishers, Federal agencies, and libraries?

Response 6:

As mentioned above, I believe much of the benefit of complete open access can be achieved simply by guaranteeing the right to freely distribute federally funded work. The costs for such a step are minimal, especially since efficient distribution and search mechanisms already exist, and will likely proliferate further if a greater fraction of publications can legally take advantage of them.

Question 7:

Besides scholarly journal articles, should other types of peer-reviewed publications resulting from federally funded research, such as book chapters and conference proceedings, be covered by these public access policies?

Response 7:

The right of researchers to freely distribute federally funded work should be applied as widely as possible. Conference proceedings are particularly important, especially in fields such as computer science where conferences are often the dominant publication venue for many subfields. Book chapters are less clear, since authors benefit

financially from the purchase of each book, and therefore have less incentive to take advantage of free publication rights. However, making free distribution a right rather than a requirement would allow authors to either choose the status quo or explore a variety of ways to take full or partial advantage of free distribution.

Question 8:

What is the appropriate embargo period after publication before the public is granted free access to the full content of peer-reviewed scholarly publications resulting from federally funded research? Please describe the empirical basis for the recommended embargo period. Analyses that weigh public and private benefits and account for external market factors, such as competition, price changes, library budgets, and other factors, will be particularly useful. Are there evidence-based arguments that can be made that the delay period should be different for specific disciplines or types of publications?

Response 8:

The embargo period should be negative: researchers should be allowed to freely distribute their work whenever they choose, including before publication or even before completion. This will minimize the delay between the completion of work and the time when other researchers can begin building on it. Producers of research that do not want their work to be immediately distributed can choose not to do so, and consumers of research that prefer to wait for the filtering and improvement effects of peer review are free to wait. Any other embargo period, even zero, would cause an unnecessary drag on the speed of dissemination and advancement of scientific knowledge.

Thank you for the opportunity to comment on this issue.

Geoffrey Irving