

I would like to thank OSTP and the NSTC for their leadership on ensuring public access to the results of federally-funded scientific research, and for providing the opportunity for the public to comment on how this can best be achieved.

I am a Professor of Microbiology and Molecular Genetics at the University of Vermont (UVM). I run a research lab funded by three grants from the National Institutes of Health (NIH), and I teach undergraduate, graduate and medical students. I am active member of the American Society for Cell Biology (ASCB), and served a 6-year term as the organization's Treasurer. I am currently also on the Board of Directors of Public Library of Science (PLOS), a non-profit open access scientific publisher. Both ASCB and PLOS will be submitting comments separately, so I write to you today as a scientist and educator. I strongly support the approach taken by the NIH to ensuring public access to the biomedical literature, and I encourage the NTSC Task force to recommend extending this framework to other federal research agencies.

I will comment specifically on questions 6 and 8 of the RFI:

***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?*

*The benefit of public access policies to scientists and educators.* The access problem is real, and is something that my colleagues and I experience on a daily basis. My lab does competitively-funded research on an infectious disease that causes mental retardation, birth defects and death in the U.S. We frequently find that we must “make do” without articles from the scientific literature that would help this research progress. This is due primarily to the cost of journal subscriptions; UVM's budget of ~\$1.5 million for biological/biomedical journals is insufficient to meet the needs of our diverse faculty and staff. Journal prices have risen faster than library budgets for many years, and our libraries find themselves in a constant struggle just to maintain the subscriptions we already have. My research has become increasingly multidisciplinary in recent years, and this has exacerbated my own problems with access: we now collaborate closely with chemists, and I have discovered that access to the chemistry literature is even more restricted than the biomedical literature.

In my role as an educator, I also often find myself teaching my graduate and medical students what I have access to, rather than what they most need to know. For example, in preparing a lecture for medical students on why there is a difference in the incidence of coronary artery disease in women and men, I found I was only able to access about two thirds of the articles I needed to provide my students with all the available information. This is very frustrating as a teacher and does not serve students well.

There are various “workarounds” to the access problem that academics practice, such as emailing authors directly for manuscripts or asking colleagues at other institutions to download copies for them – practices that in some cases violate copyright law. Pay-per-view or interlibrary loan (ILL) are offered by publishers as alternative solutions to the access problem, but these are either prohibitively expensive (\$20-30/article for pay-per-view) or often slow to arrive (days for ILL). Most importantly, all of these workarounds miss a critical aspect of how scientists and educators

use the scientific literature: we browse. It is often impossible to tell from looking at an abstract whether an article contains needed methodological detail or the perfect illustration to make a point to one's students. Workarounds such as those described above are often of no help in the day-to-day work of a scientist: we simply don't know what we're looking for until we find it.

These access barriers handicap research, teaching and public health, and are unacceptable to me as an academic and as a citizen, particularly given the taxpayer investment that funds the research enterprise.

*The burden of public access policies on researchers.* Complying with the current Public Access Policy at the NIH poses little burden to researchers. It takes the average investigator less than 10 minutes (see footnote 1) to upload a manuscript into PubMed Central via the NIH Manuscript Submission System (plus whatever amount of time s/he chooses to spend reviewing the formatted web version before it is posted online.) This is a truly insignificant amount of time compared to what goes into writing the grant application, doing the research and preparing the manuscript for publication. I have deposited my own papers in PubMed Central, and I can attest to how simple and quick the process is. Furthermore, if the author submits to one of the many journals that participate in PubMed Central (2), submission is automatic and proofing is not required. If a government-wide public access policy that follows a similar implementation is enacted, the burden on individual investigators will be minimal.

Negotiating copyright agreements with publishers to allow for public access is unfamiliar territory for most scientists and could represent a burden. However, given the responsibility of institutions in assuring compliance with the NIH Public Access policy, many (including mine [3]) have put together information and boilerplate letters that make this process simple and straightforward. If a widespread mandate were adopted, publishers would also have an incentive to make compliance as easy as possible for their authors, for fear of losing submissions.

*The burden on publishers.* Lengthy access barriers are unnecessary to protect publishers' interests. I know this in part through my six years as Treasurer of the ASCB (2002-2008), publisher of the monthly research journal, *Molecular Biology of the Cell (MBoC)*. The ASCB has provided free access to all of the research articles in *MBoC*, two months after publication, since 2001. The articles are available both on the journal's website and in PubMed Central. Despite an access policy that goes well beyond what the NIH Public Access Policy requires (*i.e.*, *MBoC's* embargo period is two months rather than twelve; 100% of *MBoC's* content is made freely available, not just the fraction supported by NIH funding; and the final peer-reviewed, edited and typeset version is made freely available, not just the author's manuscript), the journal remains a major source of net revenue for the Society.

Many other prestigious and financially successful journals also offer their content for free after periods of time ranging from zero to twelve months (2), providing the best possible data that reasonable access and financial sustainability are not mutually exclusive, even for journals that rely heavily on subscription income. The reason for this is simple: to remain competitive, I as a researcher must have immediate access to the literature that is relevant to my research. My research would suffer greatly if my library were to cancel subscriptions to journals I need based on the rationale that I would have free access to those journals 12, 6 or even 2 months later. Surveys of librarians have shown that free availability of content is not nearly as important a factor in

subscription cancellations as usage (4).

***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?*

For scientists and researchers, the optimal embargo period is no embargo at all, *i.e.*, a situation in which the results of all federally-funded research is freely available immediately upon publication. Given the abundance of data showing that open access publishing is a viable business model, an argument could be made that all government-funded research should in fact be published in fully open access journals. If an embargo is to be a part of any new policy on public access, it is critical to recognize that the longer the embargo, the less useful the policy becomes to those who need access. The ASCB's experience with *MBoC* suggests that embargo periods as short as two months are possible and plenty of evidence exists (2) that six months is more than sufficient to protect publishers' interests. Thus, the embargo should be as close to zero as possible and no longer than six months.

Again, I thank OSTP and the NSTC for their efforts to improve access to the results of federally-funded research; this will benefit a wide group of stakeholders, and is critically important to researchers and educators such as myself.

(1) [http://publicaccess.nih.gov/submit\\_process.htm](http://publicaccess.nih.gov/submit_process.htm)

(2) <http://www.ncbi.nlm.nih.gov:80/pmc/journals/>

(3) <http://www.uvm.edu/~ospuvm/PublisherLetter.pdf>

(4) *Learned Publishing*, Volume 19, Number 3, July 2006, pp. 226-229(4)

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