

Public Access Policy Forum Enters “Bonus” Round

By Phillip Larson

Many of you expressed a desire for more time to engage in the Public Access Policy Forum post-holidays. We heard you! While Phase III ended on January 7th, we have launched a two-week bonus period for all of you who signed off for the holidays. Therefore, all three phases of the Forum will remain open through January 21st.

In hopes that you will continue to build and respond to the thoughtful comments of your peers, we ask you to visit the Public Access Policy Forum portion of our blog to see all relevant posts and submit your comments in the appropriate forum:

- Phase I – Implementation
- Phase II – Features and Technology
- Phase III – Management

In addition, be sure to check out the many comments and proposals submitted to our publicaccess@ostp.gov inbox, to which you are also welcome to submit comments or documents. Some comments are just text; some have links to documents that have been submitted. Please read our postings and submerge yourself in what has already become a fruitful discussion of public access to the published results of federally funded research! Your ever-enthusiastic public access policy team here at OSTP looks forward to your input.

This entry was posted on Monday, January 11th, 2010 at 6:05 pm and is filed under Public Access Policy, Requests for Comment. You can follow any responses to this entry through the RSS 2.0 feed.

Responses to “Public Access Policy Forum Enters “Bonus” Round”

+4 Hope Leman said on January 12, 2010 at 8:47 am:

Thank you, ever-enthusiastic public access policy team at OSTP (love that self characterization–too cute). Those of out here in research land have indeed enjoyed submerging ourselves in the fruitful discussion and are grateful to your team for overseeing it.

+3 Windows 8 said on January 12, 2010 at 10:56 am:

Excellent! Thanks so much for keeping us all informed. I just stumbled across this site yesterday and, needless to say, there’s a metric ton of information to catch up with! For all that I’ve read so far, though, I certainly appreciate you guys engaging the public this much. Looking forward to participating here regularly and I’m excited to see how motivational your posts are to everyone in “research land,” as Hope Leman above put it. =)

-Windows 8

+3 Hope Leman said on January 12, 2010 at 11:39 am:

Hi, Windows 8. Looking forward to you comments–there are four different places in this forum at which to comment. I found the letters here http://www.ostp.gov/cs/public_access/public_access_forum from Peter McPherson, President, Association of Public and Land Grant Colleges and from Deborah Jakubs, Ph.D. Rita DiGiallonardo Holloway University Librarian & Vice Provost for Library Affairs Duke University particularly interesting and well stated as well as those from Rush G. Miller of the University of Pittsburgh Library System, Paul R. Brass and Rich Roberts.

We don’t have much time left– the Public Access Policy Forum will remain open through Jan. 21, 2010.

+2 Windows 8 said on January 12, 2010 at 12:00 pm:

Hey there, Hope!

Thanks for your response. Wow, you’re right... I need to jump on that! January 21 fast approaches, that’s for sure. Thanks for the link to reference as well. I’ll go ahead and start digging through those letters here shortly. Thanks again!

-Windows 8

+2 Hope Leman said on January 12, 2010 at 2:17 pm:

Hi, Windows 8. Yep–there is a lot to read and comment on. This is a valuable learning experience. Here is a useful, recent article that discusses institutional repositories:

Beth St. Jean, et al., Unheard Voices: Institutional Repository End-Users, College & Research Libraries, preprint, December 26, 2009.

<http://www.earlham.edu/~peters/fos/2010/01/study-in-ir-users.html>

and the blog Open Access News contains a wealth of information on Open Access issues, both technological and philosophical:

<http://www.earlham.edu/~peters/fos/fosblog.html>

as does DigitalKoans:

<http://digital-scholarship.org/digitalkoans/>

+1 Richard Stallman said on January 17, 2010 at 1:34 pm:

The Budapest Initiative defined “open access” with two conditions: (1) gratis download for everyone from the publication site; (2) freedom to redistribute exact copies. The second criterion is the one that really counts. In practice, it effectively implies the first.

As a signatory of that initiative, I was disappointed to learn that the current discussion focuses solely on the less powerful requirement of gratis download; the crucial freedom to redistribute has been omitted.

Freedom to redistribute leads in practice to gratis download. Once schools are free to set up mirrors of articles, they will do so, and at least some of these mirrors will offer gratis download.

Freedom to redistribute is also important for reliable archiving of the scientific literature. Once allowed to do so, academic world will systematically ensure every article is stored on redundant mirrors on all continents. This is the most effective and efficient way to ensure that the literature cannot be lost due to natural or human-caused disasters.

To achieve any kind of “open access” requires taking on the full strength of the publishers’ lobby and vanquishing it. If we undertake that difficult task, it makes no sense to demand only part of what we want. If we do, we’d need another such campaign later to achieve freedom to redistribute. We may not be able to mount another campaign. It follows that we should insist on the whole of the Budapest Initiative’s goals now.

Stevan Harnad said on January 18, 2010 at 8:31 pm:

(1) The text of peer-reviewed research articles is not the same sort of thing as software code (for which Richard Stallman is a historic champion and deserves all of our admiration and gratitude) or even research data.

(2) But there is no need to modify, “remix” or redistribute article texts, the way there is need to modify, remix and redistribute software code, data, and perhaps other sorts of digital things.

(3) It is sufficient to be able to access, read, use, build upon, apply, “remix” and cite the ideas and findings in the articles, in subsequent research you do and articles you write.

(4) If an article is accessible for free (“gratis download”), 24/7, to all would-be users worldwide, there is no need whatsoever for “redistribution” rights: free online access to anyone, anywhere, any time already comes with the territory.

(5) We do not yet have free online access (“gratis download”) for all peer-reviewed research articles, far from it.

(6) That’s what the public access mandates are meant to provide.

(7) If we insist on getting more than that, there is a good chance we will continue getting less, or nothing at all.

(8) Besides, once all peer-reviewed research is freely accessible online, all the rest of the rights will follow soon after, as surely as day follows night.

(9) So let’s not fail, yet again, to grasp something timely and valuable that is already fully within reach, by over-reaching (needlessly) and again coming up with nothing.

+1 Howard Burrows said on January 20, 2010 at 2:23 pm:

Wow, Stallman and Harnad back-to-back! Thank you both for making it so much easier to find and use existing work.

And thanks to the Public Access Policy Team at OSTP for the chance to comment. Information wants to be free: please don’t fail to make all research results freely available online.

That said—don’t let the good get in the way of the better. As Connie Poole says below (through Jean Shipman): Dissemination of research results is already starting to transcend traditional STM published journals.

We need to move beyond the current tested system of peer-reviewed articles to a more integrated and accessible system. Data sets need to be separated out for re-use and data processing and analysis need to move to a system of continuous open review. Science results no longer depend on dead trees: there is no reason we can’t have a more flexible and consolidated science product than static articles.

And help us develop a new information economy to support new value. Information wants to be free—but knowledge workers need money. I’m not comfortable “vanquishing” the publishing lobbies. That would leave science funding in the hands of the drug and aerospace lobbies. As we develop new integrated digital libraries, let’s pay particular attention to where there is economic value.

Since we want results to be free, help us develop a marketplace in which to sell our proposals. We have no place to contact people who need research, no place where we can supply research to groups who expect to benefit from the results; no place to expand research funding outside of government. If we had customers for the results, it might assure science results will not be morgued on dust-covered shelves. The customers would assure adequate efforts to transform research results into useful products. Groups that paid for the research could market the valuable results to those people who could benefit; without an effective sales and promotion effort, we never realize the full value of the research, and we will never promote our industry to find funding adequate for attractive new studies.

+3 Jean Shipman said on January 18, 2010 at 8:36 pm:

The Association of Academic Health Sciences Libraries (AAHSL) extends its support for expanding the NIH Public Access Policy to include other sciences and technology governmental agencies that fund research awards with tax-generated revenue. The application of consistent compliance regulations among these agencies benefits researchers who are granted government funding from multiple agencies. Consistency in application of expanded mandates will enable librarians to efficiently educate academic and health sciences center personnel, leading to less confusion about the requirements of the various governmental funding agencies and ultimately to better compliance. Consistent rules and procedures will also result in less confusion for the average citizen, who is trying to access information from research funded by different government agencies. We endorse continued support of and expanded funding for PubMed Central and encourage it to be considered as a model for other linked subject repositories, so collective access to federal government agencies' research results is possible. PubMed Central has served well as a public repository, facilitating the rapid discovery of research output by collecting NIH-supported research in one easy-to-access location.

We encourage continued dialogue with scientific-technical-medical (STM) publishers to collectively work toward providing immediate access to the research findings generated by public awards. It is desirable to have only one final published version of research findings in order to ensure quality and consistency with the research results' expression. Multiple versions, such as authors' peer-reviewed manuscripts and STM journal published ones, can vary in content and presentation, and thus can lead to confusion as to what represents the final research results. We encourage a revised solution that maximizes the rapid dissemination of reporting of quality research results with minimal duplication of effort or information and considers various parties' concerns. The length of the maximum embargo period should also be revisited now that some evidence has been collected, with the goal of providing more immediate access to research information while taking into account true financial implications for publishers. We applaud your willingness to solicit and consider such input and potential changes.

Dissemination of research results is already starting to transcend traditional STM published journals via the many new social media technologies available to rapidly share information, e.g., ResearchBlogging (<http://researchblogging.org/>). In order to capture the knowledge distributed by these more ephemeral venues, all parties need to be working together to ensure that the resulting knowledge of federally-supported research is readily available regardless of the distribution channel for such information. This can only be accomplished by working collectively with the sources of research funding, with the producers of research knowledge, with the authors and publishers that disseminate the knowledge generated, and with those who have preserved, curated and encouraged use of such knowledge over time – librarians. The knowledge created by federally-supported research and its application benefits all, therefore, all stakeholders hold an interest in wider dissemination of tax-supported research results. We all strive to endorse the translation of science to patient care and to the improvement of our nation's health, including our own. The Association of Academic Health Sciences Libraries (AAHSL) represents accredited U.S. and Canadian medical colleges and supports their academic health sciences libraries and directors in advancing the patient care, research, education and community service missions of academic health centers through visionary executive leadership and expertise in health information, scholarly communication, and knowledge management.

Sincerely,

Connie Poole

AAHSL President, 2009-2010

+2 Hope Leman said on January 20, 2010 at 12:35 pm:

I would like to second the comments of Connie Poole of the Association of Academic Health Sciences Libraries (and I think the key word in the following passage from her comments is "transcend"):

"Dissemination of research results is already starting to transcend traditional STM published journals via the many new social media technologies available to rapidly share information, e.g., ResearchBlogging (<http://researchblogging.org/>). In order to capture the knowledge distributed by these more ephemeral venues, all parties need to be working together to ensure that the resulting knowledge of federally-supported research is readily available regardless of the distribution channel for such information. This can only be accomplished by working collectively with the sources of research funding, with the producers of research knowledge, with the authors and publishers that disseminate the knowledge generated, and with those who have preserved, curated and encouraged use of such knowledge over time – librarians. The knowledge created by federally-supported research and its application benefits all, therefore, all stakeholders hold an interest in wider dissemination of tax-supported research results. We all strive to endorse the translation of science to patient care and to the improvement of our nation's health, including our own."

At the risk of seeming self-promoting, I would like to alert members of OSTP and the readers of this blog to an upcoming gathering on Open Science, Open Data, Open Access and the Science Commons concept, Science Commons Symposium - Pacific Northwest. Here is the link about the event

<http://scs.eventbrite.com/?ref=estw>

This symposium will discuss many of the new modes of dissemination of scientific information that Ms. Poole alludes to and is the ideal venue for librarians, scientists, publishers, patient advocates, active e-Patients, funders in the sciences, and policymakers to meet and network with those in the Open Science realm. The keynote speaker, for instance, is John Wilbanks of Science Commons, who is one of the leading authorities on Science 2.0 and issues related to access and copyright in the sciences. This conference has been in the works for months and the timing is fortuitous for bringing together all of us who have been following the discussions here on the OSTP blog.

Colin Scanes said on January 20, 2010 at 6:11 pm:

I am just completing my term as Editor-in-Chief of the journal Poultry Science, which is published by a professional society (Poultry Science Association). I am also fully cognizant of the importance of this journal to the business model of one professional association of researchers. I would mention that we have worked closely DC Principles Coalition and endorse their position.

It should be recognized that there is self-interest from journals, irrespective of whether published by profit companies or non-profit professional societies, in not supporting free open access. Equally there is strong self-interest in university libraries (or universities or associations of universities) supporting open access because they are likely to reduce their costs of purchasing journals.

Scientific journals provide a tremendous public good, including the following:

- Scientific journals published by professional societies provide the mechanism for scientist-to-scientist communication with the peer-review process assuring the scientific quality of papers and editors, including technical editors, improving the readability of the papers. This is critical to maximizing the return of investments in research and development.
- Scientific journals published in the USA contribute to the strong reputation of US science throughout the world.
- Scientific journals provide significant direct economic impact in the USA with jobs in editorial services, printing, distribution, archiving and IT and, I would suggest, a tangible export market for US goods.

I am concerned to see consideration of a move to open access without, seemingly, research on the potential impacts of this move.

Questions I would ask include the following:

1. Who is to pay the very real costs of producing journals with this move to open access? Should it be the researcher, and, if so, where is the additional funding to come from? Is it realistic to consider that journals should absorb the costs?
2. At what point do libraries cease to purchase subscriptions for journals if their contents are available by open access?
3. If library subscriptions to journals are an essential part of the business plan of a journal or a professional society, how many journals will disappear if we go to a completely open access approach?
4. As a journal editor with, at present, a positive cash flow, we can and do waive page charges from papers from institutions in developing countries that cannot afford to pay these. We will not be able to continue this if there is a major reduction in revenue. Forcing journals to adopt an author-pays model would have a stifling effect on the publication of work from authors in developing countries.
5. What is a reasonable embargo period between publication and the paper being available by free open access?

Many journals, including the one I edit, provides freely electronic access to all one year after publication, free immediate access to researchers in the 40 poorest nations, and reduced-cost access to researchers in the next tier of nations based on their per capita income.

Again, I make the strong request that there be a reasoned investigation as to the costs and benefits of a move to open access.

Howard Harper said on January 20, 2010 at 8:40 pm:

These are the real questions that need to be addressed in order to achieve more universal access.

Howard Harper

+1 Hope Leman said on January 21, 2010 at 1:36 pm:

I have read the interesting letter by Colin Scanes and would like to respond to some of his points.

For instance he asks, "At what point do libraries cease to purchase subscriptions for journals if their contents are available by open access?"

Libraries are indeed dropping subscriptions at an alarming rate (thereby harming the entire research enterprise). But this distressing phenomenon is not due to the rise of Open Access. Rather, libraries are dropping subscriptions to databases such as ScienceDirect, to the publications of Springer and its peers and to journals published by the professional societies such as that that Mr. Scanes represents because libraries simply do not have the funds necessary to keep up with the ever escalating costs of those resources. This is a crisis, but it is not one caused by Open Access journals. It is the business model of the publishers that basically has consisted of assuming that libraries could be squeezed indefinitely. But the economy went south, library budgets were gutted and now the publishers are blaming Open Access for their self-inflicted wounds.

Mr. Scanes also asks, "If library subscriptions to journals are an essential part of the business plan of a journal or a professional society, how many journals will disappear if we go to a completely open access approach?" To that I would say, it is just an unpalatable fact that the days are over when library subscriptions to journals can be an essential part of the business plan of a journal. Libraries have run out of money. That is all there is to it. It is not that the Open Access movement is diabolically plotting to destroy the professional societies. It is just that a business model predicated on sucking money from libraries is no longer workable—the money is gone.

And as we see in the letter by Mike Rossner of Rockefeller University Press some publishers innovate and adapt to reality, "We have released the content of our three biomedical research journals to the public six months after publication since January, 2001, and our subscription revenues have grown every year through 2009." It is time for the professional societies to do the same and not scapegoat Open Access for their troubles. The professional societies provide valuable services (such as awarding grants and scholarships to their members and sponsoring conferences). But for-profit publishing may not be something that all professional societies excel at in the new world of limited library resources and attempting to preserve commercial publishing operations may be a losing battle for some professional societies. Open Access may be the only way forward in many situations for everyone who cares about science and medicine.

Mr. Scanes is quite correct when he says that scientific journals provide a tremendous public good. But he seems to suggest that it requires the intermediation of professional societies to "...provide the mechanism for scientist-to-scientist communication with the peer-review process assuring the scientific quality of papers and editors, including technical editors, improving the readability of the papers." Again, as it has been pointed out in this forum, with the rise of scientific social networking and new platforms for scientific editing and publishing, the costly and time-consuming processes used by the professional societies only impedes the research and development process Mr. Scanes wants to facilitate.

As to his comment, "Scientific journals published in the USA contribute to the strong reputation of US science throughout the world." That is indeed true and those of the Open Access publisher PloS, which are gaining in prestige and readership, show that Open Access is a key part of that.

And as to, "Scientific journals provide significant direct economic impact in the USA with jobs in editorial services, printing, distribution, archiving and IT and, I would suggest, a tangible export market for US goods..." the Open Access movement is not a jobs-destroying monster. Quite to the contrary—the more that scientific and technical information circulates, the more research will advance. We have seen in this forum that progress in the field of computer science alone has been much stymied by the existing, creaking methods of editing, printing, distribution, archiving and IT that Mr. Scanes defends. Jobs come from innovation and clinging to methods that at this point benefit no one but the executives of professional societies who are acting against the interests of their own members who, after all, are scientists and scholars and who, therefore, presumably want science to advance, makes no sense for our struggling economy.

And speaking as a 2009 graduate of a master's program in library and information science I can tell you that I welcome the rise of Open Access given that it has spawned a plethora of start-up companies that are creating exciting products and marketing to the needs of the research community and librarians and making profits and employing people to boot (e.g., PBworks for wikis, Mendeley for collaboration). Think of the jobs that have been created by the Open Source movement (Red Hat is thriving by supporting firms that use Linux.). And even if some jobs are lost in isolated instances at publishers who based their staffing plans on sticking it to the libraries—lives will be saved by Open Access in the

biomedical sciences in real-world patient care situations. It is not the purpose of libraries and their funding institutions to support those professional societies who insist on peddling exceedingly expensive journals the equivalent of which can be produced via Open Access by researchers and editors who care more about research than about feathering their own nests.

Oceana Wilson said on January 20, 2010 at 6:51 pm:

Research and the dissemination of research is changing at breathtaking speeds with new technological developments. I applaud The White House Office of Science and Technology Policy for considering this crucial issue at this critical juncture. When billions of taxpayer dollars are spent every year to fund research it is inconceivable that those same taxpayers can not access the information. In my role as a librarian for the past twelve years I frequently find that people are shocked to learn they can not access this federally funded research - the idea is completely counter-intuitive. This research is a public good and must be treated as such.

In my role as the director of library and information services for a small liberal arts college I have the pleasure of working with some of the most creative, intelligent, and ambitious young people in our country. They will go on to become our future educators, scientists, researchers, and more. Instead of placing in their hands the wealth of information they need, we are giving them a broken system. Research intended to cure, to innovate, to design and redesign, is limited, not only to our students, but to the students at every university and college in the United States, by the prohibitive cost of journal subscriptions.

Open access has an overall advantage to the scientific community as studies have shown open access articles are cited more frequently by peers than non open access articles in the same journal. <http://www.plosbiology.org/article/info:doi/10.1371/journal.pbio.0040157> Open access speeds the dissemination of knowledge.

There has never been a greater need for clear, consistent policies regarding open access of federally funded research. Public access to the published results of federally funded research must be required across all government agencies. The NIH policy is successful and will continue to make a tremendous difference at our institution. I strongly recommended that the OSTP use the NIH model as a blueprint for establishing open access policies across the other science agencies. Because of the time sensitive nature of scientific research it is crucial that the embargo periods be set at six months or less.

In 1822 James Madison wrote, "A popular government without popular information or the means of acquiring it is but a prologue to Farce or Tragedy or perhaps both. Knowledge will forever govern ignorance, and a people who mean to be their own Governors must arm themselves with the power knowledge gives." Let our citizen arm themselves with knowledge and let libraries once again be, as Sidney Ditzion titled his 1947 book about libraries, "Arsenals of a Democratic Culture."

Oceana Wilson

Director of Library and Information Services
Bennington College
One College Drive
Bennington, VT 05201

Howard Harper said on January 20, 2010 at 8:38 pm:

Comments on OSTP Open Access Policy Discussion

by

SEPM Society for Sedimentary Geology

This comment is a result of discussion by the SEPM Council and its Executive Director.

We think that it is the desire of every author and every publisher that their works be accessible to everyone. How to make this happen without destroying hundreds of years of scholarly publishing infrastructure is the challenge.

First, my personal viewpoint comes from six years as a university researcher and author, 20 years as an industry researcher and author, and nine years as the director of a non-profit scientific society publisher. So I have experience from several perspectives. I am also a US tax payer and am active on the web "researching" many things both personal and job related and have found both open access to some things and restricted access to others. The current members of the SEPM Council represent established researchers from both academic and industrial organizations who volunteer their time to help the Society fulfill its mission of disseminating information about the science of sedimentary geology. The Society publishes two highly ranked technical research journals monthly and also publishes a wide variety of books.

Short Historical Perspective

In a sense, "open access" to full text copies of published science articles has existed for a long time and currently exists today. Scholarly publishing has always made it possible for anyone to have access to individual articles. In the previous print-only media era, authors had reprints of their article and could send them to anyone that requested them. In the current print and online media era, authors have options to have reprints or eprints (usually PDF files) of their articles to freely distribute to any individual that requests them, often posting them on their individual websites.

A significant difference in the online era is that many more individuals outside of the group of specialists or students in a particular field can search the web (via Google, Bing, Google Scholar, etc.) and find titles, authors and abstracts of articles ranging from general science to very specialized topics. Almost all scholarly publishers, whether non-profit society or commercial, make the metadata of an article true open access, including titles, keywords, authors and author contacts, and abstracts. If an individual finds the abstract interesting but does not have access to the full text (for subscription based journals) they can contact the authors and obtain a full text copy, either printed or digital. While there may be a small time delay due to author response time, it is also a vital scholarly interaction for an interested individual to actually contact an author. This type of contact has always been an important part of the overall research and applied research network.

While the first draft of any scholarly paper is created by the authors, the added value of peer review, copy editing, composition and layout, production into digital and/or print media and distribution is both required for top research and of course has a cost. The dominant financial model used today is that publishers recover their costs by selling subscriptions to online access (user pays model). A recent alternative financial model is usually called "open access" and the cost recovery is from the authors themselves (author pays model). There are to date no large scale financially successful "open access" publications that do not rely on significant "donations" or outside funds rather than from relying solely on author fees. Below is a quote from the PLoS website, which is one of the largest open access set of journals.

PLoS Publication Charges _____

To provide open access, PLoS journals use a business model in which our expenses—including those of peer review, journal production, and online hosting and archiving—are recovered in part by charging a publication fee to the authors or research sponsors for each article they publish. For PLoS ONE the publication fee is US\$1350. Authors who are affiliated with one of our Institutional Members are eligible for a discount on this fee.

We offer a complete or partial fee waiver for authors who do not have funds to cover publication fees. Editors and reviewers have no access to payment information, and hence inability to pay will not influence the decision to publish a paper.

PLoS is one of the best examples of a large scale fully open access journal (author pays) financial model and while they do not charge for access (unless printed copy is desired), they also rely on “donations” from the public and from institutional partners, that pay bulk fees to PLoS, which allow their employees to publish in the journals without the author charges (or at discounted author charges). Whether an institution pays for a subscription for its library or pre-pays authors fees for its employees, the institution still has to pay. However, there is benefit in that the results of their employees published research will be available to the public since it is supporting an open access journal. We have yet to see if their financial model can be sustained. PLoS, which launched in 2002 with a large grant, lost over \$1 million dollars in 2008 (2008 Form 990). In the recently released (1/12/2010) Scholarly Roundtable Report from AAU, PLoS has stated that they hope to be financially sound by 2010, eight years after launching.

The subscription based model has allowed a multitude of journals to become online publications as well as to digitize and place huge archives of older print-only publications online allowing a tremendous increase in research. Additionally, this model has produced such successful online multi-journal products as JSTOR, BioOne and GeoScienceWorld which aggregate and interlink large numbers of journal articles.

Obviously both models require funding to continue to exist. Where that funding comes from is the challenge.

With this short background on scholarly publication, we will comment on the specific questions posed by the OSTP blog.

Specific Input to the Questions.

Phase I – Implementation

Who should enact public access policies?

A general policy should come from the OSTP which does give individual agencies options as to how it can fulfill the policy. These options should include the ability to classify certain research as confidential and essentially not publishable until released and options to allow existing online journal archives to be considered fulfillment of the policy, including allocating funding to publication of the results. These details need be carefully worked out with each agency.

How should a public access policy be designed?

Timing.

Ideally the publication should be available as it is published. This would require the author to either place it in an open access journal or to be funded to pay the publisher to make it open access. Embargoes, as in use now, would allow some transitional financial stability to existing publishers but would also need to be variable from discipline to discipline.

Version.

There is currently nothing to stop an author from posting a draft of any research results at any time but only the “version of record” should be considered as the version to fulfill the policy for many reasons, including the added value of peer review, editing and later referencing. Good research is not possible on in a blog format.

Mandatory v. Voluntary.

If there were funding within each grant that was restricted to use for publishing results in open access then this would encourage authors to do just that without making it mandatory. Making each grant applicant state just how he/she would make their results be open access would clarify the issue and also make it a fulfillment of the grant conditions, with or without a mandatory policy.

Other.

Overall any policy must contain options that will allow the long existing scholarly publishing infrastructure to adapt. The details of how to do this will need some significant planning time and needs to include both non-profit publishers and commercial publishers.

Phase II – Features and Technology

The features and the technology that apply to information on the web are developing at an ever increasing rate. For that reason, we think that trying to require anything too specific would be a waste of time. Countless hours are often used to define data structures, etc. only to be superseded by more advanced ideas.

1. In what format should published papers be submitted in order to make them easy to find, retrieve, and search and to make it easy for others to link to them?

Either XML or PDF formats are the most widely used today. DOIs should be assigned and registered.

2. Are there existing digital standards for archiving and interoperability to maximize public benefit? Yes, unfortunately, there are many “standards”.

3. How are these anticipated to change?

No one can really predict. No one predicted the web.

4. Are there formats that would be especially useful to researchers wishing to combine datasets or other published results published from various papers in order to conduct comparative studies or meta-analyses?

Data sets, as opposed to published papers present a much more complex issue and should be handled in a separate policy. NSF Informatics efforts have started in this direction but have been moving slowly. Some programs in NSF currently require that you enter a record in a data repository site, e.g., Polar Programs requires that data be deposited in the Antarctic Master Directory and a new proposal cannot be funded until that has been done for the last proposal. AMD is part of NASA’s Global Change Master Directory. In Systematics at NSF, one must designate a repository for specimens.

5. What are the best examples of usability in the private sector (both domestic and international) and what makes them exceptional?

HighWire Press collections - reference linking, links to other services. BioOne collections. JSTOR collections.

6. Should those who access papers be given the opportunity to comment or provide feedback?

For scholarly published papers, the feedback mechanisms already exist.

7. What are the anticipated costs of maintaining publicly accessible libraries of available papers, and how might various public access business models affect these maintenance costs?

Most all scholarly publishers today already have a large online archive of journal articles often going back to the initial volume. These archives are constantly updated with the latest articles. They have options to make individual articles open access. One of the beauties of the world wide web is that a file can reside in a single place and be accessed by many. The idea to create duplicate archives is quite frankly a waste of money.

However a smaller bibliography of published results with links to the existing version of record as many researchers do from their personal webpages, might be done at less cost but is really unneeded.

8. By what metrics (e.g. number of articles or visitors) should the Federal government measure success of its public access collections?

Again I do not think that we should have duplicate collections. If the government does not create its own collections, then there is no real need to spend time trying to analyze if it is cost effective.

Phase III – Management

1. Compliance.

What features does a public access policy need to ensure compliance? Should this vary across agencies?

Assuming a mandatory policy to publish in open access, then the grant would not be considered fulfilled until the publication is out. Future grants may be withheld if there is non-compliance. Each agency would need to develop its own detailed process. Many grants are overlapping in time and also have several investigators so tracking non-compliance might become a time consuming chore.

2. Evaluation.

How should an agency determine whether a public access policy is successful? What measures could agencies use to gauge whether there is increased return on federal investment gained by expanded access?

This is a difficult metric to come up with. Even now there is a great deal of public skepticism about the types of research that the government funds, especially in the areas of basic research. General public access to research articles might not have any positive impact but perhaps a negative one in that there would be more public opinion on reducing government research funding. Within the research network, it would allow a faster access to some published research but as stated above, it would reduce the actual contacts made between scientists.

3. Roles.

How might a public private partnership promote robust management of a public access policy? Are there examples already in use that may serve as models? What is the best role for the Federal government?

Any policy about making published results of government sponsored research open access must be a public-private partnership with the existing scholarly publishers. Otherwise, we risk a great loss of existing infrastructure in the US and internationally. If the Federal Government is to mandate an open access policy then it must fund it through the existing infrastructure, not develop its own or even fund secondary archives, where ever they may exist, as opposed to the primary archives of the publishers. There is a strong chance that forcing open access upon non-profit society publishers without their input as to how it can be done could cause the loss of many societies. The potential loss of those societies whose main purpose is to ensure the scientific quality and integrity of the researchers and the research and its unbiased dissemination, would result in a large scale decline in research results within the US.

Conclusion

The blog comments cover a large range of opinion from various stake holders on this issue. But we think it has been dominated by those who want to have access to more information for free. There have been many remarks about the excessive cost of subscriptions, the plight of library budgets, the inaccessibility to research results by people not associated with an entity that subscribes and some that have been advocates of open access for all things. Only a few of these have been from actual publishers.

The email input includes several documents prepared by scholarly publishers which include options for moving forward in the US with programs similar to other countries and giving examples of how these work or might not work. We agree with the basic tenet of these comments that we must go forward using the existing infrastructure of the scholarly publishers, many of which are non-profit society or university organizations. Most of the society publishers' main request was for a longer time frame in which to review and formulate a way to include an open access policy within their publication process that would enhance the process rather than cripple it. We think it is also important to move forward in such a way as to not weaken or destroy scientific societies, as they often publish the highest quality science, based on their rejection rates and their editorial policies. The very recent report from AAU on Scholarly Publishing Roundtable (http://www.aau.edu/policy/scholarly_publishing_roundtable.aspx?id=6894) gives a balanced report on a way forward which would make use of the existing infrastructure.

On a final comment, there are also two existing Federal organizations that might be looked at for experience in trying to supply things "freely". Look at one case from our own Federal Government of how free and open access did not work. Our national parks, monuments, forests, campgrounds, and other public lands in the U.S. at one time were free with open access because they were paid for and maintained continually by some of our tax dollars. This "open access" model changed in the mid 1990s, however, as the parks, buildings, personnel, etc. could not be maintained with such a "business model" to the point where personnel, usage hours, and access were reduced to minimal amounts. Today, every person regardless of their age or status must pay to enter a park or monument, pay to park in some cases, and be restricted to camp in designated areas where you have to pay (\$7 to \$22/night, or higher) per site so that these public lands can "balance" their budgets, or even have a budget in some cases. Things have gotten so bad that even schools and educational groups visiting public lands have limited numbers accessible for free entry (~20 students, including 1 instructor), after which the remainder of students and faculty must pay or they cannot be allowed in. The second organization is the U.S. Government Bookstore (<http://bookstore.gpo.gov>), where you can purchase many printed items. Notice they do "sell" them and not give them away, although I suspect that everything is funded by the government. Even in the "eproducts" category, (<http://bookstore.gpo.gov/collections/eproducts.jsp>), there are subscription prices, like the \$4,552 one year subscription to the online Presidential Documents. In both of these cases the Federal Government recognizes that it must charge additional fees above what taxes pay for in order to deliver useful things.

We look forward to a process in which the scholarly publishers can work with the OSTP to develop the best way to reach the open access goal.

Sincerely,

Howard E Harper, Jr., Executive Director, and the SEPM Council
SEPM Society for Sedimentary Geology
hharper@sepm.org.

+1 Hope Leman said on January 21, 2010 at 2:15 pm:

I would like to respond to Howard E. Harper's comments here, "The blog comments cover a large range of opinion from various stake holders on this issue. But we think it has been dominated by those who want to have access to more information for free. There have been many remarks about the excessive cost of subscriptions, the plight of library budgets, the inaccessibility to research results by people not associated with an entity that subscribes and some that have been advocates of open access for all things. Only a few of these have been from actual publishers."

I would just point out that the supporters of Open Access are not asking for anything for free. They are asking for what they have paid for via tax dollars at every stage of the research and dissemination processes. The whole debate is about access to the results of taxpayer-funded research (and that is almost invariably produced in settings which receive tax dollars such as funding for the education of the research assistants without whom much research cannot be conducted). The professional societies and publishers resort to caricaturing Open Access advocates as freeloaders, parasites and wild-eyed radicals whereas most of those in the Open Access are intelligent people who care about science and innovation and simply look at the way that the bulk of most research is funded and that tends to be federal money. Such advocates (and average citizens) then ask why the professional societies can leverage the results of such federal expenditures to publish journals that they then charge ever more for to the very research institutions that provide the infrastructure that supports the societies' cash cow publishing operations. Given these facts, it is hardly surprising that there has been little input on these forums from "actual publishers." Elsevier has weighed in and so have several professional societies. But their arguments for the supposed magnificence and glories of the present state of affairs in sci/tech are so flimsy that it is hardly surprising that the other commercial publishers are lying low and letting people like Mr. Harper make their arguments for them, as it is better PR for the publishers to make it appear that the scholarly establishment is on their side and not address the fact that much of the sci/tech industry is an alliance of corporations that work closely with some of the professional societies. Those two groups are often in alliance and that makes business sense for them. But we do have to be aware that not all professional societies refuse to move with the times and adapt to technological advances in publishing and scientific communication and to trending public opinion, which has reached the tipping point in favor of Open Access not out of anti-corporate populism but for reasons of basic societal good.

+1 Mike Rossner said on January 20, 2010 at 10:54 pm:

We at the Rockefeller University Press (RUP) strongly believe in the release of scholarly journal content to the public after a short delay under subscription access control. As a biomedical research publisher, we understand that much of our content is generated through publicly funded research, that the peer review process is carried out in large part by publicly funded individuals, and that a significant portion of subscription revenue is obtained from publicly funded institutions. Like RUP, many scientific publishers feel an obligation to give something back to the public, and thus they release their content after a short period under subscription control. But other publishers are reluctant to do so, and the government has been forced to take action. We support the government's efforts to make the results of publicly funded research available to the public after a short delay.

We have released the content of our three biomedical research journals to the public six months after publication since January, 2001, and our subscription revenues have grown every year through 2009. We release all of our content, regardless of funding source, and we think all funding agencies should mandate this form of public access. For biomedical research journal articles, we think six months is a reasonable embargo before release to the public.

We strongly believe that only the final, published version of an article should be released to the public. Many publishers, however, allow authors to post only the author's accepted version of a manuscript in a public repository. The notion that this restriction will provide an incentive to subscribe is misguided. For both versions, the most important function of a scholarly publisher - peer review - has already been completed. Although there is additional value added through copy editing, layout, and proof reading, we believe that these are less important to readers than the validation and prioritization afforded by peer review. Thus, readers are likely to read the first version of a peer-reviewed article that is available to them, without regard to copy editing, layout, and proof reading. They are unlikely to be motivated to subscribe simply for the benefit of these additional features.

We view PubMed Central as a good model for the dissemination of research articles by a Federal agency. The administrators of PubMed Central work closely with publishers to facilitate submission and display of articles. They honor individual publisher's embargoes up to the mandated maximum 12-month delay, they are willing to host and display the final published version of journal content if it is provided by a publisher, and they keep the content updated with corrections and retractions. The PubMed Central model could be used for the development of a central repository for all federally funded research.

Mike Rossner, Ph.D.

Executive Director

The Rockefeller University Press

These comments are the opinion of the author and do not necessarily reflect the position of The Rockefeller University.

Karen Colson said on January 21, 2010 at 4:45 pm:

On behalf of the over 12,000 members of the non-profit Association for Research in Vision and Ophthalmology (ARVO) I offer our comments to the OSTP about the Scholarly Publishing Roundtable's Report and the President's mandate for transparency, openness and collaboration in research. ARVO's members are research clinicians and scientists whose focus is to identify methods, practices and devices that will promote eye and vision health and alleviate related diseases by fostering research and publication and dissemination of biomedical and medical research. As such ARVO publishes over 800 peer-reviewed research articles annually and over 6,000 abstracts of research from its Annual Meeting. Any revenues recognized by its publications are invested in further education of scientists through national and international meetings and dissemination of the information conveyed.

ARVO supports the broad concepts of the Roundtable in terms of the critical role that peer-review plays in maintaining the high quality and editorial integrity of the scientific endeavors of authors and the paramount importance of sustained archives and preservation of data. However, ARVO suggests that there are other alternatives for doing so than the Roundtable suggests. The purpose of an archive is to maintain all articles of record and most publishers are committed to this practice by participating in such programs as LOCKSS, CLOCKSS, arXiv, OCLC, among others.

The Roundtable suggests that federally supported content only be submitted to and archived by federal agencies. This is a costly, incomplete and duplicative solution when publishers participate in the abovementioned programs and are electronically hosted at one of the world's largest scientific sites, such as HighWire Press. It is also crucial that the version (or article) of record (VoR) referred to in the Recommendations be defined by the publisher and that other resources link to that VoR on the publishers' site provided that the site is a "trusted resource" as defined by recognized experts in the field.

Regarding access to articles of record, most publishers have a free and open access policy for articles ranging from 3 months to 12 months after publication of the article of record, as does ARVO. Many publishers have also provided all historical content for their journals at little or no cost to readers, researchers and the public.

ARVO and HighWire have adopted the NLM DTD as a recognized method of ensuring interoperability among sites and encourage others to do so. This interoperability does come with responsibilities: to maintain the scientific integrity of the articles which the authors have entrusted to the journals being paramount. We have serious concerns about the suggested "creative reuse" and the significant potential misuse of content and for copyright infringement, historically a fundamental legal right of authors and publishers.

ARVO supports the Roundtable's recommendations to establish full and open consultation with all stakeholders, as well as with OSTP, to develop appropriate access policies and establish embargo periods that reflect a balance for the scientific discipline. Consideration should be given to the Immediacy Index and the Cited Half-Life of the content in that discipline. With longer half-lives, such as ARVO's journals (over 6 years), the value of the research leading to clinical applications and quality of life and health improvements should be examined and respected. Establishment of an Advisory Committee to assess growth and changes in scholarly publishing, provide discussion forums for all stakeholders, and an independent evaluation of best practices and policies affecting all is an essential component to this proposal.

Thank you for the opportunity to comment and to participate in this process. ARVO looks forward to continued discussions and participation as a stakeholder representing research scientists around the world.

Joanne G. Angle
Executive Director
ARVO
12300 Twinbrook Parkway
Rockville, MD 20852

John Vaughn said on January 21, 2010 at 6:06 pm:

On behalf of the members of the Scholarly Publishing Roundtable, I would like to submit our report on scholarly publishing to the OSTP public access blog. This report is the product of the process that the House Science and Technology Committee, working in collaboration with OSTP, initiated last June. The objective of the Roundtable process was to bring together the full range of stakeholders involved in scholarly publishing to seek consensus recommendations on expanding public access to the results of federally funded research.

The members of the Roundtable brought their varied perspectives to a series of in-person meetings, conference calls, and other exchanges over the course of the summer and fall to identify ways to expand public access to the results of research while preserving the essential aspects of the scholarly publishing system as that system evolves in a time of rapid technological change.

Our report identifies a set of principles we regard as essential to a robust scholarly publishing system, including the need to preserve peer review, the necessity of adaptable publishing business models, the benefits of broader public access, the importance of archiving and preservation, and the interoperability and reuse of online content.

The report's core recommendation is for each federal research funding agency to develop and implement an explicit public access policy that brings about free public access to the results of the research that it funds as soon as possible after those results have been published in a peer-reviewed journal. To implement this recommendation for public access, the report recommends the following:

- Agencies should work in full and open consultation with all stakeholders, as well as with OSTP, to develop their public access policies.
- Agencies should establish specific embargo periods between publication and public access.
- Policies should be guided by the need to foster interoperability.
- Every effort should be made to have the Version of Record as the version to which free access is provided.
- Government agencies should extend the reach of their public access policies through voluntary collaborations with non-governmental stakeholders.
- Policies should foster innovation in the research and educational use of scholarly publications.
- Government public access policies should address the need to resolve the challenges of long-term digital preservation.
- OSTP should establish a public access advisory committee to facilitate communication among government and nongovernment stakeholders.

In accordance with our charge, the Roundtable specified specific actions to be taken by federal research funding agencies in creating an interconnected multi-agency public access program, but we also stressed the interdependence of all stakeholders in the scholarly publishing system and called on federal agencies to reach beyond their statutory and regulatory boundaries to collaborate voluntarily as equal partners in the development of an interconnected, fully interoperable system of governmental and nongovernmental public access databases that evolve into a functional international network providing enhanced support of scholarship and greatly expanded public access to the results of that scholarship.

The report's recommendations have been endorsed in full by the overwhelming majority of the panel (12 out of 14 members). The report, statements by the two members not endorsing the report in full, as well as Roundtable member biographies, the House Science and Technology Committee's charge to the group, and related material can be found at http://www.aau.edu/policy/scholarly_publishing_roundtable.aspx?id=6894. John Vaughn, Executive Vice President, Association of American Universities, and chair, Scholarly Publishing Roundtable.

Arta Dobbs said on January 21, 2010 at 6:37 pm:

The Scholarly Communications/Copyright Team of the University of Connecticut Libraries strongly endorses the concept that all federal agencies that fund research, regardless of the size of the agency, should mandate that the results of that research be made freely available on the Internet, following the NIH model.

There is no need to reinvent the wheel as the ability for the government to provide public access to government research already exists. Reinvigorate, repurpose, expand and use the federal systems already in place. Require that all results be deposited with the GPO, the Federal Depository Library System, and NTIS. These organizations are already partnering together on the U.S. Federal Agencies Digitization Initiative, which is responsible for setting the digital standards for archiving and interoperability.

Michael Bennett
Digital Projects Librarian & Institutional Repository Coordinator
Babbidge Library
University of Connecticut

Arta Dobbs
Collection Management Librarian
L.M. Stowe Library
University of Connecticut Health Center
Brinley Franklin
Vice Provost
University of Connecticut Libraries
Julie M. Jones
Associate Director for Library Services
School of Law Library
University of Connecticut
Sheila Lafferty
Library Director, Torrington Campus
University of Connecticut
Carolyn Mills
Library Liaison - Biological, Agricultural & Environmental Sciences & Natural Resources
Babbidge Library
University of Connecticut
Evelyn Morgen
Library Director
LM Stowe Library
University of Connecticut Health Center

+1 Hope Leman said on January 21, 2010 at 7:21 pm:

I have read John Vaughn's very interesting letter and applaud the work the Roundtable has done. However, they are a little late in the game as far as the comments on this forum over the past several weeks go.

To wit, "Government agencies should extend the reach of their public access policies through voluntary collaborations with non-governmental stakeholders."

As we have seen from the many comments from librarians and researchers, voluntary collaborations are merely window dressing for stalling tactics and obstruction by the commercial publishers against Open Access by the public to the results of taxpayer-funded research. Mandates are the only way to ensure the right of taxpayers and the research community to what they have already subsidized. Mandates are not onerous or unfair to commercial publishers. They are simply the only solution to the problem of how to secure a fair return on taxpayer funding of scientific research and thereby win public support for such research. If the public perceives publicly-funded research as benefiting only a few immensely wealthy corporations and those scientists who bend to their will, we can all kiss hopes of public support for the sciences good-bye. And in whose interest is that?

The call for yet more task forces places an unfair burden on those scientists and members of the public who cannot possibly compete with the sophisticated, deep-pocketed lobbying operations of the commercial publishers. People are ill now. People are dying now. We can do something about that in a fair and equitable fashion. We need a mandate. That is so clear.

I appreciate the link

http://www.aau.edu/policy/scholarly_publishing_roundtable.aspx?id=6894

John Vaughn has provided and urge those who follow these issues to read, "Statement from Mark Patterson: Why PLoS has not signed the Report of the Scholarly Publishing Roundtable" as well as (so as to be fair to both sides) Elsevier's, "Comments of YS Chi to the Scholarly Publishing Roundtable Delegates" and then think about someone you love who has a brain disorder or someone you admired who died an early death from disease and decide whether we need a mandate or not and what is truly best for medicine and science, patients and the pursuit of knowledge and innovation that will enrich the nation as a whole.

Rodger Williams said on January 21, 2010 at 11:19 pm:

Protecting the Peer-Review of Technical Publications: Retaining Competitiveness of Publication of Federally-Funded Research

The American Institute of Aeronautics and Astronautics (AIAA) is dedicated to being the forum for innovation, technical excellence, and global leadership for aerospace professionals with a mission to advance the state of aerospace science, engineering, technology, operations, and policy to benefit global society. Consistent with our mission, AIAA supports in principle the availability of our publications to the widest possible audience while ensuring the integrity of our peer review process. Because AIAA's community is diverse and global, collaboration and the sharing of information and insights in a broad context is critical and is supported by a fair, open and ethical approach to all it does.

AIAA views the current proposal to require all agencies receiving \$100 M annually for federal research and development programs to maintain repositories for published materials based on federally-funded research with concern and uncertainty. The current proposal does not account for the significant differences in development timeframes that exist between different technical and scientific disciplines and thus, does not account for the significant differences of embargo periods needed to level the impact that this initiative will have on scholarly publications. Further, the National Institute of Health and its research community's experience with open access has not had sufficient longevity to demonstrate definitive conclusions about the effectiveness of the program or fully identify long-term impacts. This initiative, while well-intended, may actually increase the burden on the taxpayers, and decrease the integrity of the publishing process without providing measurable value to the general public. Publishing scholarly work has long been an important part of the research and development process. Publication develops the researcher's credentials while also enabling him or her to share new knowledge, ideas and innovation with others throughout the research community, which spurs next generation breakthroughs in science and engineering without the need to recreate the research in a vacuum. To be published in a scholarly journal, these findings undergo rigorous independent peer-review that ensures the integrity and quality of the research and the soundness of the methods of discovery. Among the existential reasons for technical professional societies is to create these forums for sharing

innovation, validating results, and maintaining a community of subject-matter experts that can provide both the peer review and access to scholarly publishers of these research papers.

Creating federal clearinghouses will reduce the demand for subscription-based scholarly publications, which currently serves much of the science and engineering community. However, there are several potential integrity-based concerns to public access requirements. Among those are the possibility for diminished peer-review, which would ease the advancement of reckless and fraudulent science, and could cause a reduction of the quality and vigor of modern scientific debate. It also creates the potential for a process subject to censorship, bias and agenda-driven decision making processes based on, among other factors, the need or perception that the selection process will favor authors and papers that support specific commercial products or political agendas.

One of the key arguments for public access is that this research, at least in part, has been funded by federal grants, and thus is owned by the taxpayer. In practice however, very few taxpayers have an individual need or want for these publications. However, because agencies such as DoD, NIH, NIST, and NASA to name a few would need to create and maintain these repositories, every taxpayer would be subjected to paying for these clearinghouses.

Another concern with this proposal regards research that is supported by multiple funding sources. In cases where federal funding has been coupled with state, corporate, consortium sources, or internationally funded and supported collaboration, there are no existing guidelines for dealing with public access compliance. Whether that understanding is provided in provisions within an individual grant agreement, or via some guidelines that specify requirements for levels of funding, some formal guidelines are needed to provide an understanding of expectations prior to receiving research funding.

Further, one often-touted model for public access publishing mandates an upfront fee from the author before publication. This would reduce the scholarly publishing process to those who have the ability to pay the publisher's price. This limits access to those working in the for-profit sector, whose sponsors value peer-review and scholarly publishing and to those who are able to include publishing costs into their grant requests and reserve that funding until research results are ready for publication. The latter further increasing the costs paid by the taxpayers, most of whom will never seek access to the publications.

RECOMMENDATIONS: The American Institute of Aeronautics and Astronautics recommends the following actions to preserve the integrity of the scholarly publication process, and maintain the highest level of scientific competency:

- Bolster the access recommendations established in the American COMPETES Act that requires that NSF provide meaningful public access to federally-funded research findings in a manner which does not undermine copyright protections and the value-added review process required of private-sector journal articles.
- Allow the various technical disciplines through their professional organizations to establish variable public-access embargo schedules that account for the significant development timeline differences among technologies and scientific disciplines.
- Establish a meaningful legal definition for "federally-funded research program", or create a classification level for those programs based on the level of federal funding, by percentage, which can provide the federal agencies and those research entities accepting federal funds with a more concise understanding of those designations.

Respectfully submitted,

Dr. Michael B. Bragg, AIAA Vice President of Publications

Dr. Philip D. Hattis, AIAA Vice President of Public Policy

Mr. Rodger S. Williams, AIAA Managing Director of Technical Publications

+1 Hope Leman said on January 22, 2010 at 4:55 am:

I have read the interesting letter from the gentlemen of the American Institute of Aeronautics and Astronautics and would like to respond to this passage, "Among the existential reasons for technical professional societies is to create these forums for sharing innovation, validating results, and maintaining a community of subject-matter experts that can provide both the peer review and access to scholarly publishers of these research papers." I would just point out that a person can be knowledgeable about a subject but choose not to belong to a particular society for financial or philosophical reasons. Open Access ensures a greater diversity of opinion and background compared to what often prevails in some professional societies. With the rise of Science 2.0 opportunities abound for the creation of forums outside the sometimes stifling and orthodoxy-imposing walls of professional societies.

Moreover, as science grows in complexity there is a need for subject matter experts to avail themselves of the research results and writings of those outside their particular disciplines. Open Access facilitates such fruitful interactions between fields. Predicating science on closed shops and member-only models excludes new players and stifles debate. This is not what a struggling economy needs and is not conducive to attracting participation in science by historically underrepresented groups.

As to this argument, "...the possibility for diminished peer-review, which would ease the advancement of reckless and fraudulent science, and could cause a reduction of the quality and vigor of modern scientific debate." In actuality, Open Access, far from resulting in diminished peer review, is the surest route to unprecedented levels of peer review and confidence-engendering transparency in the new era of Open Science and Open Notebook Science and given the growing readership of Open Access journals (such as the increasingly influential and cited journals of PLoS). What does result in less than stellar science over the long haul is a peer review process that takes place among a handful of scientists at a professional society that may not include among its members the most accomplished, respected and pioneering practitioners in that specialty. Open Access, by contrast, can draw upon a potentially worldwide audience of subject experts across the scientific spectrum that could lend their expertise to the author of a paper who needs the input of people outside his field. And this can be done at many stages of an article's production from initial experiments (Open Notebook Science) to open post-publication peer review. This is science as it should be—taking advantage of the best minds to get solid results in far less time than the agonizingly slow and excessively cloistered, overly exclusive process of many professional societies.

Finally, several of the professional societies that have commented on this forum have said something very much along the lines of the American Institute of Aeronautics and Astronautics' statement here, "In practice however, very few taxpayers have an individual need or want for these publications." It is pure effrontery and patronizing presumption on the part of the leaders of such societies and contrary, one would think, to the wishes of the members of those societies, who, after all, have dedicated their lives to the advancement of science, to blithely assume that there are not intelligent people fascinated by science who are perfectly capable of making valuable contributions to it but who do not happen to be able to afford to belong to professional societies or who would be denied membership for lack of stipulated credentials. Think, say, of people like Einstein, Benjamin Franklin, and Luther Burbank early in their careers. And when it comes to biomedical research, people who are not molecular biologists or neurologists but who love someone with amyotrophic lateral sclerosis or some other dire condition have just as much right to the

results of taxpayer-funded research as any doctorate holder. There are compelling reasons to need to know things for many of us who are not members of professional societies. Open Access is imperative for enhancement of quality of life and for the maintenance of a pro-research ethos in society at large.

+1 Gary Ward said on January 21, 2010 at 11:58 pm:

I would like to thank OSTP staff for their interest in the issue of access to federally funded research and for providing an online forum for public discussion. I am also grateful that the forum was extended, as I was unable to comment during the initial four weeks of the blog.

I am a Professor of Microbiology and Molecular Genetics at the University of Vermont (UVM). I run a research lab funded by three NIH grants, and I also teach undergraduate, graduate and medical students. I strongly support the NIH's approach to ensuring public access to the biomedical literature, and I encourage OSTP to extend this framework to other federal research agencies.

The access problem is real and something that my colleagues and I experience on a daily basis. Although my lab does state-of-the-art, competitively funded research on infectious disease, we find that we must frequently "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 sometimes find myself teaching my graduate and medical students what I have access to, rather than what they most need to know. For example, I was recently preparing a lecture on why there's such a difference in the incidence of coronary artery disease in women and men, and I was only able to access about two thirds of the articles I needed to provide them 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 of no help in the very common situation where we don't know what we're looking for until we find it.

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

They are also unnecessary. I know this in part through my six years as Treasurer of the American Society of Cell Biology (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 (1), 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 (2).

To address three of the specific questions raised by the forum moderators:

IMPLEMENTATION: The NIH experience has clearly shown that a public access policy will not work unless it is a mandate. I agree with other contributors to this forum that uniform standards and processes should be adopted across agencies and that articles should be housed either in a central repository or within permanent, interoperable repositories within each agency. While the policy should allow an embargo period to protect publishers' interests, the longer the embargo, the less useful the policy becomes to those who lack access. The ASCB's experience with MBoC suggests that embargo periods as short as two months are possible and there is plenty of evidence that six months is more than sufficient to protect publishers' interests. Thus, the embargo should be no longer than six months.

COMPLIANCE: Federal research grants are awarded to institutions, not individuals, and institutions typically ensure that their principal investigators are in compliance with relevant federal regulations before releasing funds to them. University administrators and faculty are both accustomed to this. An obvious time to check for compliance would be during progress reporting or at the time of competitive renewal of the grant. Investigators are highly motivated to list publications that have arisen as a result of the funding received, so checking compliance would be as simple as confirming that there are repository ID numbers associated with each publication listed in a progress report or competitive renewal. This could be done either by the institution or by the funding agency, depending on whether funding is awarded in one year installments and requires annual institutional sign-off (e.g., NIH) or is awarded for a multi-year period, in which case progress reporting usually occurs directly between the investigator and the agency (e.g., NSF).

For a mandate to be a mandate, there also has to be a mechanism of enforcing compliance. The most direct approach would be to delay or deny future funding of non-compliant investigators and/or sanction their institutions, as currently happens when investigators ignore federal regulations on animal care or human subject research. A less heavy-handed approach, which I favor, would be to give each investigator three strikes, like points on a driver's license, before sanctions go into effect. This would be an effective way to educate investigators and encourage full compliance without being unnecessarily punitive. I'm confident that we investigators will learn to comply with new regulations very quickly when our future funding is at stake.

BURDEN ON THE INVESTIGATOR: Negotiating copyright agreements is unfamiliar territory for most scientists, and could represent a significant time sink. 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 makes this process simple and straightforward. If a widespread mandate were adopted, publishers would also have an incentive to make compliance as simple as possible for their authors, for fear of losing submissions.

In terms of manuscript deposition, it takes the average investigator less than 10 minutes (4) to upload a manuscript into PubMed Central via the NIH Manuscript Submission System (plus whatever amount of time he/she 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, 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. If the author submits to a journal that participates in PubMed Central (1), submission is automatic and proofing is not required. The burden on investigators will be minimal.

Again, I thank OSTP for providing us with the opportunity to contribute to this important discussion, and I encourage the Administration to expand the NIH Public Access Policy to all other federal science agencies.

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

(2) http://www.alpsp.org/ngen_public/article.asp?id=200&did=47&aid=157&st=&oaid=-1

(3) <http://www.uvm.edu/~ospuvm/?Page=NIHPublicAccessPolicy.html>

(4) http://publicaccess.nih.gov/submit_process.htm