

John Haynes jhaynes@aip.org AIP Publishing - American Institute of Physics

AIP Publishing supports the Development of Public Access Policies Partnering with publishers will serve the best interests of all stakeholders AIP Publishing LLC (AIPP) supports the Office of Science and Technology Policy (OSTP) directive of 22 February 2013 to federal agencies, calling for funding agencies to develop plans for increased public access to the results of federally-funded scientific research. The directive aligns with the values of AIPP and other scholarly publishers in ensuring that the public and the entire research community have the widest possible access to the best scientific information—journal articles, data, and related information—while recognizing the need for sustainable business models in scholarly publishing. OSTP is commended for its emphasis on flexibility and partnerships. Scholarly publishers play an important role in the advancement of scholarship. Scholarly journals remain the dominant and most effective way to communicate the results of research. It takes significant investment by publishers to give value to that research and communicate it in a meaningful way. This includes managing a rigorous peer-review process, editing, production, and permanent archiving. The quality and integrity of published work is directly linked to the advancement of science. In the age of free information and rapid information exchange, it is important that open access must not compromise scholarship. OSTP recognizes that publishers add essential value and enable scientific progress, and states that it is “critical that these services continue to be made available.” Partnering with publishers will serve the best interests of all stakeholders. The scholarly publishing industry possesses the expertise and capabilities to drive innovation in content delivery, discovery, and archiving. Since the passage of America COMPETES Reauthorization Act of 2010 (P.L. 111-358), AIP Publishing, along with other publishers, has collaborated with agencies, such as the Department of Energy and the National Science Foundation, to develop pilot projects that will tag research manuscripts with funding information and link digital data sets to publications. These projects will continue as models of the public/private partnerships that the OSTP directive encourages. The publishing industry’s existing infrastructure, innovative technologies, efficient business practices, and connectivity to the international research community enable the government to show results quickly, increasing taxpayer access to publicly funded scholarly works. By tapping into this infrastructure, the cost of implementing expanded public access is greatly reduced, thus alleviating reallocation of agency resources. AIP Publishing supports the OSTP directive for its flexible guidelines on embargo periods. As fields of science are vast and varied, journals associated with certain areas of research could be jeopardized by inappropriate embargo periods. The OSTP directive suggests a 12-month post-publication embargo as a guideline, but gives agencies the flexibility to work with publishers to modify embargo periods according to differences among fields and journal markets. The directive refrains from mandating a single solution or model. A blanket approach would indeed diminish the quality and value of published scholarly research and actually detract from achieving the goal of

increasing access to quality scholarly literature. Academic freedom is an ideal that must also be protected. Any subsequent policy should leave open the possibility for federal grantees to use grant funds for publication costs, which might otherwise dissuade researchers and their institutions from publishing timely results due to budgetary concerns. AIP Publishing maintains that diversity of solutions to public access enables the natural pressures of the marketplace to foster innovative products and dissemination methods. Within the scholarly publishing realm, new publishers, journals, and business models are continually emerging, signaling a productive scientific enterprise and a competitive marketplace. The ability of scientific publishers to experiment with different publication, business, and access models is essential to maintaining the vitality and effectiveness of scholarly communication. AIP Publishing looks forward to continuing our partnerships with federal agencies, as we work in tandem with representatives from the library and academic communities to develop pragmatic, sustainable solutions to public access to federally funded research.

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ALPSP Input to the Planning Meetings Conducted by the Division of Behavioral and Social Sciences and Education (DBASSE) of the National Research Council Submitted on behalf of The Association of Learned and Professional Society Publishers (ALPSP) by Isabel Czech, Executive Director – ALPSP North America April 30, 2013 Background On February 22, 2013, the Office of Science and Technology Policy (OSTP) issued a memorandum to the heads of executive departments and agencies, directing them to “develop a plan to support increased public access to the results of research funded by the Federal Government.” As part of this planning process, a group of cooperating federal agencies has requested that the National Research Council (NRC) Division on Behavioral and Social Sciences and Education (DBASSE) organize a meeting to draw in representatives of all stakeholder groups and interested parties. About ALPSP The Association of Learned and Professional Society Publishers (ALPSP) is the international trade association representing scholarly and professional publishers across all academic disciplines. Formed in 1972, ALPSP has more than 300 members in 40 countries. Over 10,000 journals are published by ALPSP members as well as numerous books, reports, databases and other products and services. In the United States, ALPSP represents more than 60 organizations employing over 3,000 employees. Many of the publishers comprising ALPSP’s membership are small not-for-profit organizations, some publishing just one or two journals. ALPSP’s mission is to connect, train and inform the scholarly and professional publishing community and to be an advocate on behalf of the non-profit publishing sector. ALPSP’s Position Regarding the OSTP Memorandum ALPSP welcomes the opportunity to provide input into the development of acceptable models of public access to the outputs of federally supported research and development. The following points represent ALPSP’s position regarding the OSTP memorandum: 1. ALPSP supports the OSTP memorandum and sustainable efforts to expand access to scholarly publications reporting on and analyzing the results of federally-funded research As scholarly publishers, ALPSP’s member organizations are dedicated to providing the widest possible dissemination of the peer-reviewed results of research and to supporting the advancement of knowledge in science, the social sciences, and the arts and humanities. ALPSP supports approaches toward further improving public access – and toward enhancing the utility and value of scholarly information in general – as long as they are inclusive, flexible, forward-looking, and factually based. 2. Without sustainability, the quality, integrity, and reliability of the scholarly record may be compromised. While ALPSP supports approaches toward further improving public access, any such approaches need to be sustainable. ALPSP is not in favor of mandated deposit to centralized open repositories. In addition to presenting significant concerns about long-term sustainability and piracy, open repositories can have deleterious effects on the publishing model, which would have potentially significant adverse implications for our member organizations. The continued availability, quality, integrity, and reliability

of the scholarly publications that our member organizations produce should be considered as part of the goal of increasing public access to this information. 3. Flexibility and funding are needed to sustain scholarly communication. ALPSP believes that it would be in the best interest of all stakeholders to strike a balance between public access and the needs and interests of the scholarly publishing industry because of the positive impact and value that scholarly publishers bring to American society and the national economy. Such a balance can be achieved based on shared principles, including the importance of peer review, the recognition of economic realities, the exploration and adoption of adaptable and viable publishing business models, the need to ensure long-term archiving and preservation of scholarly information, the increasing need to establish connections among disparate information sources and repositories online, and the desirability of broad access.

Bruce Gossett bgossett@asce.org American Society of Civil Engineers

American Society of Civil Engineers -- Policy Statement #538 PUBLICATION OF PUBLICLY FUNDED RESEARCH The American Society of Civil Engineers (ASCE) endorses the principle of providing public access and enhancing dissemination of federally funded research in ways that advance public health and safety, and strengthen the global quality of life. At the same time, ASCE deems it essential to preserve the scholarly value of the peer-reviewed version of record, fixed at its time of presentation without any possibility of historical rewriting; that the original work cannot be altered by the author or anyone else; and that the value of added work by learned societies, acting in accordance with their educational mission, is reimbursed for the investments they make in managing the peer review process, editing, dissemination, publishing, and maintaining an ever-growing archive in perpetuity. ASCE is concerned that the process to mandate open access to publicly funded research could undermine the abilities of scientific societies to meet their obligations to the U.S. scientific community, to the American public, and to scientists worldwide. ASCE believes that open access laws must: Promote the efficient and effective dissemination of federally funded research results; Preserve peer review; Accommodate the economic implications of various public access models; Recognize the impact on the federal budget; and Protect against the potential abuse or misuse of scientific and technical information.

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An unavoidable issue faced by all scientists is the effective management of research data to be reproducible for current and future use. Data must be identified, described, useful, shared, discovered, extended, stored, managed, and consulted over its lifecycle to remain valuable to research, science, scholarship and education (Bush, 1945; Lord & Macdonald, 2003; DCC, 2004; JISC, 2006; UIUC, 2006; NSF, 2011). Scientists are at risk of ineffective data management when data management concepts and methods, if any, are not well-defined, specified, clarified, applied, & linked together within a framework for analysis of a phenomenon such as the data deluge, undiscoverable or dark data, and long-tail of science problem. A myriad of competing models & frameworks with non-theory-based approaches and lack of implemented best practices & standards significantly contribute to issues of hampering the effective management of data beyond data management planning stage required by researchers seeking funding from funding agencies such as the National Science Foundation (NSF). One of the biggest problems affecting the introduction, adoption, implementation, and continuation of any program (s) addressing data management and curation services is the lack of a conceptual framework that integrates theory and practice in the analysis of a problem such as data management. In addition, concepts, if any, are loosely defined, fragmented, or displaced thus creating difficulty in the development or extension of a data management theory or integration of multiple theoretical perspectives in the analysis of data management as a phenomenon. However, with the recent efforts of the Board on Research Data and Information (BRDI), Division of Behavioral and Social Sciences and Education, OSTP memorandum announcement on "public access to the results of research funded by the Federal Government", and the NSF 2011 data management planning requirement, the role of scientists, researchers, and practitioners in the United States of America (USA) has been significantly redefined by presenting the opportunity for scientists, researchers, and practitioners to engage in effective data management planning and practices for current and future use.

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April 26, 2013 National Research Council Division of Behavioral and Social Sciences and Education
National Academy of Sciences 2101 Constitution Ave., NW Washington, D.C. 20418 Ref: National
Research Council (NRC) May 14-17, 2013 Public Comment Meetings: Public Access to Federally-
Supported Research and Development Data and Publications With over 130,000 members, ASME (the
American Society of Mechanical Engineers) is the largest mechanical engineering professional
organization in the world. Since its founding in 1880, ASME has worked to advance public safety and
the quality of life throughout the world. ASME's reputation as a "neutral convener" has been earned over
these many decades by its deliberate embrace of all stakeholders in the consensus process and in
facilitating a robust technical peer review process built on integrity and honesty. ASME has balanced its
mission with reasonable economic models in order to become an essential resource for mechanical
engineers and other technical professionals throughout the world for solutions that benefit mankind.
Throughout its long history, ASME has deliberately maintained affordable publications, conferences,
standards, workshops, and seminars. For decades, the U.S. has reaped the benefits of effective public-
private partnerships. ASME believes that the best approach to achieving greater public access for
federally funded research is through public-private collaboration with publishers and scientific societies.
Such collaboration will result in the broad dissemination of materials that analyze and interpret research
while preserving the critical functions of peer review, editing, design, value-added development,
composition of content, staffing, archiving, and other activities which build on the results of federally
funded scientific research and disseminate scientific knowledge for the betterment of society. In this era
of dwindling federal resources, we believe that central federal repositories would be a duplicative,
unnecessary expense, creating a recurring burden that may not be sustainable for long-term stewardship.
ASME welcomes the opportunity to work collaboratively with the responsible federal agencies to develop
a coordinated approach to public access to federally funded research and development that could
potentially serve as a shared approach for use by all agencies that would:

- Be highly efficient and effective.
- Preserve existing agency funds.
- Eliminate potential duplication of effort.
- Ensure high level of compliance.
- Be the cost effective option.

ASME endorses the principle of providing public access and expanding the dissemination of federally funded research in ways that advance public safety and welfare, and improve the quality of life throughout the world. We support the free distribution of the research reports and raw data generated from the government-funded research, which is markedly different from the value-added journal articles in which the private sector invests significant resources to produce. ASME appreciates the Administration's recognition of the valuable services that publishers provide, including the coordination of peer review, that are essential for ensuring the high quality and integrity of many scholarly publications. We also appreciate the Administration's recognition of how

critical it is that these services continue to be made available. Peer-reviewed papers are not the direct result of the expenditure of taxpayer funds; conversely, they result from a significant publisher investment, which is why peer reviewed articles are considered the "gold standard" of scientific communication. For accepted author manuscripts and published journal articles, both of which publishers have invested in heavily, publishers should determine the business models on which their publications operate and this should include the time, if any, at which the final peer-reviewed manuscript or final published article are made publicly available. The ability to recoup that investment enables innovation, allows infrastructure to be developed (including archives and metadata), and provides incentives to try new approaches. Long-term stewardship of content carries significant costs that are already being borne by publishers. Journal articles are indeed separate works. Copyright is an essential ingredient in promoting creativity, innovation, and the continued integrity and reliability of the scholarly record and must be protected from unauthorized dissemination and piracy. Peer-reviewed papers should not be made public within the duration of the article's copyright without the copyright holder's permission. It is critical that mandates not be established that would undermine intellectual property rights without full, voluntary rights-holder authorization, intellectual property rights protection, and compensation. Embargo periods should be determined on a case by case, collaborative basis rather than through a federal proscriptive process. A single, uniform policy or mandate for all agencies would be the wrong approach, as noted by the Scholarly Publishing Roundtable report of January 2010. There should be a careful evaluation of the value of providing open access to a final research report after appropriate embargo periods, rather than asserting a type of eminent domain over the peer-reviewed journal article. This solution would allow standardization of information reported, rapid and broad dissemination of the government-funded materials even before publication of a peer reviewed article, and the preservation of IP. ASME appreciates the support of the National Academy of Sciences (NAS) in convening this forum to carefully review approaches to public access and comprehensively consider the economic implications of various public access models, including the impact on the federal budget, the peer review process, and the health of America's innovation ecosystem. ASME is prepared to work with the NAS and federal agencies to improve the dissemination of federally funded research and to support the development of an effective public access policy. Sincerely, Marc W. Goldsmith, P.E. President.

John Rumble jumbleusa@earthlink.net R&R Data Services

By ensuring better public access to the output of federally funded research, the federal government is taking a major positive step to broaden the impact of S&T research funded by the government. At the same time, the government must recognize a responsibility to help the scientific community make the necessary investments to capture, preserve, and provide access to the factual data produced by research. Such investments include the development of tools and methods such as data and metadata reporting standards, data repositories, long-term preservation of data in data repositories (spanning decades or more), data exchange standards, and protocols for integration with data exploitation tools, both publicly funded and privately developed. The development of these tools and methodologies cannot be done by government fiat; they can only be accomplished by partnership with private groups such as professional societies, academic and private research institutes, data businesses, and other interested parties. The government cannot come empty-handed to these partnerships, but must be prepared to actively provide funding and other kinds of support, ranging from the initial sponsorship of workshops and meeting to discuss, define, and prioritize needs to funding actual development work related to standards, repositories, etc. The responsibility for doing this lies with each and every federal agency funding scientific research. The participation in the partnerships must be broad both from the federal side and the private sector side. These issues cannot be decided by fiat. To the degree necessary the efforts must be international in scope as S&T data share the same characteristics regardless of where they are generated. Lastly, it must be recognized that many of the existing data repositories (say for genomics or crystallography) and many present data and metadata standards have been put in place, but primarily for data of fairly simple structure and minimal complexity. Disciplines such as materials science, nanotechnology, cellular biology, ecology, and environmental science (this list is not exhaustive) are researching and collecting data in very complex and complicated systems. In most cases, the independent variables governing phenomena are not known and will be discovered only over the course of decades. The collection of data cannot await perfect knowledge, but funding agencies, and all partners involved, must realize that the development of tools and methods for data capture will be a multi-stage process that will take time. In closing, I cannot emphasize how important it is for all government agencies to participate in the development of these tools and methodologies as a partner, providing funding and support and being respectful of the knowledge and opinions of experts outside the government.

Timothy Vollmer tvol@creativecommons.org Creative Commons

Creative Commons (<http://creativecommons.org>) applauds the White House directive supporting universal access to publicly funded research articles and data. It is a productive step toward speeding up scientific discoveries, promoting information sharing, and increasing the return on investment of public monies. The Administration is “committed to ensuring that... the direct results of federally funded scientific research are made available to and useful for the public, industry, and the scientific community.” Creative Commons (CC) would like to help agencies fulfill this aspirational plan. Creative Commons is a nonprofit organization that develops and stewards free copyright licenses used by authors, publishers, data providers, and countless others to share their creative works on more open terms than “all rights reserved.” We provide the legal plumbing to enable innovative sharing of creative content. As agencies build their individual public access plans in the coming months, we recommend that you take as progressive an approach as possible. This would mean: 1. Requiring author manuscript deposit occur immediately upon publication in a peer reviewed journal; 2. Building in permission for bulk downloading of articles in your repository, so that users can conduct text-mining and other computational analysis on the corpus of publicly funded research articles; 3. Allowing authors to make their deposit immediately open access under a worldwide, royalty-free copyright license that allows the research to be used for any purpose, and that would require that attribution be given to the authors. We believe that CC licenses and public domain legal tools can help federal agencies meet the requirements set out by the White House directive. The goal of the White House directive is broad reuse of publicly funded research. And the Administration has taken the important first step by removing price barriers to these articles. Agencies can take the next logical step by removing permission barriers as well. By adopting the means for authors to make their research articles available immediately as open access, federal agencies will be clarifying reuse rights so that downstream users know the legal rights and responsibilities in using the research. This is an important and useful public service. But why is communicating reuse rights important? As Creative Commons board member Michael Carroll writes, “Granting readers full reuse rights unleashes the full range of human creativity for translating, combining, analyzing, adapting, and preserving the scientific record” (N Engl J Med 2013; 368:789-791). When permission is granted via standard public licenses, researchers can more easily understand what they can do with the the text and data contained in publicly funded research articles. The communication of clear, unambiguous rights to research articles helps break down barriers to reuse. And of course, when permissions are granted via standard public licenses, authors and publishers still receive the credit they deserve. Open access publishers like the Public Library of Science, eLife, and BioMed Central are using open licenses to share their research articles. We encourage you to fulfill the letter and spirit of the White House public access directive by crafting your agency policy to allow for immediate publication under open access. By

marking peer reviewed articles with open licenses, the public knows exactly what they can do with the research. CC is standing by to help.

Carol Minton Morris cmmorris@duraspace.org DuraSpace

DuraSpace Written Statement for NRC DBASSE Meeting on Public Access to Federally-Supported Research and Development Data and Publications By way of introduction, this statement is from DuraSpace--an independent 501(c)(3) not-for-profit organization providing leadership and encouraging innovation in open source repository technologies that promote durable, persistent access to digital content and data. We collaborate with academic, research, cultural, government, and technology communities by supporting open source projects to help ensure that current and future generations have access to our collective digital heritage. In addition, we offer hosted services for organizations that would like quick access to archiving and preservation solutions with minimal maintenance. DuraSpace supports the initiative to promote the dissemination and long-term stewardship of research results funded from Federal science agencies. The open access, open source repository applications we promote, DSpace and Fedora, are used by over fifteen hundred institutions world-wide for disseminating digital content. These institutions include many Federal government organizations, such as The Smithsonian Institution, The National Libraries of Medicine, The National Aeronautics and Space Administration, the Food and Drug Administration, The Department of Agriculture, and others. DuraSpace strongly recommends that technology solutions deployed for this initiative be based on open source software applications, which have a number of advantages relevant to the current needs. For one thing, licensing expenses are non-existent compared to the often steep costs of commercially licensed software. Open source software comes with freely available source code, as well, and is supported by communities of practice. Government agencies and departments deploying open source applications like DSpace and Fedora are able to join a global community of developers in adding or changing features to meet their specific requirements if they care to. Changes may be contributed back to the community so that others may take advantage of them and help maintain them. Or, they may simply use the software without any obligation to write program code themselves. Finally, open source software is most often based on open standards, which facilitate interoperability with other applications that adhere to standards. Most importantly, users of open source software may invest in its use without any fear that changes to proprietary code will someday stop an application from functioning or, even worse, become obsolete and simply disappear from the marketplace, stranding users without a growth path. It seems to us that this kind of assurance is critical when one is considering the preservation of our nation's research data and publications. DuraSpace is happy to elaborate further on the advantages of applications built by open source communities as well as provide additional information about DSpace, Fedora, and DuraSpace hosted services.

Elizabeth Nolan enolan@osa.org The Optical Society

Following are The Optical Society's (OSA) comments regarding the National Academy of Sciences "Public Access to Federally Supported Research and Development Publications" public planning meeting. We welcome the opportunity to continue to work with the Administration and the federal agencies to develop a solution that best meets the needs of and is efficiently responsive to all parties involved including US taxpayers, US federal agencies, universities, libraries, and publishers. Founded in 1916, OSA's mission is to promote the generation, application and archiving of knowledge in optics and photonics and to disseminate this knowledge worldwide. Through its efforts, OSA unites more than 180,000 professionals from 175 countries and brings together the global optics community through its extensive programs and services. As a non-profit publisher, OSA plays a central role in the process by which research is developed, communicated, disseminated, and consumed by the scientific community and the general public. Today, OSA's publications include 16 broad-based journals, one magazine, and a comprehensive conference proceedings series. To produce these high-quality, well-respected publications, OSA invests an extensive level of resources (staff, volunteer support, financial) annually on peer review, editorial management, production, promotion, printing, distribution, and hosting its publications on a fully digital, reliable online platform, making the content available at all times to users around the world. While OSA strongly supports the dissemination of scientific research to the general public, we also believe that any public access policy needs to take into consideration the significant investment that publishers make to ensure the development and archiving of the high-quality content they produce. As such, OSA would like to emphasize a few points to the committee for their consideration when developing their plans:

1. OSA supports sustainable efforts to expand access to federally-funded research that is published in scholarly publications. Non-profit, scientific journal publishers, like OSA, are the most trusted source of scientific communication for the research communities that they serve. OSA's editorial, production, technology and sales & marketing personnel as well as its ongoing financial investments allow it to a) transform 8000+ raw manuscripts a year into high-quality versions of record; b) ensure the integrity and permanence of this content as well as all published content back to 1917; and, c) provide the fastest, most accessible distribution, discovery and application of knowledge through innovative and costly digital technology. OSA is devoted to making sure that the articles that we publish have the widest possible reach, allow for the broadest dissemination of our authors' works as possible and are produced with the utmost level of accuracy and quality. We have, and will continue to work with US Federal agencies to determine the best and most sustainable way to provide public access to the high-quality, peer-reviewed articles that we produce and that are federally funded.
2. Without sustainability, the quality, integrity, and reliability of the scholarly record may be compromised. Public access has emerged as an important goal for US federal agencies and ensuring the availability, quality, integrity, and

reliability of federally funded journal articles should be part of this goal. Today, publishers provide more options for accessing their journal content than ever before, but this comes at a significant cost. The substantial and ongoing investments made by non-profit publishers like OSA need to be addressed by any public access policy as the monies derived from our publishing efforts not only directly support our authors but also the highly beneficial outreach, education and career development programs that we offer to our scientific communities. One option that may meet the goals of both publishers and the administration is a decentralized archive run by the government and supported by publishers. A decentralized model is less costly for the government as the content would not need to be converted and formatted by the government for a government specific platform and ensures that users are sent to the actual source of the version of record, which supports the needs of publishers.

3. Flexibility with regard to embargoes, retention of copyright and continued funding are needed to sustain scholarly communication. The world of scholarly communication has been changed by technological and business innovation. We have author-pays open access journals, subscription journals, pay-per-view models, funder-sponsored journals, membership journals, and many more access points to content. Any public access policy implemented should preserve academic freedom and be business-model-neutral. Additionally, these policies should consider the impact on the scientific ecosystem including authors, editors, publishers, libraries and the general public. Where delayed free access is dependent on the subscription model, differing embargo periods need to be considered based on the specific needs of each discipline or medical specialty. While a 12 month embargo may work for some publishers, significantly longer embargoes may be needed for others. Additionally, for gold open access publishers, like OSA, publishers must be allowed to continue to own the copyright to the content that they produce. Allowing for any individual or organization to use content that is publicly accessible without regard to copyright will likely have several unintended and detrimental consequences, especially for authors. For publishers, copyright is key to remaining competitive on a global scale and to being able to develop new derivative products that further advance science and innovation.

4. Public-private partnerships can leverage publisher knowledge and infrastructure and minimize costs for the government. Publishers can bring substantial expertise to government agencies, which can help to make scholarly communication systems more successful for all parties. Private-sector publisher partners offer existing resources, digital innovation, distribution and archiving models to reduce or eliminate unnecessary governmental costs and improve efficiencies. For example, FundRef, one partnership funded by publishers at no cost to taxpayers and using publishers' services, helps federal agencies identify journal articles related to the research they fund. Other public-private partnership initiatives are underway and will likely provide US federal agencies with low-cost tools and processes to address the Administration's requirements, while ensuring sustainability by all partners. Publishers, like government, want as many scientists, engineers and other

users around the world to access their content as much as possible as sharing ideas and information is a critical part of the scientific process. OSA has been a pioneer in open access publishing, having launched its first open access journal 16 years ago. Currently, 50% of OSA's journal content is produced via the "Gold" open access business model, and this content is available to the public at the time of publication. We anticipate that the percentage of open access articles published will continue to be the majority of our content, and we look forward to lending our expertise to our federal agency partners as implementation of the OSTP open access guidelines moves forward.

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FundRef is a collaborative service developed by funding agencies and scholarly publishers and run by CrossRef to provide a standard way of reporting funding sources for published scholarly research. Government and other research funders are accountable for reporting the research and development outcomes they support. One measure of this output is the publications that result from specific grants or other financial support. Funders do not currently have an easy or standard way to track publications that result from their funding. A combined solution for all funders eliminates the need for each to architect its own solution to the problem. Similarly, many journals and other publications have the ability for authors to acknowledge the source of their funding, but these statements vary widely in practice from journal to journal and publisher to publisher. Standard bibliographic metadata for scholarly publications do not typically include funding source information, which means mining publication data to track funding sources is difficult. The FundRef system allows publishers to create and submit standard metadata consisting of the funder name, funder identifier and grant number to CrossRef. The service is based on an open taxonomy of more than 4,000 funding agencies. Funding agencies can submit queries by agency name to receive lists of CrossRef DOIs for publications related to research funded by that particular agency. They can use this data to display publication information with CrossRef DOI links to the relevant scholarly literature to the general public and to the research community. FundRef benefits researchers, in simplifying their manuscript submission, publishers, who will be able to analyze the sources of funding for their published content, and funding agencies, who will be able to better track the results of their funding. FundRef also benefits the general public, as it supports a greater transparency into the results of R&D funding. The FundRef project was designed and successfully piloted by a consortium of funding agencies and publishers from February 2012 to February 2013. Participants included the US Department of Energy, US National Aeronautics and Space Administration (NASA), US National Science Foundation and the Wellcome Trust, American Institute of Physics (AIP), American Psychological Association (APA), Elsevier Science, IEEE, Nature Publishing Group, Oxford University Press and Wiley. CrossRef is launching the FundRef service at the end of May 2013 and is establishing a FundRef Advisory Group, made up of funding agencies and publishers, in order to help manage and further develop the service. FundRef solves a problem that individual stakeholders have been working on unsuccessfully for many years. By having CrossRef bring the stakeholders together they were able to scope, design, develop and approve the roll out of a service in only 12 months. We believe that this collaborative effort can serve as a model for solving other technical, infrastructure problems facing funding agencies and other stakeholders in the scholarly communications community.

Michael MacCracken mmaccrac@comcast.net Climate Institute

I am a retired scientist volunteering with the Climate Institute, which is a non-governmental organization promoting understanding and engagement in addressing climate change. Current projects involve working with tribal colleges, island nations, development of a new standard for companies and other organizations to use in estimating the impacts on their climate-related emissions on the environment, and setting up a scientific observatory and education outreach theaters with scientists in Mexico. As the oldest NGO working exclusively in the area of climate change, and being climate.org on the Web, we also get many queries about the science of climate change and many related issues about impacts and policies. Although our budget and staff are small, a great deal is getting done through the assistance of interns and students, both in the US and other countries. Critical to the effort is keeping up with the science and ready and inexpensive access to publications is critical. A key concern is that the pay barriers set up for many publications are simply prohibitive--this just seems an unacceptable impediment when the research is being funded by the US Government. Delaying access to publications for 6 months or a year or more just does not seem to be a workable way around the situation--it puts everyone who cannot pay for access behind and at a disadvantage. For universities, the US Government sets overhead rates high enough to cover library costs at those institutions, but that does not help those who are not at research institutions--it basically leaves a lot of interested members of the public out in the cold (and leads to copies of near final draft articles being circulated by the authors as one way to respond to requests for access). I would suggest that for the climate change and other areas, those not having access to libraries at research institutions have a lot to contribute. This community includes many individuals like me who are retired but still very active, recent students now looking for positions in the field, many who are in the public outreach and formal and informal education communities, and more. While fine to provide access through overhead rates to the academic community to further research, shutting out those who are most interested in potential applications and significance of sponsored research is likely hurting overall societal interests and delaying deeper understanding of issues by the public. To my mind, addressing this issue and finding ways for the public, NGO, and other interested communities is gaining rapid and inexpensive access to the results of research is critical. Given that publication can often take months (or longer), delaying access for many more months or years is just not a workable way to address the issue, I would recommend requiring that researchers make their papers available upon publication (or even upon acceptance) and providing them or the journals funding so that that can happen.

Brian Scanlan bscanlan@thieme.com Thieme Publishers

My name is Brian Scanlan and for the past 18 years I have been the chief executive of the international division of the Thieme Publishing Group, a family-owned and managed business which was founded in 1886. Our group publishes 150 journals in medicine and chemistry, 40 of which are in English language; in total, we prepare and publish about 40,000 articles per year. We also publish about 425 new books each year and a wide range of innovative electronic solutions. We have offices in New York, Stuttgart, Berlin, Delhi, and Rio, and employ about 950 staff around the globe. As a family-owned and run business, we have long enjoyed the respect of both the research and library communities because of the long-term view we always take to working with our authors, editors, and customers. It is in this vein that I write to you concerning Office of Science and Technology Policy's request for public input on the directive to improve access to research which is funded by the Federal government. Thieme is a member of both the Professional and Scholarly Publishing Division (PSP) of the Association of American Publishers (AAP) and the International Association of Scientific, Technical and Medical Publishers (generally called "STM"). We have participated in CrossRef and other industry initiatives designed to expand access to articles. CrossRef itself is phenomenally successful, with 530 million resolutions in 2012—the number of times users clicked on a reference and were taken to that article. We support, both financially and technically, industry efforts to ensure we continue to develop sustainable efforts to expand access to research publications. Everything we do at Thieme is aimed toward presenting the highest quality content and making it immensely discoverable. In our New York office we employ 70 professionals, including two medical doctors, a dentist, a PhD, a graphic artist, and others with degrees in chemistry, biology, cognitive science, computer science, library science, journalism, and other subjects. We take great pride overseeing the peer review system that selects and improves the article published in our journals. Once accepted, we perform extensive work on every article, including copy editing, rewriting as necessary (particularly those by non-native English speakers), reference checking, artwork preparation, coding, page layout, corrections, publishing (electronically and on paper), and ensuring discoverability. All this work by well-educated professionals requires funding, and this funding is supplied by revenue from our subscriptions. As you know, another business model calls for the author or funding agency to pay for the work to get her or his article published. While we offer this option, the vast majority of our journal contributors support the subscription model to pay for the immense value we add. We believe that public access policies should be business-model-neutral and preserve academic freedom. Government policies should avoid a "one-size-fits-all" approach. Some journals could remain viable with a 12-month embargo period; others would quickly close. Having seen the tremendous benefit of public-private partnerships, Thieme supports this approach to address the OSTP requirements, while ensuring a sustainable scholarly publishing system. A properly implemented public-private approach, moreover, would significantly

reduce or eliminate tax revenue spent on such a system, which is certainly welcome at a time when governments at all levels are cutting back. As a member of the Executive Council of the Professional and Scholarly Publishers Division of AAP, my organization and I support working with the government to help implement policies that are reasonable and we have the know-how to make scholarly communication systems work. A publishers' steering group has been engaging with OSTP and federal funding agencies to explore the possibility of a multi-agency, multi-publisher portal and information bridge that identifies and provides links to journal articles resulting from public agency funding, at no cost to those agencies (or by definition, taxpayers). In addition to access, we are addressing initiatives such as compliance, archival preservation, and bibliographic search and discovery issues. I ask that you continue to support these efforts as we work toward a solution. Thank you for this opportunity to participate in the calls for comment on the implementation of OSTP policy.

The Council on Food, Agricultural and**Tamara Wagester tamarawagester@cfare.org Resource Economics**

On behalf of the Council on Food, Agricultural and Resource Economics (C-FARE), we are pleased to offer comments on plans by the White House Office of Science and Technology Policy to review “Increasing Access to the Results of Federally Funded Scientific Research.” We applaud OSTP for offering this opportunity for the community to respond. We appreciate and value your leadership on behalf of the science community. In general, C-FARE supports the key provisions of the policy memorandum from the Office of Science and Technology Policy, however; we have several concerns regarding short and long run consequences for this proposal. Currently, most academics already have incentives to make results public. Hence, structuring changes and expectations for the researchers needs to provide the proper incentives for a long-run positive response to the recommendations. The more mandates that researchers must operate under, the less time they have to be productive. C-FARE is a non-profit organization dedicated to strengthening the national presence of the agricultural economics profession. C-FARE promotes the work of applied economists and serves as a catalyst for incorporating economic thinking into the analysis of food, agricultural and resource decisions. We serve as a conduit between the academic research community and Washington, DC policymakers and agency personnel, matching expertise to public needs. Agricultural economics is the study of the economic forces that affect the food and fiber industry. Specific areas of study in agricultural economics include: (A) Community and rural development, (B) Food safety and nutrition, (C) International trade, (D) Natural resource and environmental economics, (E) Production economics, (F) Risk and uncertainty, (G) Consumer behavior and household economics, (H) Analysis of markets and competition, and (I) Agribusiness economics and management. As a result, our research areas reach the mission of multiple agencies and granting programs. First, the new policy on research publications addresses an important concern in our profession. Academic researchers generally have excellent access to the scientific publications, but they frequently collaborate with others in non-research organizations that lack adequate access. In addition, academic researchers often volunteer large amounts of time as editors, referees, and writers for scientific publications. The policy memorandum holds promise for increasing the reach of these efforts. In recent years, leading journals have made some efforts to provide low-cost access in developing countries and to allow open access in selected circumstances where the author is able to pay a higher than usual page charge, but these selective steps toward greater openness are insufficient. The proposed policy is wise to avoid being overly prescriptive, but it also is correct to seek greater effort and better coordination in this direction. C-FARE supports public access to publically funded science. We applaud the federal government’s effort to identify a more uniform standard for managing science publications that result from federal research dollars. Structured evaluation has become increasingly important in these current

economic times, and we support the provision to leverage existing archives where appropriate and encourage public/private partnerships. It is our understanding from the OSTP memo that you hope to achieve the same societal outcome by sharing data and scientific publications. We understand that in these difficult budgetary times, adjustments may need to come from existing resources, but we urge OSTP and the agencies to not cut existing funding for federal projects. As you consider these tradeoffs, please encourage the agencies to allow the inclusion of appropriate costs for data management and access in proposals for federal funding for scientific research. C-FARE strongly recommends continued feedback from the stakeholders during this transition and in subsequent years to ensure increased innovation. It is imperative to consider the impacts on scholarly societies and the future of research so as to guarantee the balance between the protection of intellectual property rights associated with research and publications and public access to information and knowledge. A major concern is the long run integrity of intellectual property for all those involved, including potentially the researcher, institution, scientific society, journal and other key constituencies. We feel that ultimately, more access leads to a more innovative society and the potential for greater benefits spread over a larger population. Thank you again for the opportunity to provide comments. Sincerely, C-FARE Board of Directors.

Brian Crawford B_Crawford@acs.org American Chemical Society

On behalf of the Publications Division of the American Chemical Society, I appreciate the opportunity to comment on the Office of Science and Technology Policy's ("OSTP") February 22, 2012 memorandum. The American Chemical Society (ACS) is the world's largest scientific society, with more than 163,000 members. ACS advances knowledge and research through scholarly publishing, scientific conferences, information resources for education and business, and professional development efforts. The ACS also plays a leadership role in educating and communicating with public audiences—citizens, students, public leaders, and others—about the important role that chemistry plays in identifying new solutions, improving public health, protecting the environment, and contributing to the economy. ACS Publications is one of the information services divisions of the ACS. The Publications Division strives to provide its members and the worldwide scientific community with a comprehensive collection, in any medium, of high-quality information products and services that advance the practice of the chemical and related sciences. Currently, more than 40 peer-reviewed journals and magazines are published or co-published by the Publications Division. Approximately 300,000 pages of research material are published annually, representing nearly 40,000 research papers. With the introduction of the ACS Journal Archives in 2002 and the C&EN Archives in 2011, we provide searchable online access to over one million original chemistry articles dating back to 1879. In addition to providing subscription-based licensed access and individual document purchase options, ACS Publications offers both sponsored and author-enabled open access to research articles through our fee-based ACS Author Choice and complimentary ACS Articles on Request programs. In addition, digital data that support the findings of articles and bibliographic information, including abstracts of research articles, are freely available on our website. Since the beginning of the transition to electronic publishing in the mid- to late-1990s, we have developed, and are continuing to develop, innovative and accessible business models, policies, and practices to support the scholarly communication process and broaden information access. As a socially responsible organization deeply rooted in the scholarly community, we share the interest of the Federal government in maximizing the dissemination and discoverability of knowledge. ACS believes that success in enabling public access to peer-reviewed research hinges on identifying access models that are sustainable for publishers over the long-term. We support the goal expressed in the OSTP memo that the results of research “are made available and useful for the public, industry, and the scientific community.” Our business is focused on improving access to and the dissemination of research materials, including high-quality peer-reviewed publications, and ensuring that the research that is published is found and used by those who can most benefit from it. The primary goal of the peer-reviewed publishing activity we undertake is to edit and refine, market and disseminate, and reliably archive and maintain broad global access to a high-quality and user-friendly environment for readers to discover, analyze, and link to the latest breakthroughs and

developments in scientific and other scholarly research. We appreciate that the OSTP memorandum, as one of its core principles, “recognizes that publishers provide valuable services...that are essential for ensuring the high quality and integrity of many scholarly publications. It is critical that these services continue to be made available.” We believe that the only path to ensuring the continuation of these high-quality services is through collaborative, flexible approaches that recognize the value provided in the publication process while also finding new ways to disseminate information and provide the taxpaying public with access to research results. ACS, along with fellow publishers active in scientific, technical, and medical journal publishing, has recently assisted in solving a thorny problem in identifying the funding sponsors of published research articles (at no cost to the federal government), and we have also joined in outreach to individual agencies and to the OSTP interagency-working group on publications to propose what we assert would be a cost-effective and sustainable solution, undertaken via public-private collaboration, to provide access to the high-quality, peer-reviewed publications and thereby advance OSTP’s goals for science and innovation. We welcome a continued dialogue in that regard. At the same time, we share with other professional societies and scientific publishers the concern that the push for free access may well jeopardize the availability and diversity of outlets for research communication. Any public access policy should preserve academic freedom for authors and not detract from the already constrained funding for new research by adding redundant costs of government-run publishing. Policymakers should carefully consider the impact of any agency policy on the ability of journals to sustain funding – whether through subscriptions, article-level publishing charges, or other funding mechanisms. Agency policies should continue to allow grant funds to be used for publication costs, and ensure that researchers know that this is an allowable use of funds where it may be the best route to promote public access for a particular article. Policies that envision delayed access that is ultimately supported by subscription or other revenue should ensure that the length of delay is sufficient to enable that revenue to support the publishing activity. Ultimately, the key test of any policy should be ensuring that researchers have high-quality outlets in which to publish and to discover cutting-edge research. Through a public-private partnership that respects the need for sustainability in the communication system, federal agencies and scientific publishers can together address some of the biggest issues that now confront all federal agencies as they develop and implement public access policies to address the goals and requirements contained in the OSTP memo. Universities and researchers are rightly concerned about the additional compliance implications of various agency open access policies. As scientific publishers already collectively process and disseminate millions of articles, we can help to minimize costs, avoid duplication of efforts on the part of agencies and researchers, and streamline compliance issues when interacting with research grantee authors. ACS seeks to serve the global chemical enterprise by in ensuring the widest reach for the research our authors describe and our readers analyze in publications. In

this, we share the government's goal for the research it funds. Thank you again for the opportunity to provide comment, and we look forward to continuing to work together to improve innovation and the scholarly enterprise in the United States. Sincerely, Brian D. Crawford, Ph.D. President, Publications Division American Chemical Society

Robert Harington rmh@ams.org American Mathematical Society

One size does not fit all American Mathematical Society response to OSTP Memorandum of 22 February 2013 Submitted on behalf of the AMS: by Robert M. Harington, Associate Executive Director, Publishing, AMS and Don McClure, Executive Director, AMS The American Mathematical Society (AMS) was founded in 1888 to further the interests of mathematics research and scholarship, and serves the international community through its meetings, publications, advocacy and other programs. The Society's offices in Providence, Ann Arbor, and Washington DC employ 210 people. There are over 30,000 individual members and 570 institutions worldwide that benefit from membership in the Society. AMS supports the Office of Science and Technology Policy's (OSTP) directive to heads of executive departments and agencies to "develop a plan to support increased public access to the results of research funded by the Federal Government." AMS is a Green Open Access publisher, allowing an author to post their article to their own website, or on non-commercial pre-print servers like arXiv.org. AMS believes that any public access policy should be business model-neutral, and should consider the impact of the policy on the ability of journals to sustain subscriptions and other funding streams. Mathematics journals, including those of AMS, are archival journals with significant longevity of article usage over many years. Several issues combine to require careful consideration of publication cultures in Mathematics. Mathematics articles tend to be longer, including more detail and exposition (to allow readers to reconstruct arguments with ease), and to be more idiosyncratic in approach (including special examples, and new proofs of known results) than in other disciplines; this requires longer writing times. They also tend to require a longer period to read and digest properly; both refereeing times and first citation times can be an order of magnitude longer. The longevity of citation of a mathematics journal article lasts many years. AMS studied age distribution of cited articles for citations made in mathematical sciences research articles published in 2009, using Mathematical Reviews Database as a resource, which reported on 78,000 articles published in refereed journals in 2009. For journal articles published in 2009, 50% of the citations contained in those articles were to papers published in 1998 or earlier. Citations tend to be focused and targeted to specific required results rather than being used as a broad survey of the field. It is becoming increasingly common for papers on the oft-used, but unrefereed, preprint archive, arXiv.org, to be accepted as citations in published work. Summary AMS is keen to work with federal funding agencies to help implement policies that will offer the mathematical community a rich range of publishing resources, digital innovation, distribution and archiving models that will contribute to reduced government costs and improved efficiencies. AMS supports a distributed model of access that will leverage AMS expertise and commitment to the academic community, providing for enhanced public access to content, while supporting the ability of AMS to serve its membership.

Kenneth Foote kfoote@whoi.edu Woods Hole Oceanographic Institution

Open Access via the Library of Congress “Open Access Division” There are reasons to advocate and reasons to oppose Open Access for publication of work supported by the U.S. Government. I appreciate the various arguments as an affected author who gratefully receives funding from the U.S. Government on occasion and who publishes in the peer-reviewed literature. I appreciate further the import of Open Access as an Associate Editor of The Journal of the Acoustical Society of America, appointed 2003, and as the Chair of the Books+ Committee of the Acoustical Society of America, appointed 2011. For your possible interest, the Acoustical Society of America is a professional organization dedicated to the promotion and dissemination of knowledge of acoustics. It was founded in 1929 and remains a not-for-profit organization. The current membership is over 7000. The mentioned journal is the premier journal in acoustics, publishing more than 5000 pages of scientific text annually. This is supported by voluntary payment of a page charge of \$80. This is an exceedingly low rate, thanks to the vast volunteer efforts of members of the Society and acousticians in the larger community, who donate their time in the reviewing and non-technical processing of manuscripts. Notwithstanding this unpaid labor, there are unavoidable costs associated with the technical processing of manuscripts and production of journal papers. Given this background, I wish to propose the following model for Open Access. Publishers should be allowed to continue publication operations as currently practiced, but be required to submit manuscripts in their final pre-publication state to an electronic depository that guarantees unlimited and free public access. This electronic depository would be maintained by a new division of the Library of Congress (LC), namely the “Open Access Division,” with funding provided in the LC budget. The advantages of this proposed model are substantial. The full results of U.S. Government-funded work would become public property available for free. U.S. Government grants that result in publications would not have to be increased to pay for the anticipated large increase in publishing fees if Open Access were to be supported by the individual author. In addition, the publishing enterprise would be neither compromised nor jeopardized. The importance of continuity in this endeavor cannot be over-estimated. It is precious and precarious, requiring the highest attention to detail and principle alike so that new knowledge is vetted through the rigors of peer review. This is an implicit pre-condition for public consumption and all that follows from that. It is a matter of the deepest trust to be safeguarded by Congress.

Patrick Kelly pkelly@wiley.com John Wiley & Sons

STATEMENT OF JOHN WILEY & SONS PUBLIC COMMENT MEETING “PUBLIC ACCESS TO FEDERALLY-SUPPORTED RESEARCH AND DEVELOPMENT DATA AND PUBLICATIONS” MAY 14-17, 2013 John Wiley & Sons appreciates the opportunity to provide views in connection with the federal government’s consideration of new policies for increasing public access to the published results of government research. With over two centuries of publishing experience, and now publishing over 1,500 scholarly journal titles, Wiley welcomes the current effort to harness technology in the interest of expanding access to the remarkable material that results from taxpayer-funded research. Our company is proud of its role in producing the highest-quality content, assuring scientific integrity through the peer-review process, and utilizing technology and new business models to enhance the accessibility of scholarly material. We are confident that, though effective collaboration and partnership between federal research funders and journal publishers, the objectives set out in the Office of Science and Technology Policy’s (OSTP) February 22, 2013 memorandum can be achieved in a manner that sustains the critical contributions of scientific publishing. Together with other publishers from both commercial and non-profit organizations, Wiley has already been engaging in productive, mutually-beneficial partnerships with federal research funders. Working with the Department of Energy, the National Science Foundation, and others, we have developed specific tools to increase public knowledge of how federal funds have supported particular research articles, to facilitate linkages between agency and publisher websites, and to enhance searchability of articles reporting on publicly-funded research. These partnership efforts, combined with an expansion of voluntary publisher initiatives to provide free or low-cost public access to journal content at or shortly after publication, represent serious steps that can serve as a foundation for the development of new policies aimed at expanding public access to published articles. Our recent experience in partnering with federal research funders has contributed, in particular, to a clearer understanding of the ability of Internet-based technology to enable effective, distributed “linking” of information between federal research funders and the private companies and institutions that publish the articles resulting from that research. Wiley sees considerable promise in an expansion and adaptation of existing “linking” initiatives in a manner that will enable individuals to understand clearly where federal research has led to published articles, and subsequently to “link” their way directly to publishers’ websites, where those articles would be freely available following an established period of time. This sort of “distributed” access model can accomplish the objectives established by OSTP at minimal cost to the government, since publishers themselves will bear the cost of maintaining and archiving relevant articles. A particularly welcome element of OSTP’s February 22 memorandum is its recognition of the need for flexibility in the development of public access policies. Indeed, the diversity of technical dynamics and substantive requirements across different fields of scholarly study result in equally different models of

economic sustainability surrounding the published results of that study. As agencies develop new public access policies, Wiley urges careful consideration of allowing for variation and flexibility in access models applied to different fields of science and publications. This will be particularly important with respect to the establishment of tailored “embargo periods” beyond which articles would be made fully and freely accessible. Scholarly publishing is not a “one size fits all” field, and policies aimed at expanding public access should reflect this diversity by allowing for variation in terms for access based on the particular needs of each journal community. In light of the recent expansion of scholarly publishing based on a so-called “gold open access” model, where publication costs are covered through grant funds rather than through traditional subscriptions, Wiley also urges that this possibility be recognized and maintained as a viable option in any new access models developed by federal funding agencies. In conclusion, Wiley reiterates its commitment to working in partnership with its colleagues in federal funding agencies to achieve policy results that will expand access, sustain the viability and quality of the scholarly publishing endeavor, and represent the judicious use of taxpayer resources.

Katherine McCarter **ksm@esa.org** **Ecological Society of America**

STATEMENT OF THE ECOLOGICAL SOCIETY OF AMERICA The Ecological Society of America (ESA) supports the White House Office of Science and Technology Policy's efforts to expand public access to federally funded research in a manner that balances both the need for access to scientific information and the role of professional societies in serving their membership and society at large. Like the majority of professional scientific societies, ESA is dependent on the revenue from its scholarly publications. Thus we hope that the move toward open access will be implemented with the flexibility needed to account for the varied characteristics of different scientific disciplines and professional society publishers, in order to accommodate the needs of the scientific community, publishers, and the public at large. For nearly 100 years, ESA has published some of the top journals in the fields of ecology and environmental sciences. Our journals have been and continue to be a core function of the Society and are integral to its operations and existence as the professional home for 10,000 ecologists. The Society recognizes the value of open access (OA) publishing. ESA is considering an initiative to have the papers published in ESA journals freely accessible to the widest possible audience following a reasonable but essential embargo period. Because fully OA journals do not charge for subscriptions, applying such a model to the ESA journals would require major changes in the financial basis and the operations of both the ESA journals and the Society's activities more broadly. For most of our history, library subscriptions have paid for copyediting, typesetting, archiving, distribution and other publication services, allowing us to keep charges to authors at a relatively low level which makes our journals an attractive outlet to authors submitting manuscripts describing cutting-edge research. Subscriptions fees have also partially defrayed the costs of outreach, education and scientific meetings (key functions of all scientific societies), providing stable core funding to complement other sources of revenue such as membership dues. ESA's publishing philosophy is to sponsor communication among scholars and to establish a record of scientific results—not to make large profits. ESA has been proactive in developing and implementing policies that are intended to increase access while maintaining the value of subscriptions for libraries. Authors are told that they can archive their papers pre and immediately post publication. Authors are encouraged to post their work (the final published pdf) in a publically accessible form on a personal or employer website or in an institutional repository, and may republish all or portions of their work elsewhere without further permission from ESA. Authors may submit papers for publication in ESA journals that have previously been posted to a preprint server such as arXiv. Indeed, ESA is encouraging the development of a prepublication service similar to arXiv specifically for ecological research. Moreover, a featured article in each issue of ESA's subscription journals is open access, as are all special issues of all journals, supplements to Ecological Applications, the "Reports" section of Ecology and the "Communications" section of Ecological Applications at no cost to the authors. In addition, all journal abstracts, the ESA

Bulletin, Ecological Archives, and the publication series Issues in Ecology are freely available to the public online. ESA's newest peer-reviewed, rapid publication journal Ecosphere is open access (using the author-pay model). ESA also participates in OARE (Online Access to Research in the Environment) which distributes all ESA journals free of cost to developing countries. In addition, the Society has long been dedicated to making its publications readily available for classroom and other educational uses, and does not charge for electronic or paper copying of journal articles or other materials for educational purposes. ESA provides reporters and freelance science writers with free access to all of its journals, including its subscription publications. ESA is proud of its long tradition as an independent scientific publisher of high quality journals. Scientists from around the world publish their research in ecology and environmental science in ESA's five journals which provide high quality outlets for the ecological community at an affordable cost. Institutional prices charged by ESA are significantly less than those charged by commercially published journals in the discipline and related fields and are among the most highly rated in ecology and environmental science. ESA journals make up the single biggest portion of our revenue—in 2011, journal subscriptions and manuscript charges together accounted for 53 percent of ESA's revenue, while journal production accounted for 43 percent of expenses. That differential, which goes back into the organization, enables us to provide additional services to our membership and the broader ecological science community. These include small conferences, the open access described above, workshops, educational initiatives, policy engagement and media outreach. ESA has some concerns about the possible consequences of open access mandates. One issue is that the Society could suffer potentially severe consequences from mandates that would force it to make significant changes to its business model within a limited time frame. If libraries decide that it is not worth subscribing to ESA journals that will be freely available within six or even 12 months, the future of ESA as currently operated would be very much in question. Large scale publishers with more diverse portfolios, particularly those that include the biomedical sciences and its lucrative advertising market, may be in a better position to absorb mandated changes to their business operations. ESA recognizes that we are collectively at a major turning point in how research results are shared globally. These are exciting times, filled with great opportunity but also with risks to scholarly integrity, authors and to non-profit publishers and professional societies. What may make sense for one field may not work so well for others. For example, ecology differs from the fields of genetics and medicine. Journals of the latter fields draw significant revenue from advertisements, historically a very limited source of income for ecology. Also, the "shelf life" of ecology research tends to be much longer than for medically-oriented sciences. The Society realizes that its publishing and business model will need to change and is currently taking steps to thoughtfully and carefully evaluate possible ways forward that enhance our role in this evolving stage of sharing research. We respectfully request that federal agencies charged with developing plans to implement the OSTP open

access memorandum craft plans that will allow publishers to move to open access in ways that ensure the viability and quality of their publishing programs and the ability of professional society publishers to continue to support their scientific communities.

Crispin Taylor ctaylor@aspb.org American Society of Plant Biologists

STATEMENT SUBMITTED ON BEHALF OF THE AMERICAN SOCIETY OF PLANT

BIOLOGISTS April 30, 2013 My name is Crispin Taylor, and I am Executive Director of the American Society of Plant Biologists (ASPB), a 4500-member professional society based in Rockville, MD on whose behalf I am submitting this statement. ASPB supports the February 22, 2013 OSTP memorandum under which the NRC's DBASSE, at the request of a group of cooperating federal agencies, has organized this opportunity for stakeholder consultation. ASPB shares the government's interest in expanding public access to scholarly publications, although we feel that any such efforts should be sustainable, flexible, and based on robust and internationally established standards. In addition, policies aimed at further increasing public access should adopt a collaborative and consultative approach and, to the extent feasible, they should encourage and embrace public/private cooperation. ASPB's two top-ranked journals, *Plant Physiology* and *The Plant Cell*, are integrally involved in developing, validating, communicating, disseminating and ultimately advancing fundamental knowledge about plant biology. This is the essence of the journals' purpose. To publish these two journals, ASPB expends millions of dollars annually on peer review, editorial management, production, printing, shipping, and hosting the online versions of the journals on a fully digital, highly reliable platform. If ASPB is to continue to support the advance of plant biology knowledge and innovation through these journals, then we will need to be able to continue to make these expenditures in a sustainable manner, one that is not compromised by government public access policies. ASPB has chosen to adopt a progressive approach toward further increasing public access to the information it publishes. For *Plant Physiology* and *The Plant Cell*, this includes a 12-month embargo policy for the journals, participation in the Research4Life consortium that provides immediate free access to scholars in the developing world, and provision of free access to high school and public libraries in the United States. Moreover, ASPB also publishes a third periodical, called *The Arabidopsis Book*, articles in which are freely available in their entirety upon publication. ASPB supports its publications program through investments of the income that we receive from the institutions that chose to subscribe to our journals. To retain the capacity to innovate, and therefore to ensure that our publications and the society as a whole continue to meet the needs of the plant biology community, we must identify and maintain sustainable revenue streams. Public access policies that mandate a one-size-fits-all embargo period, especially one as short as six-months, are likely to have profoundly negative impacts on those revenues, especially for smaller professional societies like ASPB. This is not only an assertion; we know from the usage data for *Plant Physiology* that more than half of the article downloads – and, thus, arguably, half of the value of the online journal to the subscriber – take place after the first six months. Moreover, librarians have told us in informal conversations that they would be inclined to cancel their subscriptions and wait for release of the content at six months, if that is what it came to. So, any

public access policies adopted by the government should preserve academic freedom and author choice, should be free of temporal mandates, and should be business-model neutral. Although ASPB's concerns regarding the adverse impact of mandated embargoes are serious, we expect that it may take a while for this scenario to play out in the form of failed journals or shuttered societies. We have two more pressing worries regarding mandated embargoes. First, as subscription revenues shrink, the capacity for smaller publishers like ASPB to innovate will be closed off. We will be unable to further improve the utility and impact of our journals, and we will not have time to launch and monetize new products and services that will allow us to diversify our revenue streams. Second, if those mandates come with an obligation to deposit articles in a centrally operated government repository – such as the NIH's PubMed Central – then, for many journals, downloads from those repositories will cut into usage via our own journal websites, further lowering the value of our journals to subscribers. Moreover, such repositories inevitably incur operational costs – expenses that detract from the capacity of agencies to disburse funds to actually carry out research. In today's world of distributed information on the Internet, they are anachronistic and duplicative. So much for policies and regulations that would be harmful. ASPB accepts that governments have a legitimate interest in scholarly communication, but we think that interest would be most effectively expressed by encouraging continued innovation. Among other things, helpful policies would encourage the continued development and adoption of industry-wide standards – building off the early implementation by almost the entire scholarly communication ecosystem of the Digital Object Identifier (DOI) for uniquely identifying journal articles and other pieces of online information. Emerging standards, such as the ORCID identifier for researchers and the FundRef resource that will connect journal articles directly to information about the grants that supported the research they report, should also be adopted widely. Such standards allow for ever more robust and useful interoperability of otherwise disparate information. To avoid the distribution of incomplete or imperfect versions of articles, policies and practices should also aim toward providing public access to the definitive version of an article, the so called Version of Record. It is this version, typically available on a publisher website, that is actively stewarded and preserved for posterity – and to which any corrections or amendments are immediately linked. Policies should also encourage the development of public-private projects and partnerships, such as the aforementioned FundRef and ORCID projects, that robustly leverage the strengths and capabilities of participants at minimal (if any) additional cost to the government.

Damon Dozier ddozier@aanet.org American Anthropological Association

The American Anthropological Association (AAA) would like to thank the National Research Council (NRC) Division on Behavioral and Social Sciences and Education (DBASSE) for organizing this planning meeting to receive public comment regarding the Office of Science and Technology's recent policy statement on "open access" publishing of federally-funded research studies. The AAA believes that the federal government has a right to require that federally-sponsored research be made available to the public and recognizes the value of disseminating information as widely as possible. In fact, our Statement of Purposes for the Association speaks to the importance of spreading anthropological knowledge to diverse audiences. In the social sciences and humanities, we are concerned about a wholesale overnight change in scholarly publishing, especially if it takes a one-size-fits-all approach. The potential for harm to the quality and integrity of scholarship is significant from predatory 'open access' publishing start-ups. We must also avoid rushing toward a solution that overlooks the inability of junior scholars to advance their careers because they cannot afford author fees if their research support is insufficient, that challenges academic freedom, that undermines the ability to pay for peer review, and that threatens important protections to research subjects. AAA applauds the OSTP's collaboration-based approach to increasing access by working with the federal research funding agencies, and by encouraging these agencies to embrace the challenges and public interests that are unique to each field. The AAA believes that when it comes to increasing access, it is highly appropriate to take into account the knowledge cycle, researchers who are not funded by the Federal Government, and the need to protect sensitive cultural data. Our members look forward to providing meaningful input over the next six months to the agencies' plans to contribute to innovative breakthroughs through access to scientific data and research findings. Founded in 1902, the AAA is the primary professional society of anthropologists in the United States. With more than 12,000 members, we represent a diverse array of professionals who examine humankind in all its aspects through archaeological, biological, ethnological and linguistic research. As the largest journal publisher in our discipline, we are committed to the public availability and dissemination of knowledge – each year we subsidize the 22 journals in our publishing portfolio from other revenue sources; and we've invested over \$1 million in establishing an online archive expressly to enhance and increase the availability of our publications. Our publications are freely available in low-resource settings through the HINARI and AGORA programs, and also to tribal college libraries. We testify today to urge this group to consider the distinctive situation of society and association journals published in the social sciences and humanities (SSH). While there has been considerable attention focused on the business and financial aspects of peer-reviewed science-technology-mathematics (STM) journals, hardly any discussion has focused on how SSH journal publishing differs substantially from STM. First, consider the knowledge cycle. After twelve months, much of the content in many STM

fields is old news. An embargo period of as short as 12 months often has little effect on the financial models upon which publishing in STM fields is based. In anthropology, however, where over 90 percent of downloads occur after 12 months from the date of publication and the cited half-life of our quarterly journals is over 10 years, a 12-month embargo period does little to help protect our subscriptions. Research on the behavior of acquisitions librarians demonstrates clearly that the pattern of user demand for journal content is such that if librarians have only to wait 12 months to access that content free, such journal subscriptions will be readily dropped. Researcher Simon Inger found that “Only when the embargo is extended to 24 months in this model, does the final published article obtain a greater than 50% share of preference.” This was a study of 424 librarians; only 10% of these participants reported a social science focus and 4% reported a humanities focus, so social science and humanities disciplines are under-reported in this study. Second is the matter of research sponsorship. Unlike researchers in the STM disciplines, social scientists who receive federal research support generally are awarded small grants that do not adequately cover publishing expenses. Many grants, such as those awarded by the National Science Foundation’s Anthropology programs do not allow funds to be used for authors’ publishing subvention fees (so-called ‘gold open-access’). (This is also true of research support from private foundations, such as the Wenner-Gren Foundation, the Leakey Foundation, and the National Geographic Explorers Fund). Unlike many in the STM fields, if AAA’s publishing program were to lose revenues from library subscriptions, the authors who publish with us would have very little ability to “pay to publish.” The sustainability of our publishing program is clearly under threat with exclusive reliance on an “author pays” model for financial support. The cost per article in anthropology is much higher than in STM fields. In a Mellon Foundation report that examined the financing of scholarly journal publishing among social science and humanities societies, researcher Mary Waltham found that publishing costs in social science journals average \$526 per page, more than double the average \$226 per page cost to publish in STM journals. Because the evidence base of ethnography, linguistic anthropology, and archaeology is often reported in text, not graphs and tables, as it comprises observations and transcripts of human behavior and artifacts, our journals require much longer articles than those published by our STM counterparts. Finally, in anthropology, other social sciences, and in the humanities, book-length publication is still meaningful. Journals play a critical role in the success of these works by reviewing books and productions. In 2010, AAA’s journals published 411 book reviews. If the AAA journal publishing program cannot be sustained, it may be that university presses and other scholarly publishers of book-length works could also be irreparably damaged. We thank you for the opportunity to submit these comments, and look forward to working with you in the future to protect the dissemination of scholarly research nationwide. Damon Dozier Director of Public Affairs American Anthropological Association 2200 Wilson Boulevard, Suite 600 Arlington, VA 22201 703.528.1902 ddozier@aaanet.org

Chris Biemesderfer chris.biemesderfer@aas.org American Astronomical Society

The American Astronomical Society (AAS) is the major association for professional astronomers in the United States, with over 7500 members. One of its primary functions is the publication of the key North American scientific journals dedicated to the dissemination of peer-reviewed research in astronomy and astrophysics, the *Astrophysical Journal* and the *Astronomical Journal*. As a society of research and higher education professionals, we have made a concerted effort to conduct our scholarly publishing enterprise with sensitivity to and balance among the need for prompt and inexpensive access to new results, the pressures on the budgets of technical libraries, and the challenges of obtaining grant and institutional funding to support author fees. We have struck this balance in several ways: 1. The journals' revenues are nearly evenly distributed between subscriptions and author charges. Receipts from author fees permit us to charge very low subscription costs to individual members for electronic content, and low institutional subscription rates, appropriate for a not-for-profit scholarly publisher. 2. Fees charged to authors are nominal. In return for payment of publication charges, authors are granted generous rights for the use of their published material to meet professional needs and institutional obligations. 3. In consideration of paid subscriptions, there is a limited embargo period (12 months) before full public access is granted. This approach has allowed the Society to maintain the quality of its editorial and peer review processes, critical for maintaining integrity in the dissemination of scientific results. We are unaware of any substantial dissatisfaction among professionals or the general public with the modes that are currently used for disseminating astronomical information. We acknowledge the potential benefits of increasing public access to scholarly publications and, as a publisher, we will cooperate with the policies enacted by the agencies that fund astronomy research. We strongly support the approach that all stakeholders be engaged in the formulation of such policies. Further, we endorse the recommendation of the Scholarly Publishing Roundtable that embargo periods be established between publication and public access that are discipline-specific. Our Society strives to maintain an adaptable business model, but an abrupt devaluation of subscriptions has consequences for researchers and for their funding. Maintaining an embargo period, however limited, is an acknowledgement of the value and importance of subscriptions for maintenance of quality editing and peer review. A mandate to convert all AAS journals to full open access with no subscription revenue could be successfully accommodated only through the cooperation of the agencies that support astronomy research in revising their current approach to funding publication of results. The quality controls that modern publishing procedures provide are fundamental to good scholarship. The AAS strongly recommends that the version of record – that is, the accepted manuscript after copyediting – is the version that should be made available. If the public, now and in the future, is

truly to benefit from these particular scholarly assets, they must be able to access articles that have been fully subjected to all the quality assurances that guarantee good scholarship. The version of record for AAS journals is the digital version, not the print nor the digital surrogate of the print. Modern scholarly articles are complex. A significant fraction of AAS journal articles contain digital-only (online-only) materials that our editors, reviewers, and authors deem to be essential to the communication of research results. A PDF depository would provide incomplete articles, and that would not serve the public in the long term, nor would it satisfy the aims of the administration's open government initiative. We urge the agencies to ensure that any repositories endorsed by the US government for the purpose of public access be capable of delivering complex digital research reports. The AAS prepared extensive comments in January 2012 for the OSTP. Cognizant agency personnel are encouraged to review those comments.

American Institute of Aeronautics and**Rodger Williams rodgerw@aiaa.org Astronautics**

he American Institute of Aeronautics and Astronautics (AIAA), a not-for-profit society publisher, is committed to enhancing access to breakthroughs in aerospace engineering research. AIAA's journals are dedicated to analyzing and interpreting fundamental and applied research and to making information available to the global aerospace research community. This is the legacy of our founders: the American Rocket Society (ARS) and the Institute of the Aeronautical Sciences (IAS). The ARS comprised writers and editors convinced that spaceflight was achievable who sought to expand the acceptance of this belief and conducted direct experimentation in rocket engineering. The IAS promoted the exchange of the latest research in the field of aeronautics thus building a profession around aviation. The establishment of libraries and rich repositories of technical content became a pursuit of both societies, passed along to AIAA with the merger of the two in the 1960s. This decades-long pursuit, through AIAA's investment of its own resources and the support of the aerospace community, has resulted in AIAA's extensive archives dating back to 1930. AIAA advances the state of the art of aerospace engineering and contributes to the success of the critical U.S. aerospace industry, which remains a significant contributor to the national economy. The sector reported a \$10 billion dollar growth in exports resulting in a \$63.5 billion positive trade balance in 2012. AIAA's publications directly serve the intellectual and research core of this industry and its workforce. The federal research budget also supports and contributes to this critical industry and has helped create this profession. AIAA and the federal government share a mission to expand access to publications that describe and interpret federally funded research; ensure the long-term stewardship of scholarly content; and support innovation, economic growth, and workforce development in aerospace. AIAA continually invests to expand accessibility, improve interoperability, and fuel innovation. Researchers have access to the most complete digital resource in the field of aerospace engineering with fast and robust delivery of scholarly information. AIAA ensures the integrity and reliability of the scholarly record through peer review, prepares content for worldwide dissemination, and preserves the scholarly record for the future. These activities incur costs and require ongoing investment, and access policies that do not take these costs into account would undermine these critical value-enhancing functions. AIAA anticipates that public access will be sustainable in the long-term, maximizing benefits to researchers and the public at large. It will enhance the informal but long-standing public-private collaboration in the field of aerospace engineering, protect fundamental intellectual property rights, and ensure that proprietary value-added contributions sustain private investment in innovation. Long-term stewardship of content incurs costs that are already borne by publishers. In an era of dwindling federal resources, centralized federally designed, created, and maintained repositories are duplicative and an unnecessary recurring expense that may not be viable for the long-term. Publisher

stewardship unifies the content from various federal funders (mitigating the funding inconsistencies among departments) and protects access from the future risk of shifting budget priorities; all the while they place the research in the broadest context possible (i.e., alongside privately funded content). The publishing industry already promotes interoperability, development of analytic tools, and other scientific and commercial opportunities. Public-private collaboration would advance standards for metadata, making research more discoverable; clearly establish the published article as a version of record, enhancing the confidence with which scientists and lay-users reference the content; and disambiguate the identity of the authors and researchers involved. Efforts are well underway through partnerships between publishers and support vendors to develop toolsets like CrossRef, CrossMark, and ORCID. The involvement of federal research agencies in these and newer initiatives like FundRef would bring new perspectives and speed widespread adoption. As long as a market-driven component to publishing and information services exists, even for not-for-profit society publishers like AIAA, publishers will continue providing innovative products and services. Envision a report repository with links to all relevant published content such as the peer-reviewed article (clearly identified as a version of record) and the source references through digital object identifiers (DOIs). A rich environment will emerge ready for further exploitation by researchers. The further application of independent indexes, semantic tagging, links to non-peer-reviewed content, and the retroactive application of DOIs to older resources within publishers' archives would only enhance the research value. Sustainability of peer-reviewed publications and public access to federal research results are linked. To minimize the financial burden public access will present, federal agencies should make funds available to authors to cover the real costs of publication not borne by the research grant itself, ensuring that an author fee is reserved until the article is accepted and published. In discussions with aerospace engineers receiving federal research monies, it appears that federal research monies are exhausted before the research is mature enough for publication, or access to the funds expires before the article has been completed, reviewed, revised, and published. Thus, it is not surprising that AIAA's success in collecting voluntary author fees has declined 48% between 2000 and 2011. One reasonable approach to consider would have the researcher forfeit those publication funds if the manuscript is not accepted for publication. Alternatively these author funds could be held pending an acceptance letter from a publisher appropriate to the researcher's field of study. In aerospace engineering, U.S. authorship for AIAA's journals stands at 37% whereas European and Asian authors contribute 53% of the papers. The leading economies of Asia and the E.U. continue to make competition with the U.S. in aerospace a top priority. Some of these nations are reported to provide monetary incentives to authors accepted by leading peer-reviewed journals. It is not unreasonable to expect foreign sponsors to provide ample monetary support for author fees. The natural competition for limited publication slots will intensify in the face of rising peer-review costs if cost recovery options are

constrained. Along with sustainability, flexibility must be a cornerstone of public access policy. Research in different disciplines and subdisciplines has different cycles. According to Journal Citation Report, peer-reviewed articles in aerospace engineering have an aggregate cited half-life greater than 10 years. This strongly suggests that broad categories for the bases of embargo periods could be detrimental. A formula tied to the citation half-life is an equitable approach to be considered, but any embargo period will shorten the period in which publishers can recoup their investments, and over time will limit publishers' ability to add value and innovate.

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The American Physical Society (www.aps.org) is a non-profit membership organization working to advance and diffuse the knowledge of physics through its outstanding research journals, scientific meetings, and education, outreach, advocacy and international activities. APS represents over 49,000 members, including physicists in academia, national laboratories and industry in the United States and throughout the world. Society offices are located in College Park, MD (Headquarters), Ridge, NY, and Washington, DC. APS publishes ten journals, which provide over 18,000 peer reviewed research papers each year. Three of these journals are pure Gold Open Access, one since 1998, and the others are all hybrid, with the option of open access under a CC-BY Creative Commons license after payment of an article processing charge. In November 2009 the APS Council (its governing body) adopted a formal policy statement on Open Access: "The APS supports the principles of Open Access to the maximum extent possible that allows the Society to maintain peer-reviewed high-quality journals, secure archiving, and the Society's long-term financial stability, to the benefit of the scientific enterprise." Since 1997 APS has maintained publication policies friendly to Green Open Access, including allowing author's versions of a paper, including revisions from the peer review process, to appear on any free site, at any time, without embargoes, and allowing authors to post the APS prepared Version of Record on their own websites and on an institutional repository. Hence, APS supports the public access goals of the February 22 OSTP Memorandum, and welcomes its encouragement for public-private collaboration to maximize interoperability and avoid unnecessary (government) duplication of existing mechanisms. These latter goals are of particular concern for APS, as a scientific society, because any funding agency resources unnecessarily spent on implementation of public access will reduce the funds available for actually carrying out research. At the same time, we want re-emphasize, in strong terms, the crucial contributions of scientific publishers to the research enterprise, and the need for sustainable funding to support these contributions. Peer-reviewed journals are, if anything, even more essential in our internet-enabled environment. In an era in which a vast amount of un-refereed scientific literature is freely available on the web, refereed journals take on special importance and their publishers perform critical services. The peer review system identifies subsets of the open literature that relevant scientific communities have singled out as sound, significant, and worthy of dissemination and preservation, and improves the papers selected for publication. The importance of peer review is enhanced by the growth of interdisciplinary research and extends not only to the scientific community, but even more so to the general public, whose members have no other basis for discriminating reliable science from bogus claims. This is most apparent for the medical literature, but other examples, such as climate change, come readily to mind. In addition, publishers provide copyediting and full-text electronic formatting (currently in XML), thereby facilitating electronic linking of references and sophisticated search capabilities; secure archiving; and

well-designed and stable online platforms providing seamless access to a significant fraction of the literature. APS provides online access to everything ever published in the Physical Review family of journals, back to 1893, a total of approximately 500,000 papers. Peer-reviewed scientific journals represent a remarkable cooperative activity of the international scientific community. In 2012, APS received and evaluated approximately 35,000 submissions, with the help of 25,000 volunteer peer reviewers. Roughly 22% of the submissions, 27% of the published papers, and 33% of the referees came from the United States. Publishing in physics is an international enterprise, and we must strive not to see it only through our own national lenses. In spite of the major contributions from volunteer referees, peer-reviewed journals on the scale of ours are still expensive to produce. For example, the APS editorial office has a staff of 150, including 50 full-time Ph.D. editors, maintains three geographically distributed, fully-mirrored data centers, and provides approximately 16,000,000 full-text downloads of published papers every year. Excellent editors and editorial support staff, IT facilities and staff, and the physical infrastructure to support them, generate irreducible expenses, which come to nearly \$30M per year. These costs are now covered (primarily) by subscriptions from libraries in universities, colleges, and research organizations. We would be equally happy to have these costs covered by article processing charges (“author pays” Gold Open Access) if that could be accomplished without serious damage to research funding, but that does not appear to be a possibility in the United States at present. Hence we urge the federal funding agencies to take great caution to implement public access in ways that minimize threats to the existing subscription-based business models of APS and other publishers. Among other things, this will require careful attention to appropriate embargo periods; for example, three-quarters of downloads from the APS journals platform occur more than one year after publication. APS strongly encourages federal funding agencies not to duplicate the services and systems already provided by publishers, by building and maintaining their own repositories and platforms for public versions of published papers. Instead, we hope to collaborate with other publishers and with funding agencies to identify government supported papers using the newly developed FundRef tool (itself a publisher-agency collaboration), to host public versions of these papers on our existing platforms, to continue to provide secure archiving through organizations such as Portico and CLOCKSS, and to facilitate convenient public (and agency) search and discovery of these papers. We believe this can all be done at minimal cost to the government, saving scarce funds for research support.

Mary Langman Langman@mlahq.org Medical Library Association (MLA)

The following is submitted on behalf of the Medical Library Association and Association of Academic Health Sciences Libraries. We welcome the opportunity to provide input on plans to accomplish the goal set forth in the OSTP's February 22 memo to increase access to the results of federally funded scientific research. We offer four recommendations: 1. Agencies whose funding primarily supports health-related research should replicate the successful National Institutes of Health (NIH) model already in place by mandating deposit of publications arising from their funded research into PubMed Central (PMC) www.ncbi.nlm.nih.gov/pmc/. These agencies include, but are not limited to, the Department of Health and Human Services, the Agency for Healthcare Research and Quality, the Centers for Disease Control and Prevention, the Health Resources and Services Administration, the Indian Health Service, the Occupational Safety and Health Administration, the Substance Abuse and Mental Health Services Administration, and the Food and Drug Administration. 2. Other agencies that provide a smaller percentage of their funding for research on health-related topics should consider utilizing PMC as a centralized digital repository for health-related publications arising from their funded research. This will ensure that all federally funded health-related publications are accessible through a single public repository. These agencies include, but are not limited to, the Department of Defense, the Department of Veteran Affairs, the Environmental Protection Agency, the National Science Foundation and the Department of Agriculture. 3. Deposit of articles arising from taxpayer-funded research into a designated public repository should be mandatory, not voluntary. 4. Other federal agencies impacted by the OSTP directive are encouraged to examine the PMC model as a solution for developing a centralized repository. MLA and AAHSL members have long supported the position that public access to timely, relevant and accurate health information is vital to the nation's health and will further research, innovation, and development of new knowledge. For the public to obtain the most benefit from federally funded health research, a centralized repository that includes peer-reviewed articles funded by all Federal agencies, will offer the most logical and efficient access to scholarly publications. Currently, NIH is the only agency that mandates that the full text of publications resulting from their funded research must be deposited into PMC. Full-text articles resulting from research funded by other agencies may be accessible on a variety of other platforms, many of which are proprietary and do not allow free public access. Each platform requires a user to learn a new method to search and retrieve publications. A centralized approach, such as that utilized by PMC, allows users to search and locate articles in one centralized location. An added benefit is that most health-related information is already indexed in Medline, providing access to journal citations, and offering an easy gateway into the full-text articles in PMC. For entrepreneurs looking for ways to mine the literature to develop scientific and technological innovations, one centralized database will allow for easy, efficient and reliable retrieval. Based on our experience with

the NIH Policy, we strongly recommend making the deposit policy mandatory for researchers. When the NIH Public Access Policy was voluntary, the compliance rate was less than 25%, with fewer than 5% of authors depositing articles. Currently, compliance under the NIH Public Access Mandate is about 77%, and it continues to move up. Recently, the NIH established sanctions for non-compliance. Beginning July 1, 2013, funding for non-competing continuation grants will be delayed if researchers have not deposited publications associated with progress reports in PMC. We anticipate that this will increase the compliance rate to nearly 100%. MLA's and AAHSL's recommendation that other federal agencies adopt the PMC model in developing one or more centralized repositories is based on our firsthand observation of the significant benefit of easy public access to publications arising from NIH funded research. Today, PMC contains more than 2.7 million articles. The average weekday activity for March 2013 shows that 830,000 users have accessed 1.65 million articles. Usage is not confined to a small subset of articles; rather, a large percentage of the content is accessed annually, leading to broader dissemination of the results of federally funded research and more rapid adoption of evidence-based clinical practice. In a July 2010 report, the Joint Information Systems (JISC) examined and reported to the Scholarly Publishing and Academic Resources Coalition (SPARC) on the economic impacts of an open access mandate in its publication, *Economic and Social Returns on Investment in Open Archiving Publicly Funded Research Outputs* (<http://www.cfses.com/FRPAA/>). This study concluded that the net present value gains of expanding an NIH-style policy to all other U.S. science agencies would be around \$1.5 billion, with a conservative estimate of a five times cost ROI benefit to the United States. The study was based on a six-month embargo period. If the embargo period were eliminated, the return would increase to nearly \$1.75 billion. While the parameters for the models were based on a Federal Research Public Access Act (FRPAA) model and a six-month embargo, it is clear there would still be a significant cost-benefit of a variation to that model or a longer embargo period. There are other reasons to favor long-term stewardship of federally funded research by the federal government. It is recognized that publishers add value to scholarly publications through the editorial and production process. Over the last several decades, however, the commercial publishing industry has been extremely volatile as a result of numerous takeovers, mergers and acquisitions. Many publishing companies have been acquired by private investment companies whose main focus is to provide positive returns for investors. In this climate, publishers may abandon long-term stewardship of a scholarly publication if it were no longer profitable. Beyond the profit margin, there may be little incentive for publishers to maintain long-term stewardship of their journals. In the past, research libraries shared responsibility for long-term stewardship of scholarly information through their print collections. Today, libraries rarely purchase print subscriptions; instead, they license scholarly journals in electronic format and generally do not own the content to which they subscribe. In this setting, where ownership of printed volumes is no longer the norm, it is crucial to

have one or more central repositories for scholarly publications maintained by the federal government acting as a steward of our nation's research output. The federal government is the most appropriate entity to provide permanent stewardship of research which it has funded through tax payer dollars. It is in a unique position to ensure that publicly-funded research articles are permanently preserved and made accessible into the future. MLA and AAHSL applaud the Office of Science and Technology Policy for its work to increase access to the results of federally funded scientific research. We stand ready to support your efforts as this initiative moves forward.

IEEE -- Institute of Electrical and Electronics**Anthony Durniak a.durniak@ieee.org Engineers**

The IEEE welcomes the opportunity to provide to the National Research Council some specific recommendations on how to meet the recent directive from the U.S. Office of Science and Technology Policy (OSTP) that all U.S. government agencies develop a plan to provide public access to the journal articles that result from their research grants. (Memo from John P. Holdren, Feb. 22, 2013.). The fact that multiple agencies have asked the National Research Council to coordinate this collection of public comment highlights the importance of crafting a coordinated solution to the public access conundrum rather than disparate approaches. The IEEE is a strong supporter of sustainable efforts to expand access to scholarly publications in general, and in particular to expand free public access to articles resulting from government funded research. To be sustainable these efforts must protect and advance other important societal interests inherent in scholarly publishing including peer review, protecting the integrity of the research archive, and preserving the intellectual property rights of authors and publishers. In that context, the IEEE recommends that to be successful any public access plan include these important components:

- An approach that preserves academic freedom and is business model neutral. That means the policy should allow authors to choose the most appropriate venue to publish their work, whether that journal be funded through traditional reader subscriptions, author-pays open access, funder sponsorship, or some combination of these.
- The ability of the journal to financially support its important peer-review, editorial, and archival functions. To accomplish this, any embargo period must be long enough to sustain subscriptions and other funding streams which may vary by discipline. In the case of engineering, computing, and technology subjects the IEEE recommends that the embargo period be 24 months. The behavior of users of the IEEE Xplore Digital Library shows that 85% of the articles retrieved are older than 12 months. Given this long shelf life of technology information, an embargo of shorter than 24 months would provide an incentive to many users to forgo immediate access and cancel subscriptions or avoid paying for author-paid open access
- Public-private partnerships that leverage the infrastructure and experience of publishers and minimize the expense to taxpayers. Toward this end, IEEE is a supporter of the FundRef project that helps federal agencies identify journal articles related to the research they fund – all at no cost to the government. The IEEE stands ready to work with its colleagues in the scholarly publishing community to create a similar partnership that could provide agencies with low-cost tools and processes to address the OSTP requirements. With more than 425,000 members in over 160 countries world-wide, IEEE is the world's largest professional association dedicated to advancing technological innovation and excellence for the benefit of humanity. In addition to our conferences, standards and other activities, IEEE publishes more than 150 transactions, journals and

magazines, which represent more than 30% of the world's annually published literature in electrotechnology, computing and related fields.

Université du Québec à Montréal & University**Stevan Harnad amscforum@gmail.com of Southampton**

The new US OATP Presidential Directive requiring the largest US funding agencies to mandate OA within 12 months of publication is a wonderful step forward for the entire planet. Here are some crucial implementational details that will maximize the mandates' effectiveness. (1) Specify that the deposit of each article must be in an institutional repository (so the universities and research institutions can monitor and ensure compliance as well as adopt mandates of their own). (2) Specify that the deposit must be done immediately upon publication. (3) Urge (but do not require) authors to make the immediate-deposit immediately-OA. (4) Urge (but do not require) authors to reserve the right to make their papers immediately-OA (and other re-use rights) in their contracts with their publishers (as in the Harvard-style mandates). (5) Shorten, or, better, do not mention allowable OA embargoes at all (so as not to encourage publishers to adopt them). (6) Implement the repositories' automated "email eprint request" Button (for embargoed [non-OA] deposits). (7) Designate repository deposit as the sole mechanism for submitting publications for performance review, research assessment, grant application, or grant renewal. (8) Implement rich usage and citation metrics in the institutional repositories as incentive for compliance. If this is all done universally, universal OA will soon be upon us -- and a global transition to affordable, sustainable Fair-Gold OA (instead of today's premature, double-paid Fool's-Gold), plus as much CC-BY as users need and authors wish to provide -- will not be far behind.

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The statements that follow express my personal opinions and not necessarily those of the Acoustical Society of America, for which I am the current Editor-in-Chief. **PUBLICATION OF GOVERNMENT REPORTS IS RECOMMENDED** There are many professional societies that publish scientific journals. These are not-for-profit organizations and have membership made up of individuals that have common interests that are of societal value. Usually, the articles in these journals are peer-reviewed, and this peer-reviewed feature is deemed important by most of the scientific community. However, I see no reason why the overall substance of the same material cannot be published as government reports and be made available at reasonable cost to the general public. Alternately, the reports could be posted on an internet site sanctioned or supported by the Government, and individuals could download the reports for free or for a nominal charge. The governmental reports would not necessarily have the same peer-review process as what is followed by the society journals, but they could also have the equivalent degree of scrutiny and meet the same standards of excellence. However, the preparation and handling of the version that appears in a scientific journal will require some additional degree of labor and expense that is not compensated by the Government. **NO PROBLEM WITH DUPLICATE PUBLICATION** Some persons may claim that governmental publication would be a duplicate publication, but I personally do not object to any article published in our journals being published in another form by the Government, providing the governmental form does not benefit from the extra work and expense that has been undertaken by the professional society in the publication of the corresponding article in a journal. **COMPENSATION PROBLEMS OF PROFESSIONAL SOCIETIES** Should the Government decide that it does not want to publish governmental reports on work that it has supported and should it desire that the sole version that is available be that published by a scientific society, then some system of compensation has to be worked out. **USE OF INSTITUTIONAL LIBRARIES** For most journals, the primary means of distributing the published articles, has been by means of institutional libraries. Such libraries subscribe to a range of journals and the users of these libraries have access to these journals. In the current era, the most typical access is via downloading of individual articles via an internet site to which the library has subscribed. The economics of this seem intricate, and the resources of the individual libraries are limited, so that they cannot subscribe to all the journals that might have published work sponsored by the Government. **THE OPEN ACCESS SUGGESTION** One current suggestion is that the authors of the articles take steps to make sure that their articles, if published in a scholarly journal, be posted online in such a manner that the downloading is free, and so that one need not go through a subscribing library to make sure that the article is freely accessible. Since there are costs in the process of publishing, the only way for this to be achieved is for the authors to pay, or for some sponsor of the authors to pay. **DISADVANTAGES OF OPEN ACCESS** There are several disagreeable

features to this. 1) It would tend to separate governmental sponsored research from research not supported by the Government. Most of the work published in our journals is not government supported and the authors do not have the resources to pay themselves for the cost of publication. The traditional assumption has been that there are enough potential readers out there that the cost per individual reader of accessing an individual article would be small. 2) The mechanism of insuring quality in the articles in schollary journals would be diminished. The nature of the economics would tend to put those authors who can pay in a preferential position. 3) The long-term archiving of scholarly publications would suffer. The main concern of the authors would be to get their publications online for the time-being, but there would be little guarantee that the articles would be around for decades to come. 4) It would tend to weaken the traditional professional societies that have published scholarly journals throughout the past centuries. Such professional societies have been a major force in the encouragement of scholarship and quality in research.

LIST OF ALTERNATE SUGGESTIONS Here are some alternate suggestions that the OSTP might consider:

BROADEN LIBRARIES' USER GROUPS 1) The nation's institutional libraries should be encouraged to broaden its group of users to include persons not explicitly associated with the institution. For example, a person living in a given State could, for some nominal fee, have regular access to the library of the leading university in the State.

GIVE LIBRARIES SUBSCRIPTION GUIDELINES 2) Guidelines should be developed to help libraries decide on which journals they should describe to. There should be some fair and equitable system that alerts libraries as to whether the costs of subscribing to given journals should be reasonable and cost-effective.

HELP AUTHORS DECIDE WHERE TO SUBMIT 3) The Government should develop some guidelines for authors with governmental support so that, if they do publish in scholarly journals, there may be a higher likelihood that their articles, once published, will have a high degree of accessibility.

LEVEL THE PLAYING FIELD FOR INDIVIDUAL JOURNALS 4) The pricing of subscriptions to libraries should be examined, with the goal of insuring that there be no unfair business practices. For example, if a scholarly organization offers only a single journal at a reasonable subscription price, then the libraries should be able to decide on the merits of subscribing to that journal without being influenced by the bulk-ordering pricing policies of larger organizations.

**U.S. Department of Energy, Office of
Energy Efficiency and Renewable
Energy, Geothermal Technologies**

Arlene Anderson arlene.anderson@ee.doe.gov Office

The U.S. Department of Energy's Geothermal Technologies Office (DOE GTO) has developed a plan, secured funds, and is supporting the development of the National Geothermal Data System (NGDS). The NGDS is designed as a system of distributed data repository nodes, all in communication with one another. Once the DOE Geothermal Data Repository (DOE-GDR) has a catalog that can be harvested, better / additional Metadata, and support for metadata only records so that data has a catalog entry for data housed elsewhere to point to it will become DOE's flagship node on the NGDS. The DOE-GDR node on the National Geothermal Data System meets the spirit of the policies contained in OSTP's "Public Access to Federally Supported R&D Publications", except it's important to note that DOE's Geothermal Data Repository is designed to acquire structured data sets rather than unstructured publications so that the information supporting our research conclusions may be re-used and leveraged by others thus maximizing the return on public investment. We are coordinating with DOE's Office of Scientific and Technical Information to ensure that we are not storing final documents that may be housed in OSTI and plan to include metadata in our data repository's catalog linking our data to any final reports that may be housed in OSTI. In its May 2011 Strategic Plan, the U.S. Department of Energy (DOE) highlighted the importance of the success of their projects to include data reusability: DOE's success should be measured not when a project is completed or an experiment concluded, but when scientific and technical information is disseminated. Beyond broad availability of technical reports, e-prints and multimedia, and publication in peer-reviewed journals, open access to experimental data and analysis codes is increasingly important in policy-relevant research areas. The Department will establish guidelines for use with both grants and contracts to ensure appropriate access to, and retention of, scientific data and analysis methods. In more applied areas, knowledge of what did not work can be of equal value with positive results, for that can prevent the misapplication of significant private resources (DOE Strategic Plan, May 2011) In line with DOE's strategic objectives, the DOE Geothermal Technologies Office (DOE GTO) requires funds recipients to upload their data generated from funded R&D to the DOE-GDR as it is generated or no later than 90 days after it is generated if part of a larger data set. Thank you for the opportunity to share what we are doing.

JEAN PUBLIC JEANPUBLIC1@GMAIL.COM AMERICAN CITIZENS
MORE OBFUSCATION. A SIMPLE ONE LINE THAT SAYS ALL RESEARCH PAID FOR BY
TAXPAYER DOLLARS NEEDS TO BE RELEASED WITHIN 2 WEEKS TO THE PUBILC. IT
NEEDS TO BE RELEASED ON ONE SITE. I SEE NO REASON TO SPEND 2 DAYS ON THIS. THE
PUBLIC HAS A RIGHT TO WHAT IT PAYS FOR. AND IT HAS THAT RIGHT WITHIN 2 WEEKS.
WHY IS NSF WASTING MORE MONEY ON A TWO DAY MEEETING. FAILURE TO CONFORM
TO THIS RULE MEANS YOU WILL BE FIRED.

Rhodri Jackson rhodri.jackson@oup.com Oxford University Press

(submitted on behalf of Niko Pfund) Dear Sir/Madam, Oxford University Press (OUP) would like to express our strong advocacy for broadening public access to research. The dissemination of knowledge is vital to our mission and measures that increase access to the research literature in a sustainable and rational manner are greatly welcome. OUP is the largest university press in the world, and we publish over 300 research journals. We are fully compliant with the current NIH mandate requiring deposit of freely available manuscripts describing NIH-funded research in PMC (PubMed Central) within 12 months of publication. OUP goes beyond the mandate both by depositing on behalf of the author, and because the majority of our science journals make all papers published freely available after an embargo period. For many science journals this period is set at 12 months, though this varies somewhat from field to field. Each area of research has its own pattern of usage and we carefully select and monitor the appropriate embargo period for each individual journal. This level of public access has not proven detrimental to OUP's science journal publishing program. Our science research society publishing partners have generally been supportive of the NIH mandate and its 12-month embargo period. OUP has a great responsibility to those partners, as the work they do for the research community is dependent on revenue generated by research journals. Further, we must ensure that the revenues generated by research journals enable us to continue to provide high-quality service to the research community, including investment in innovation initiatives. These needs must be balanced with the progress that greater access to the scientific literature will bring. Embargo periods cannot be uniform across all subject areas and must reflect the differing natures of differing fields. As noted above, the 12-month embargo period for NIH-funded research has not proved detrimental to our science publishing, and so we believe a science public access policy with an embargo period no less than the NIH's 12-month policy is appropriate for the sciences. However, recent experience following new funding policies in the UK has demonstrated fierce opposition from scholars and learned societies in non-science disciplines to any attempts to treat their disciplines in the same way as STEM areas. Beyond the sciences (in humanities and in social sciences) there are very different publishing/behavioral norms, and we believe a 24 month embargo is more appropriate. Any divergence from the 12/24 month embargo periods for STEM/HSS respectively should require further study and rational criteria. OUP strongly favors policies that utilize freely available versions of published papers hosted by the journals in which they were published. This serves to eliminate potential confusion for readers by offering a definitive version of record, allowing notification of any additions, commentaries retractions, or corrections to the original paper. A fair, rational policy, reflecting the variety of areas which make up the research landscape will be a useful component of a broader toolkit of dissemination initiatives (such as CHORUS and FundRef), and is, in our opinion, in the best interests of research. In a world of effective and appropriate embargo periods, designed to allow broad access while

retaining a window to sell subscriptions and remain sustainable, we do not anticipate damage to OUP's financial interests, nor those of our partners. If there is any further information or help we can offer to move such a policy forward, please do not hesitate to contact us. Sincerely, Niko Pfund President and Academic Publisher Oxford University Press 198 Madison Ave. New York, NY 10016

Charles Schmid ceschmid@att.net Acoustical Society of America

April 30, 2013 Comments by the Acoustical Society of America re: The OSTP Plan for Increasing Access to the Results of Federally Funded Scientific Research The Acoustical Society of America has published The Journal of the Acoustical Society of America (JASA) since October 1929. Although the present number of pages published annually by the Acoustical Society of America (9,000) is small compared to many other organizations, the research contained in its pages has, and will continue to benefit society and the competitiveness of the United States. One example from among thousands in the field acoustics is that the acoustical design of the National Academy of Sciences auditorium where you are holding the two sets of public meetings in May was carried out by Cyril Harris who relied on peer-reviewed papers in JASA. This point above was imbedded in a recent response (January 12, 2013) to the Office of Science and Technology Policy OSTP by the American Association of Publishers (AAP), of which the Acoustical Society of America is a member: “The primary goal of the peer-reviewed publishing activity undertaken by our members is to broadly disseminate, provide access, and offer a high-quality and user-friendly environment in which to discover, analyze, and link to the latest breakthroughs and developments in scientific and other scholarly research. In particular, publishers of scientific journals have, for more than 100 years, played an integral role in building and documenting the unrivalled U.S. scientific research enterprise, and their continuing innovation and investment in high-quality publication of scientific research makes them uniquely positioned to help the Federal Government expand public access to publications that report on the results of federally-funded scientific research; ensure the long-term stewardship of such publications; and, support the innovation and economic development that is derived from scientific discovery.” This response by AAP concludes with: “When considering its directive to coordinate federal agencies’ role in ensuring public access to the results of federally-funded research, OSTP should recognize the continued value of publisher activities, the copyright guarantees they have under U.S. and international law, and the history of innovation enabled by the ability of content providers to seek and receive a return on their investments. Federal agencies must take care to avoid undermining the critical infrastructure that supports scholarly communication. Any government-imposed mandate will face particular difficulties in adjusting to the rapid pace of change in the publishing industry. Journal publishers specifically have spurred scientific and technological innovation for decades through numerous industry-led changes in media, as well as production and delivery mechanisms. Additionally, not-for-profit and commercial journal publishers invest hundreds of millions of dollars every year in the peer review, editing, disseminating and archiving of scholarly and scientific articles, as well as in creating unique journal brands and identities on which researchers and funders alike rely to make critically important personal and professional judgments. Public access policies should not eliminate or hinder the ability of publishers to recoup these costs.” The sense which has

developed over the past few months of discussion indicates that if care is taken, then the present model, which has proved so successful in the past, can be modified to continue with increased benefits for publishers, Federal agencies, and the public. With that in mind, the Acoustical Society of America, which is one of the 10 member societies of the American Institute of Physics, has closely followed the evolution of the OSTP proposal. The Acoustical Society of America, along with AIP and many scientific societies has recently offered the following set of goals in letters to Dr. Holdren, Director of OSTP on March 21st and April 3rd 2013: “We believe that working in a collaborative manner with OSTP and the responsible federal agencies, scientific publishers can help to develop a coordinated approach to public access that could potentially serve to be a shared approach for use by all agencies that would: -Be highly efficient and effective - Preserve existing agency funds - Eliminate potential duplication of effort - Ensure high level of compliance - Be the lowest cost option” The Acoustical Society of America looks forward to a productive meeting on May 14th and 15th which we hope will contribute to developing a fair and equitable approach to implement OSTP’s plan. Thank you in advance for arranging for the public to participate in this important and timely topic. Sincerely, David L. Bradley President Acoustical Society of America 2 Huntington Quadrangle, Suite 1NO1 Melville, NY 11747

Adi Kamdar adi@eff.org

Electronic Frontier Foundation

The Electronic Frontier Foundation (EFF) welcomes this opportunity to provide public comment to the National Research Council (NRC) Division on Behavioral and Social Sciences and Education (DBASSE) about the Office of Science and Technology Policy (OSTP) memorandum on public access to federally funded research. EFF (<https://eff.org>) is a nonprofit civil liberties organization that has worked for more than 20 years to protect consumer interests, innovation, and free expression in the digital world. EFF and its more than 20,000 dues-paying members have a strong interest in helping policy-makers craft practices that promote innovation and government transparency, while also striking an appropriate balance between intellectual property and the public interest. EFF supports the major objective of the OSTP memorandum: securing public access to federally funded research. The benefits of an open access arise when the largest number of people can access and act upon knowledge with the least number of restrictions. To facilitate that, agency policies should adhere as closely as possible to at least three principles: * Timely collection: Ideally, agencies should require researchers to submit final manuscripts to a repository immediately upon acceptance for publication in a peer-reviewed journal; * Timely dissemination: Agencies should make these manuscripts available immediately under an open license that allows for full access and reuse, with proper attribution given to initial authors; and * Standardization: Agencies should make manuscripts and associated data available in a standard format for easy, bulk download and interaction. ** Reuse and Interoperability ** Open access policy has always had twin goals: to provide public access to scholarly research, which is often hindered by price and logistical barriers; and also to allow for reuse of such material (i.e., for downstream research or innovation), which is often barred by legal barriers. The OSTP memorandum helps fulfill one of these goals by mandating public access to both research and data. However, the policy is mum on facilitating reuse. We urge agencies to adopt a licensing policy that incentivizes reuse. Such a policy would allow for downstream researchers to incorporate text mining or meta-analyses into their own works, or for startups to tap into vast repositories of knowledge in order to rapidly progress new innovations. It is important for no single entity to have exclusive rights over the work of research. We encourage agencies affected by the OSTP memorandum to include provisions that would not only make research works available, but also include language in funding provisions that includes a strong reuse policy. Simple accessibility should not be the only goal of a public access policy. Research works should be made intrinsically useful through not only open reuse policies, but also through following standards that allow interoperability across agencies. Federally funded research should not be confined to silos, but rather be made available so as to facilitate comparisons, cross-references, and, where appropriate, consolidation. That, in turn, should facilitate new insights and potentially fruitful research paths. Articles should, at the least, be available online in a standard format. Current technology exists to scan basic PDFs and populate databases with relevant

metadata; agencies should not have to reinvent the wheel. We encourage agreeing on certain technical standards and protocols across agencies, so the ability to act and innovate upon research material and data from a variety of funding sources is manageable -- and adaptable to future technologies. The NIH's PubMed Central (PMC) repository does a great job of collecting proper text, metadata, and supplementary data; we encourage agencies to use PMC as a model. Ideally, the full text, metadata, citations, and data would be available in a machine-readable format through a standardized API or protocol. ** Reader Privacy ** Just as readers may anonymously browse books in a library or bookstore, readers should be able to search, browse, and preview content without being forced to identify themselves. Thus, agencies should ensure that searching and previewing content does not require user registration or the affirmative disclosure of any personal information; commit that they will not connect any information it collects from an individual with the same individual's use of other services without her or his specific, informed consent; purge all logging or other information related to individual uses no later than 30 days after the use to ensure that this information cannot be used to connect particular articles viewed to particular computers or users; and allow users of anonymity providers, such as Tor, proxy servers, and anonymous VPN providers, to access the databases. In the interest of transparency and enforceability in the protection of reader privacy, at a minimum, agencies should also provide a robust, easy-to-read, and easy-to-access notice of their privacy provisions; ensure that any commitment it makes to protecting privacy is legally enforceable and that all data it collects about its users is stored such that it is subject to U.S. legal protections; and annually publish online, in a conspicuous and easily accessible area of its website, the type and number of requests it receives for information about its users, if any. ** Summary ** EFF supports the White House's efforts to bring public access to federally funded research. We hope that agencies adopt policies that not only bring availability to research as quickly as possible, but also allow for the broadest forms of reuse in order to boost the progress of science and foster the growth of downstream innovations. We urge agencies to adopt an open licensing scheme, and we also encourage government entities to operate in a way that respects user privacy. Respectfully submitted, /s/ Electronic Frontier Foundation Adi Kamdar Activist Corynne McSherry Intellectual Property Director May 7, 2013

Lisa Macklin lisa.macklin@emory.edu **Coalition of Open Access Policy Institutions (COAPI)**

The Coalition of Open Access Policy Institutions (COAPI) welcomes the February 22, 2013, White House Memorandum on “Increasing Access to the Results of Federally Funded Scientific Research.” COAPI includes 56 institutional members that represent universities that have or are developing open access policies(FN 1). As such, COAPI members are actively managing the implementation of these policies as well as open access repositories, fully accessible to the public. We also note there are over 200 open access repositories at universities in the United States(FN 2), and these repositories include some articles that are the result of federally funded research. We fully support the primary objective of the Memorandum, which is to ensure that the direct results of federally funded research be made available to and useful for the public, industry and the scientific community. We appreciate that the Memorandum calls for agency plans to be developed in consultation with stakeholders, which include universities and their libraries, who share common interests with the federal government in promoting broad public access and productive reuse of scientific publications. Universities have already made significant investments in infrastructure to support the development of institutional repositories. Unlike commercial interests, the enduring mission of universities is to generate new knowledge, and the mission of their libraries is to preserve and make accessible that knowledge for future generations. Our experience and expertise with digital preservation enables us to provide long-term stewardship and access to final peer-reviewed scholarly publications. In fact, some COAPI member universities have been in existence longer than the Federal Government. We believe universities and their libraries can serve to facilitate open access to the results of federally funded research to fulfill the objectives of the Memorandum, and that university libraries should be considered candidates for hosting suitable repositories. COAPI, as administrators of open access policies and repositories, and as stakeholders, respectfully offer the following recommendations: 1. Each researcher funded totally or in part by a federal agency should be required to submit the author’s final manuscript to a suitable repository upon acceptance for publication in a peer-reviewed journal in order to help ensure consistency in compliance. Immediate submission of author’s final manuscript is also an element of our institutional open access policies, and the largest percentage of scientific journals already allow author’s to use this version in institutional repositories, increasing compliance. 2. While we would prefer that articles arising from federally funded research be made available to the public immediately upon publication to fully leverage their value, we support the inclusion of an embargo period that is as short as practicable, but no longer than six months after publication in a peer-reviewed journal. 3. A suitable repository should be defined as one that meets all requirements for ensuring full public accessibility, productive reuse (including downloading, text mining, machine analysis, and computation), interoperability with other repositories housing federally funded scientific publications, metadata based on open standards, and long-term stewardship and preservation,

without charge to authors or the public for any of the above. 4. We strongly encourage agencies to consider leveraging the public investment in the NIH's repository, PubMed Central, as a potential repository solution. 5. We also believe that many existing university repositories can meet the above criteria. Allowing researchers to deposit articles in the repository of their institution, when an appropriate existing federal agency repository is not available, and providing a durable link in reports to the federal agency providing funding, will increase compliance. 6. In order to facilitate reuse of content and development of new services, agencies should require the use of persistent, unique identifiers for publications, data, authors, and other elements of research output. 7. Final peer-reviewed scholarly publications should be linked openly to their source data to allow for reuse and replication of results. 8. To track the effectiveness of agency policies, a variety of metrics and identifiers should be supported to provide information on access, use, and impact of final peer-reviewed scholarly publications. Various metrics have been implemented in university repositories. Agencies should also develop plans to assess the broader economic and societal impact of their policies. We believe that the development of consistent federal agency policies to ensure access to this information will benefit our nation, our economy, and our future, and that it will accelerate scientific discovery, improve education, and empower entrepreneurs to translate research into commercial ventures and jobs. To realize this potential, we strongly encourage agencies to be as consistent as possible in their policies and compliance requirements to minimize the cost and complexity of compliance with grant requirements for both principal investigators and research administration. Also, we strongly recommend that agencies draft their policies in accordance with the FASTR guidelines, where those guidelines are stronger than the OSTP guidelines. The FASTR guidelines are stronger on embargoes and reuse, and more beneficial to research and researchers. On embargoes, for example, the FASTR guidelines cover our recommendation in #2 above. On reuse, the FASTR guidelines require reuse rights and the OSTP guidelines merely encourage them. The FASTR guidelines specifically require rights for computational analysis by state-of-the-art technologies, while the OSTP guidelines merely encourage rights for search, retrieval, and analysis. If agencies write policies at the weak end of what OSTP allows, and if FASTR passes, then agencies will have to revise and strengthen their policies, regardless of the time and effort put into harmonizing with other agencies and consulting with stakeholders. Agencies could save time, reduce friction in the long run, and support research more effectively, by creating policies that comply with FASTR in the first place. Finally, we strongly believe that appropriate copyright and other intellectual property rights should be assigned to scientific publications in a non-exclusive manner to ensure discovery, sharing, and text mining. Public access policies can stimulate the development of new tools and services that generate opportunities for the public, industry, and the scientific community. Licensing arrangements must ensure that no one single entity or group secures exclusive rights, or the objectives of the Memorandum will not be met. We thank

you for the opportunity to give input as stakeholders. Respectfully submitted by Lisa A. Macklin, on behalf of COAPI Footnotes: (1) COAPI website at <http://www.sparc.arl.org/about/COAPI/> (2)

OpenDOAR at

<http://www.opendoar.org/countrylist.php?cContinent=North%20America#United%20States>

The Alexandria Archive Institute / Open

Sarah Kansa skansa@alexandriaarchive.org **Context**

Comments for the meeting on Public Access to Federally Supported R&D Publications Prepared by Eric Kansa and Sarah Witcher Kansa The Alexandria Archive Institute / Open Context May 8, 2013 We would like to contribute the following comments to the meeting on Public Access to Federally Supported R&D Publications, following the Office of Science and Technology Policy's memorandum on open access. Our comments are based on ten years of exploration of issues around open access to digital data and data reuse in and beyond the scholarly community. The AAI (<http://alexandriaarchive.org>) is a non-profit organization that works to promote the dissemination and curation of digital scholarly resources. To this end, we developed Open Context (<http://opencontext.org>), a free, open access system for the publication of editorially-vetted and peer-reviewed research data sets. Open Context demonstrates readily achievable ways to cultivate a distributed foundation for digital scholarship. Its methods for data portability enable researchers to work across silos and use a host of visualization, search and analysis tools. By leveraging archival and identity services offered by the University of California's California Digital Library (CDL), Open Context gains a strong institutional foundation for permanent citation and archiving.

1. The current publishing model fails most researchers. "Public access" pertains to individuals well beyond the lay public. In fact, most professional researchers in archaeology (and likely other disciplines) either lack access to peer-review literature, or regularly lose access due to temporary academic affiliations. According to the Society for American Archaeology, the majority of archaeology researchers are employed outside of academic institutions (cultural resource management and government). These researchers generally do not have access to journal repositories such as JSTOR. According to the American Association of University Professors (<http://www.aaup.org/issues/contingency/background-facts>), 68% of all current faculty appointments in higher education are not tenure-track, and more than 50% of all faculty have part-time appointments.
2. Unreliable access hurts instruction. An increasing reliance on adjunct and part-time instructors, who have limited access to current research, can negatively impact teaching. Lack of access cripples these instructors in their ability to prepare up-to-date courses. Lengthy public access embargo periods would similarly hurt instruction.
3. Lack of access creates legal risks. Many researchers get around their lack of access by sharing institutional logins and by informally circulating papers under dubious legal circumstances. At the same time, copyright, other intellectual property, and computer crime (terms of service) laws have expanded in scope and severity of penalties. This puts a large segment of the research community at legal risk. Essentially, current paywalls create a criminalized underclass of researchers who bend and break rules in order to participate in their professional community.
4. Sustainability at what cost? Professional societies with publishing arms worry about the financial sustainability of open access

mandates. However, they have not adequately addressed the costs and risks of the current system of subscription-based paywalls. In general, we lack an objective understanding of the negative externalities of paywalls and strong copyright control over published research. 5. Non-profit repositories need to play a role. The shift towards e-publication, together with consolidation of commercial publishing and increasingly strong copyright protections, has hampered the ability of libraries to preserve the scholarly record. Scholarly literature siloed behind paywalls lacks sufficient preservation safeguards. To securely preserve research, we need multiple repositories backing up each other and the scholarly record. 6. Using literature as data. There is increasing interest and demand for text mining and other forms of automated analysis. The research community and other members of the public need relaxed licensing and other legal permissions in order to explore innovative uses of text as data. Having publications distributed across multiple repositories may encourage a diversity of approaches to making use of text. 7. Humanities and social sciences lack sufficient support. Consolidation in commercial academic publishing has driven cost escalations far in excess of inflation while at the same time public support of higher education and research has stagnated and declined. The high costs of paywall publications in STEM fields leaves less money in library and other budgets to support publication in the humanities and social sciences, including archaeology. Currently, this lack of support leaves many archaeologists without legal access. While we sympathize with archaeological publishers about sustainability concerns around open access, we see that controlling the costs in STEM publishing is a necessary first step in securing the sustainability of humanities and social science publication. We also believe that open access will eventually reduce the overall costs of peer-review publication in archaeology by reducing transaction and legal costs associated with paywalls. Publication in archaeology (and in other humanities and social science fields) will need additional funding to help make this transition.

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Purdue University

R&D Publications Access Comments from Purdue University May 8, 2013 White House Memorandum “Increasing Access to the Results of Federally Funded Scientific Research” Purdue University is a doctorate granting, land-grant university established in 1869. Purdue’s West Lafayette, Indiana, campus has 39,256 students, 15,612 faculty and staff , and in FY 2012, Purdue faculty system-wide received nearly \$354 million in sponsored funding for research. Purdue is classified as having “very high research activity” by the Carnegie Foundation.[1] Purdue University supports the principles of the policy outlined in the February 22, 2013, memorandum from the Office of Science and Technology Policy (OSTP), which provide public access to the outputs of federally supported research and development, and in particular, to enable the public use of scholarly articles resulting from federally-sponsored research. We also appreciate the fact that OSTP has offered the opportunity to stakeholders to make comments and to serve as future collaborators with those agencies as their individual or collective policies are developed. Universities house major stakeholders in this system, with faculty researchers receiving publicly funded grants and conducting the research, to ultimately providing publishers, this extremely valuable final product at the end of the research cycle. We believe it is the mission of all universities to break new ground in research and to foster the access of that research to future generations without additional cost barriers. Faculty access to peer reviewed publications is essential, yet commercial publishers’ costs continue to increase. Requiring that intellectual content of the peer-reviewed journal articles be shared publicly will allow more researchers and future researchers access to the research they need to build on and to accelerate scientific discovery and applications. Such open sharing also enables local and regional policy makers and entrepreneurs to translate that research into additional public and private ventures and jobs. As recipients and stewards of significant publicly funded research from federal agencies that move local, regional, and national research agendas forward, we are convinced that the public must have access to the published research. We therefore applaud this primary objective of the Memorandum and appreciate the opportunity to comment. Purdue University would like to urge the federal agencies that fall under the purview of this Memorandum to consider important lessons from the early challenges and ongoing successes that the NIH’s Public Access Policy experienced, as well as the success of its PubMed Central repository and research submission process. A few comments on some of the details of such an effort to increase the access to the results of federally funded research are warranted. First it is very important for the sake of efficiency and effectiveness of compliance with the policy that the policies between the agencies be consistent with one another and the procedures for submission and access be harmonized. This will ease the author/recipients process and institutional repository developers. Such consistency between policies regarding compliance will minimize maintenance costs and complexity of submission and monitoring. Additionally, consistency between agency policies related to when a paper

must be submitted is important. We recommend that authors be required to submit their accepted manuscript to the required publicly accessible repository upon acceptance from the peer reviewed journal, and that the paper be made publicly available from the repository immediately. On this last point we realize that there may be reasons from other stakeholders to embargo the work briefly. We feel that a reasonable compromise would be that the work be embargoed in the repository for no longer than 6 months after publication in the peer-review journal. The repository itself is a critical piece of the long term success of this new policy. Most major universities maintain an openly accessible repository where an institution's authors can deposit a pre-print or other version of their published work and grey literature. These services are maturing and playing a larger role in the scholarly communication ecosystem. For example, 29,347 papers have been submitted to Purdue e-Pubs that have been downloaded over 4.3 million times. A repository whose contents are held for the public trust must be one that is managed by those long-honored institutions, whether federal, as in NIH's management of PubMed Central, or through universities. They should meet the full requirements for public accessibility, productive reuse, interoperability with other online repositories housing federally funded scientific publications, and allow for long-term public stewardship and preservation, as well as, submission and access to the submitting authors and future readers without charge. In addition to open access, it is important for publications to be well-described using metadata that makes it possible to locate and retrieve them. The adoption of open standards and schemata are recommended to ensure interoperability with other repository services, search engines, and scholarly indexes. As a university that has invested significantly in infrastructure to support the development of institutional repositories for data, publications, and archival materials, we recognize that preservation of such digital works is a fundamental role that libraries play within the university. With support from the university administration and considering Purdue libraries as suitable candidates, we offer their expertise and experience to collaborate with federal agencies under the aegis of the Memoranda to host or consult with other hosting institutions. Copyrights are an important issue in such public access policies and we strongly believe that copyright must be assigned in a non-exclusive manner to the publisher, to ensure discovery, access, sharing and use. Such non-exclusive rights are all the publisher needs to actually disseminate the articles. Licensing arrangements should ensure that no one single entity or group secures exclusive rights. The entity or person that holds exclusive rights or copyright controls the access. The purpose of the Memoranda and other open access policies is to ensure that all have enough copyrights or permissions to read and access the research works that have been publicly funded. We would also like to suggest that the final peer reviewed scholarly articles be openly linked to the data associated with the research and that unique and persistent identifiers for publications, data, and authors be required. Such steps will facilitate reuse of the intellectual content being shared in the most effective way and provide mechanisms to quantify future metrics of impact, use, and reuse. In

closing Purdue University is strongly in favor of this Memorandum granting public access to the peer reviewed scholarly journal articles, placing copies of those articles in publicly managed repositories, and collaborating with experts in the field of data and information management. We encourage agency policies to be harmonized for efficient compliance and effective use and reuse of the content being shared by this important policy. We look forward to collaborating with agencies further as the policies take shape and are implemented.

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1. SAGE Publications Inc welcomes the opportunity to provide input into the Committee's inquiry into Open Access. SAGE is a leading publisher in the social sciences, with strong programs in medicine, engineering, humanities and the arts. We publish in partnership with over 250 academic and scholarly societies across the world. SAGE is a Romeo Green publisher and is committed to open access, but does not favor 'gold' over 'green' or vice versa, believing that a mixed open access environment is likely to exist for many years, not least because of the international nature of scholarly research publishing. 2. SAGE strongly supports the OSTP objective of increasing public access to the results of research funded by the Federal Government with appropriate embargo periods. SAGE views this memorandum as both a pragmatic and a measured response to current open access trends within both research funding and the wider publishing industry. 3. SAGE applauds the OSTP for recognizing that different disciplines and research communities require different approaches. Reasonable, discipline specific embargo periods are essential and SAGE strongly supports the provision laid out in 3 (a) (ii) that different embargos for different fields will be considered provided reasonable evidence is provided. 4. SAGE is encouraged that the OSTP has not taken a strong position on associated licensing requirements. We believe that the blanket imposition of a particular type of licence is unnecessary and does not reflect the varying requirements of authors across all disciplines. 5. SAGE believes that the greatest challenge will be the implementation of the policy and encourages the OSTP to follow through on its intention to allow flexibility in how different agencies choose to implement it. Research publishing is a complex ecosystem and we believe too rigid an approach to satisfying the ultimate objective will result in confusion and unintended consequences - mostly for authors, but also for funders, librarians, repository managers, publishers and others. 6. SAGE is pleased the vital role of publishers in the process is acknowledged and underline that it is critical that the services they provide continue to be made available. We stand ready to work with OSTP, agencies, the many societies we publish for and other stakeholders to help create sustainable solutions that increase access and dissemination while maintaining the many existing valuable attributes of the scholarly communication ecosystem. 7. Once the agencies have reported back with their plans SAGE recommends the setting up of a stakeholder working group to tackle practical issues. 8. SAGE supports the aim to move towards open data. While this is outside SAGE's area of responsibility, we have one comment to offer, which is to encourage flexibility. It is easy to imagine that there may be data sets which have been constructed over long time periods (for example following a cohort of children as they grow up) where the concept of open data was not built into the original agreements with the data subjects and where a new requirement for open data could push some or all to cease cooperation in the project. About SAGE SAGE is a leading international publisher of journals, books, and electronic media for academic, educational, and professional markets. Since 1965, SAGE has helped inform and

educate a global community of scholars, practitioners, researchers, and students spanning a wide range of subject areas including business, humanities, social sciences, and science, technology, and medicine.

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Catherine Wolfe catherine.wolfe@wolterskluwer.com **Wolters Kluwer Health**

May 8, 2013 Wolters Kluwer Health comments In the matter of: Increasing Access to the Research Results of Federally Funded Scientific Research Before the: Office of Science and Technology Policy Executive Office of the President Washington, DC 20502 Wolters Kluwer Health, a medical and healthcare publisher and leading global provider of medical information, workflow and business intelligence solutions, and platforms for research and development, is pleased to comment on the Office of Science and Technology Policy (“OSTP”) memorandum (Feb. 22, 2013) on “Increasing Access to the Results of Federally Funded Scientific Research.” As a member of the Professional and Scholarly Publishing Division of the Association of American Publishers (PSP/AAP), we share in their support of the OSTP objectives: that the results of federally funded scientific research are made available to and useful for the public, industry, and the scientific community. Wolters Kluwer Health produces and disseminates high-quality, peer-reviewed journals as well as an array of medical information, tools, and solutions used by healthcare organizations and professionals, researchers, educators, and students worldwide to improve clinical practice, raise access to quality and cost-effective healthcare, and inform medical research discovery. We continually invest in our publishing infrastructure and resources to ensure fast, efficient peer-review processing and content delivery across multiple formats (print, online, digital), access models (subscription, hybrid open access, full open access), platforms (institutional access on OvidSP as well as through Discovery Services partners), and processes to ensure compliance with government funded research. Our mission to broadly disseminate high-quality, society-owned and proprietary medical, nursing and allied health content guides our need to innovate. Some of our initiatives include: i,§ Wolters Kluwer Health has led the digital journal transformation introducing nearly 150 high quality apps to allow physicians to access medical research content - text and video - wherever they are in their work environments. i,§ We have supported authors and editors with best practices in developing rich multimedia content to aid in visual learning for readers and healthcare practitioners with supplemental video abstracts and videos illustrating new surgical techniques. i,§ Our portfolio of journals also includes direct to patient titles, including Neurology Today, published on behalf of the AAN, and Heart Insight, published on behalf of the AHA, which provide support and guidance in dealing with medical conditions. For institutional researchers, we facilitate access to open content through Ovid Open Access - integrating and aggregating OA content from PubMed Central (PMC) for greater comprehensive search and discovery. As an international publisher, Wolters Kluwer Health is involved in many industry programs to support wider dissemination of peer-reviewed content including access for under-developed nations (a founding publisher member of HINARI), and emergency healthcare crisis events (NLM’s Emergency Access Initiative and Wolters Kluwer Health Emergency Resources Portal). These investments and innovations by Wolters Kluwer Health and the greater scholarly publishing community are essential to

preserving high-standards of peer-review, evolving research dissemination and developing a mix of access models that are fundamental to long-term sustainability. But to achieve these advancements requires that we continue to be able to sell journal subscriptions. Wolters Kluwer Health agrees with the PSP's concerns that the drive for open access puts at risk our ability to sustain funding. We believe strongly that flexible approaches are needed to determine embargo timing based on each journal's subject discipline that best supports their sustainability. We thank the OSTP for taking the initiative to ensure a balanced approach to these issues and recognizing the value scholarly publishers provide in the publication of important research works. We appreciate the opportunity to provide comments and look forward to participating in public-private efforts to achieve our shared mission to advance US scientific, medical and academic research that is fundamental to U.S. economic progress. Sincerely, Catherine Wolfe President & CEO Wolters Kluwer Health, Medical Research

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Massachusetts Institute of Technology

The Massachusetts Institute of Technology (MIT) welcomes the opportunity to comment on the peer-reviewed publications component of the February 22, 2013, White House Memorandum on “Increasing Access to the Results of Federally Funded Scientific Research.” MIT’s mission includes a commitment to generate, disseminate, and preserve knowledge, and public access to scientific publications resulting from research funded by federal science and technology agencies is thus a topic of substantial significance to this institution. This commitment is further reinforced by the actions of the faculty when, in 2009, they adopted an open access policy for the peer-reviewed scholarship that flows from their research activities. MIT supports the objective of the Memorandum to provide for more open access to peer-reviewed publications that result from federally-funded research, and sees new opportunities for partnership between research institutions and Federal agencies. Research institutions are mission-driven and their role is to create and build upon new knowledge, make accessible the results of their research, and preserve information for future generations. Research libraries, with others in research institutions, supply much of the infrastructure in support of this research and in many cases already provide access to the final peer-reviewed scholarly publications produced by institutional researchers. Research institutions and research libraries have a long history in and experience with collaboration. It will be important that whatever policy or policies federal agencies propose to avoid, as much as possible, additional costs and complexity for principal investigators and research administration. The academic and research community shares common interests with the Federal government about scientific publications. Recommendations for scientific publications include the following: 1. Copyright or IP rights should be assigned to final peer-reviewed scholarly publications in a non-exclusive manner to ensure frictionless reuse and preservation and to retain the long-term durable rights necessary for discovery, sharing, and text mining. 2. Final peer-reviewed manuscripts should be deposited in a suitable repository (described below) at the time of acceptance for publication in a peer-reviewed journal in order to help ensure consistency in compliance. 3. Licensing arrangements must ensure that no one single entity or group secures exclusive rights to provide access to or reuse publications. 4. The research, public, and business communities all need timely access to the final results of high-quality research. Final peer-reviewed scholarly publications should be made available as soon as possible - preferably within six months - but no later than 12 months after publication to encourage discovery and re-use. 5. A suitable repository should be defined as one that meets all requirements for ensuring full public accessibility, productive reuse (including downloading, text mining, machine analysis, and computation), interoperability with other repositories housing federally funded scientific publications, metadata based on open standards, and long-term stewardship and preservation. 6. Preservation is a fundamental role for research libraries and, because of their experience and expertise, they can provide long-term stewardship to final peer-reviewed scholarly

publications. Systems should be sustainable and research universities and their research libraries as long-lived institutions should be considered natural candidates for hosting repositories. 7. In order to facilitate reuse of content and development of new services, agencies should require the use of persistent, unique identifiers for publications, data, authors, and other elements of research output. 8. Agencies should also consider supporting open licensing. Creative Commons (CC) licenses, for example, would improve upon the NIH model, which allows for “fair use” of the articles but does not unambiguously signal permission to create modified versions (derivative works), text mining, and other derivative uses which are important to fuel innovation. 9. Final peer-reviewed scholarly publications should be cited and linked openly to their related datasets to allow for reuse and replication of results. 10. A variety of metrics and identifiers should be encouraged to provide information on access, use, and impact of final peer-reviewed scholarly publications. 11. Consistency of requirements is a key element that will allow federal agencies to maximize the benefits of their public access policies. Based on MIT’s experience, compliance will correlate directly with convenience to the author. For this reason, common procedures, requirements, and processes should be established across all funding agencies. The development of consistent federal agency policies to ensure open access to scholarly articles will provide economic and social benefits to our nation by accelerating discovery and science, democratizing access to information, supporting education, and fueling economic growth, entrepreneurship and job creation. As an institution which, in concert with other U.S. universities, creates and consumes scientific data and scholarly publications, MIT has experience and expertise with digital preservation and long-term stewardship of peer-reviewed publications. Universities have a primary and enduring mission to generate new knowledge, to preserve it, and to share it, and we are uniquely positioned to support and inform the goals of the Memorandum. We commend the OSTP on the Memorandum and stand ready to provide additional input at any stage in the evolution of the implementation plans. Respectfully submitted by Ann Wolpert, Director of Libraries, Massachusetts Institute of Technology

Peter Berkery pberkery@aaupnet.org Association of American University Presses

STATEMENT OF THE ASSOCIATION OF AMERICAN UNIVERSITY PRESSES The Association of American University Presses (AAUP) appreciates the opportunity to comment on the Office of Science and Technology Policy's (OSTP) 22 February 2013 memorandum on "Increasing Access to the Results of Federally Funded Scientific Research." AAUP's 131 members represent more than 90% of the nation's university presses, along with a variety of aligned mission-based publishers such as museums, scholarly associations, and research institutes. Collectively, we publish more than 10,000 scholarly books and 800 journals each year. The hallmark of AAUP membership is a commitment to the broad dissemination of peer-reviewed scholarship; consequently, AAUP has a long-standing policy in support of sustainable Open Access scholarly publishing. The member presses of AAUP embrace their obligation to confront the many challenges -economic, legal, and technological- to the existing system of scholarly communication that Open Access presents, and to participate with all willing partners, both within and outside the university, to strengthen and expand scholarly communications. Many of these presses, often in collaboration with research libraries, are already experimenting with new approaches, including various forms of Open Access that seek to balance the mission of scholarly communication with its costs. Prominent examples of our members' success in reinventing sustainable scholarly communication include: Project MUSE and the MUSE/UPCC e-book consortium; the University of Chicago Press's online edition of *The Founders' Constitution*; *The New Georgia Encyclopedia*; the brain sciences online community at MIT CogNet; Oxford Scholarship Online and Oxford's groundbreaking experiments with Open Access journals; Virginia's Rotunda, Michigan's new press and library collaboration digitalculturebooks; North Carolina's Publishing the Long Civil Rights Movement; and the high-impact, peer-reviewed literature in theoretical and applied mathematics and statistics at Project Euclid. Despite these successes, or indeed perhaps because of them, the development of sustainable Open Access models remains a work-in-progress, sometimes with profound differences across the various segments of scholarly publishing. By way of example, Scientific, Technical & Medical (STM) scholarship evolves rapidly, and the emerging models of sustainable Open Access publishing reflect this. Humanities & Social Sciences (HSS) scholarship, by contrast, is consumed in fundamentally different ways, and sustainable HSS publishing models need the flexibility to develop in ways that will accommodate the scholarship's substantially longer half-life. Similarly, the majority of Open Access publishing models to date have evolved in the context of journal articles; the impact of Open Access principles on the publishing of monograph-length content remains more of an unknown. Consequently, many mission-based publishers have the accumulated data and experience to project the embargo period required under certain Open Access models to recover the costs associated with the publication of an STM journal article; similar knowledge with respect to an HSS monograph, by comparison, is scarce. We therefore

applaud the OSTP memorandum's call for flexibility in the development of agency guidelines—a one-size-fits-all approach to Open Access poses existential risk to sustainable scholarly publishing. Because of their stewardship responsibilities, mission-based publishers are uniquely attuned to the costs to be managed while exploring options for expanding Open Access. But the unavoidable truth is that under any publishing model, scholarly communication is expensive to produce, and requires—in addition to the scholar's own work—knowledgeable editorial selection and careful vetting (through peer review and refereeing) as well as a high level of quality in copyediting, design, production, marketing, and distribution in order to achieve the excellence for which American universities have come to be widely praised. And it is facile to assume these costs disappear with the shift from print to electronic publication; many costs remain, and others (often the relatively least expensive) are simply replaced (often by comparatively more expensive technologies). Universities have made substantial investments in their presses, and the staffs who run them are expert at what they do. The system of communication that these presses support plays a vital role in the spread of knowledge worldwide. We note here with gratitude the OSTP memorandum's acknowledgement of the valuable services publishers provide. As the nature of scholarship varies by discipline and extent, so too must the application of Open Access principles. AAUP therefore urges the development of guidelines that afford mission-based publishers the flexibility they need to evolve Open Access models meeting their commitment to the sustainable dissemination of knowledge. We offer our full support—including wherever possible access to our members' accumulated knowledge and experience in publishing Open Access scholarship—to the agencies responsible for developing Open Access guidelines. Thank you for your time and consideration.

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It would be better if NRC accepted written comments after the hearings so people can respond to the issues raised therein.

Center for Digital Research and Scholarship, Columbia**Mark Newton mnewton@columbia.edu University Libraries/Information Services**

The Center for Digital Research and Scholarship at Columbia University Libraries/Information Services welcomes the opportunity to respond to the February 22, 2013, White House Memorandum on “Increasing Access to the Results of Federally Funded Scientific Research.” As an institution dedicated to advancing knowledge and learning at the highest level and to conveying the products of its efforts to the world, we support the Memorandum’s objectives of making the results of federally funded research available to and useful for the public, industry, and the scientific community. The United States and its businesses compete in a world in which substantive investments abroad have been made to make research publicly available, particularly in Europe. The power of a centrally supported repository and database to rapidly advance science has been long recognized, and is clearly evidenced by the public availability of the PubMed database and the PubMed Central repository. Multiple repositories maintained by publishers, institutions, societies, and other third parties could play a similar role, but would need to meet conditions that allow for indexing, public access, reuse, interoperability, and preservation. Such repositories would need to be certified as “trusted repositories” that fulfill all designated criteria, including the uniform adoption of standards such as the National Library of Medicine (NLM)’s widely used Journal Publishing DTD and the proposed Open Text Mining Interface as well as the requirement that publishers follow the standards currently in place for PubMed Central and make available for access and use not only the PDF of the article but also the XML that they almost all already generate. Existing publisher archives often do not permit the levels and types of access that public–private partnerships could leverage to full advantage. Glimmers of the possibilities of such access are available in some collaborations that have involved researchers and publishers opening up their results to use and reuse, such as the coordination in 2003 of the World Health Organization’s Multicentre Collaborative Network for Severe Acute Respiratory Syndrome. Similarly, providing accessibility and interoperability to long-term archives of scientific literature might be a role for collaborative efforts by scholarly and professional societies, universities, and federal agencies acting in concert. No matter what the repository decision, dark archiving solutions are not adequate. Public access to materials ensures the demand for investment in migration and ongoing preservation. Conversely, materials in dark archives may one day be discovered to be unusable and unrecoverable and therefore useless to future generations of researchers. Increasingly, some of the most exciting and innovative discoveries may be made in the future by allowing computers to assist with the process of discovery and scientific serendipity. Broad and deep human- and machine-readable access to research outputs will allow continued and rapid development of businesses focused on serendipitous discovery across disciplines and the creation of a whole range of services built on semantic technology. Interoperability across repositories is necessary for this type of discovery and requires consistent metadata

that are machine-readable and machine-interpretable, especially concerning object-specific rights for downloading, use, and reuse of the research. Alongside the descriptive metadata (e.g., title, abstract, author, keywords) necessary for discovery and identification, administrative metadata must be included that outlines the proper management of the resource, such as when and how the object was created, the file type [OBJ] and other technical information, who can access the file and what can be done with it and other rights information, and the information needed to archive and preserve the file. For true interoperability, it will be necessary to expand upon a general standard such as Dublin Core (<http://dublincore.org/>) in strategic ways, particularly to enable greater specificity for expressing intellectual property rights information and to supply both machine- and human-understandable context for each published resource. Existing metadata standards can be leveraged to inform a broader metadata specification for robust search, discovery, and analysis of research. Important elements of any metadata model should include: * Controlled vocabulary that makes explicit statements about reuse, retraction, and correction * Attribution for funding organizations and grant identification * Descriptions of the resources that enable relationships to be determined semantically - Controlled identifiers * Metadata providing usage tracking and analytics across various repositories, information that is especially significant for federal agencies and the researchers they fund for understanding the impact and reach of their work It is important that metadata standards for use in interoperable repositories for publications and for describing data are developed in parallel. The publication standard must of necessity support analysis of published texts as data objects, and data that are considered integral to the publication should be associated with the publication in a clear manner. Critical to the success of any interoperable repository system will be the possibility of building bridges between related publications and the underlying data that support them in meaningful and machine-navigable ways (e.g., via vocabularies for semantic relationships and unique identifiers). No matter what metadata schema and standards are adopted, these need to be coupled with Application Programming Interfaces (APIs) for standards-based data exchange, for example via JavaScript Object Notation (JSON) and downloadable XML full text supplied in a consistent format, such as that provided by the NLM Journals DTD that most publishers already use. An effective policy for public access to publications would be to maximize access to the content by setting standards and requirements for deposit of the content, while at the same time maintaining flexibility to accommodate new technologies. A successful federal policy should not dictate the technology or the platform. Instead, the policy should mandate that federally funded research publications be made available on interoperable platforms and be accessible through federated search. Also, the policy should set clear objectives related to preservation of the content, metadata standards for the individual publications (including clear identification of the grant and agency that funded the research), and other such requirements. Overall, good policy that serves the objective of maximizing the benefit of public access to scientific publications

should be relatively specific about the research and technological standards, while at the same time not being confined to specific technological tools that may become obsolete in the future. [60]

Alan Kahan akahan@entsoc.org Entomological Society of America

Comments from the Entomological Society of America on Public Access to Federal R&D Publications

The Entomological Society of America (ESA) is the largest organization in the world serving the professional and scientific needs of entomologists and individuals in related disciplines. The Society publishes six peer-reviewed scholarly journals, each of which contain articles that are based on research that directly arises from Federal funding. ESA is confident that we can work with OSTP and Federal agency colleagues to jointly develop and implement a public access plan that meets all the requirements delineated in Dr. John Holdren's February 22, 2013 directive. We believe that the best plan should minimize expenditures of Federal tax dollars and maximize the use of STM publishers' existing infrastructure and systems. To this end, we support the CHORUS (Clearinghouse for the Open Research of the United States) proposal from the Professional and Scholarly Publishing Division of the Association of American Publishers (AAP). The CHORUS Project is a multi-agency, multi-publisher, portal and information bridge that identifies, provides access, enhances search capabilities, and provides long-term preservation to journal articles resulting from agency funding. This agency-publisher partnership to meet the OSTP directive's requirements is built on the following contributions from publishers: (1) a broad-based group of STM publishers that collectively publishes nearly all the articles reporting research resulting from Federal agencies' funding; (2) a uniquely qualified operating partner, CrossRef, a non-profit organization that oversees the international database of metadata on scholarly publications, and is responsible for interlinking of this metadata among the world's public and private publication platforms; (3) the ability and willingness of ESA and other publishers and CrossRef to implement rapidly all of the requirements of the directive (which we outline below); (4) an existing infrastructure that can readily fulfill all the requirements of the directive, and a commitment, working with CrossRef, to complete and integrate these resources promptly. By combining our collective resources and the experience of the STM publishing community and CrossRef, we believe that we can meet the key requirements of the directive at essentially no cost to your agencies, except for the mutually beneficial effort of your representatives serving on a joint governing board. This body would oversee the high level requirements, the essential input of your agencies, and monitor the implementation for the proposed agency-publisher partnership. We are confident in this AAP proposal and our ability to provide these essential deliverables because AAP has prior success with this model. Just one year ago, a collaboration of four funding agencies and seven AAP publishing organizations formed an informal partnership with CrossRef to solve the problem of identifying those peer-reviewed articles that result from Federal agencies' funding. The pilot of the "FundRef" project was completed in March. CrossRef compiled a "Funding Registry" and added a new metadata tag that will be rolled out to the entire scholarly publishing community in May. By starting with the implementation by CrossRef of the new FundRef article tagging service over the next

year, we will be able to present to your agencies a rapid and efficient means of delivering on the primary OSTP directive requirement: straightforward access to a free version of a journal article with identified public funding. With FundRef implemented, this primary deliverable for public access can be accomplished at no cost to your agencies. In addition, our proposal provides a no-cost solution to the compliance issues for both your agencies and the author's institutions. This is how the proposed system works: (1) FundRef tagging identifies articles reporting research funded by your federal agency. (2) The reader is sent to the publisher's platform via the CrossRef DOI linking and the agency-tagged manuscript is made available by the publisher for free access to the full text after an agreed upon embargo period. The OSTP directive calls for 12 months as a guideline for embargoes but recognizes the need for agency flexibility for fields where this embargo length may be inappropriate. We want to work with you collaboratively to develop a data based approach to establishing and validating embargoes. We can offer to handle the compliance requirements for posting a public manuscript because publishers such as ESA routinely maintain communications with authors from the time of manuscript submission through the preparation of the final accepted manuscript and the production of the official Version of Record. We have the records and capabilities to notify your agencies, our authors and their institutions when an article is posted for public access in compliance with the OSTP directive. Our long-established protocols for article archiving and preservation will meet the directive's requirements on this topic without expenditure of agency resources. ESA maintains a multi-layer strategy for archiving, starting with multiple back-ups for our own platforms and augmented by the use of trusted third-party archives such as PORTICO. In terms of delivering bibliographic search and discovery tools, FundRef tagging and CrossRef linking provide a universal and interoperable mechanism for meeting this requirement across all public and private platforms. This solution is fully compliant with and already utilized by search engines, established library search tools, NIH's PubMedCentral and the nascent PAGES proposal under development by the Department of Energy. In summary, the Entomological Society of America looks forward to meeting the requirements for public access to federally-funded research in the most efficient and cost-effective manner.

**American Chemical Society, Professional &
Scholarly Publishing Division of the
Association of American Publishers, Inc**

Susan King s_king@acs.org

On behalf of the Professional and Scholarly Publishing Division of the Association of American Publishers (AAP/PSP), I appreciate the opportunity to comment on the Office of Science and Technology Policy's (OSTP) memorandum on "Increasing Access to the Results of Federally Funded Scientific Research" and to offer the support of publishers as federal agencies craft plans to efficiently and effectively promote access. We welcome the opportunity to work together to address the needs of the federal agencies and the scholarly communities we both serve. Members of AAP/PSP represent tens of thousands of publishing employees, professional individuals, editors and authors throughout the country who regularly contribute to the advancement of American science, learning, culture and innovation. They include non-profit professional societies, commercial publishers and university presses that produce books, journals, computer software, databases and electronic products in virtually all areas of human inquiry and activity. They comprise the bulk of an \$8 billion commercial and non-profit publishing industry that contributes significantly to the US economy and enhances the US balance of trade by at least \$3.5 billion annually. Scholarly and professional publishers produce the vast majority of materials used in the US by scholars and professionals in science, medicine, technology, business, law, reference, social science and the humanities. As worldwide disseminators, archivists, and shapers of the public record on scientific research, publishers share the goal expressed in the OSTP memo that the results of research "are made available and useful for the public, industry, and the scientific community." Our businesses are focused on improving access to and discoverability of research materials, including high-quality peer-reviewed publications, and ensuring that the research that is published is found and used by those who can most benefit from it. The primary goal of the peer-reviewed publishing activity undertaken by our members is to broadly disseminate, provide access, and offer a high-quality and user-friendly environment in which to discover, analyze, and link to the latest breakthroughs and developments in scientific and other scholarly research, whether in print or electronic form. Publishers of scientific journals have, for more than 100 years, played an integral role in building and documenting the unrivalled US scientific research enterprise, and their continuing innovation and investment in high-quality publication of scientific research makes them uniquely positioned to help the government expand public access to publications that report on the results of federally-funded scientific research; ensure the long-term stewardship of such publications; and support the innovation and economic development that is derived from scientific discovery. We appreciate that the OSTP memorandum, as one of its core principles, "recognizes that publishers provide valuable services...that are essential for ensuring the high quality and integrity of many scholarly publications. It is critical that these services continue to be made

available.” We believe that the only path to ensuring the continuation of these high-quality services is through collaborative, flexible approaches that recognize the value provided in the publication process while also finding new ways to disseminate information and provide the taxpaying public with access to research results. AAP/PSP and its member publishers have already worked with agencies to solve a thorny identification problem through the FundRef partnership, at no cost to the government, and we have reached out to individual agencies and to the OSTP interagency-working group on publications to try to determine the best, most cost-effective solutions to sustainably provide access to the high-quality, peer-reviewed publications that advance science and innovation. We welcome a continued dialogue.

Academic, professional, and scholarly publishers – through their investments – were among the first to transition to digital delivery for content, and they continue to innovate in technologies to present high-quality peer-reviewed research in innovative ways, and in business models to address the needs of funders and the research community. Thanks to this innovation, today we have more extensive and less expensive ways to access information than ever before. Publishers have invested in programs to provide free or low-cost access to researchers in the developing world, to patients and their caregivers, and many others. We are eager to work with federal agencies to develop sustainable solutions that build on these efforts. At the same time, we in the publishing community are concerned that the push for free access may jeopardize the availability and diversity of outlets for research communication. I am sure that every agency agrees that any public access policy should preserve academic freedom and account for the costs of publishing. Policymakers should carefully consider the impact of any agency policy on the ability of journals to sustain funding – whether through subscription, APCs, or other funding streams. Policies should continue to allow grant funds to be used for publication costs, and ensure that researchers know that this is an allowable use of funds where it may be the best route to promote public access for a particular article. Policies that envision delayed access that is ultimately supported by subscription or other revenue should ensure that the length of delay is sufficient to enable that revenue to support publishing. Different disciplines have different needs and cultures, and each journal has a particular usage pattern; a twelve month embargo period may be sufficient for some journals, but others may need longer embargoes to ensure their sustainability. Other organizations seeking to expand access to information, including the World Bank, have recognized the need for flexibility in developing variable terms for access, and agencies can and should look to these models to support their efforts. Ultimately, the key test of any policy should be ensuring that researchers have high-quality outlets in which to publish and to discover cutting-edge research. Through collaboration, we can address some of the biggest issues that face agencies on how to implement a public access policy that addresses the goals in the OSTP memo. As publishers already process and disseminate millions of articles, we can minimize costs, avoid duplication of efforts on the part of agencies and researchers, and streamline compliance issues on all sides.

Universities and researchers are concerned about the additional compliance needs of any potential policy, but that can be obviated if compliance is integrated with current research submission and archiving practices. Similar efficiencies could be found in other aspects of the communication system by collaborating in a public-private partnership that respects the need for sustainability. All of AAP/PSP's member publishers, whether commercial or non-profit, large or small, seek to serve their research communities in ensuring the widest reach for the research they describe and analyze in the scholarly articles we publish. In this, we share the government's goal for the research it funds. Thank you again for the opportunity to provide comment, and we look forward to continuing to work together to improve innovation and the scholarly enterprise in the US.

National Association of Graduate-

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Professional Students

May 9, 2013 Written Comment on behalf of the National Association of Graduate-Professional Students National Academy of Sciences Meeting on Public Access to Federally Supported R&D Publications To Whom It May Concern, I am writing on behalf of the National Association of Graduate-Professional Students (NAGPS) to strongly support the White House Memorandum on “Increasing Access to the Results of Federally Funded Scientific Research,” dated February 22, 2013. NAGPS strongly supports open access to publicly funded research at the state and national level, and we have worked for many years to develop policies and programs to allow for open access of federally-funded research for the benefit of American students, small businesses and taxpayers. NAGPS is an entirely student-run, non-profit organization made up of graduate and professional student governments representing more than 600,000 graduate and professional students across the nation. As graduate and professional students we have an acute interest in open access to publicly funded research since we are the future professors, professionals, government employees, and leaders of our state. Open access to federally-funded research creates an opportunity for our nation to best utilize the investments it has already made by empowering taxpayers to access the resulting knowledge that their tax dollars have already purchased. Under the current status quo (with the exception of the National Institutes of Health), the results of federally-funded research are typically published only in peer-reviewed journals. While these journals are often accessible for people working or studying in our nation’s top higher education institutions whose libraries pay for annual subscriptions, they are prohibitively expensive for most individual Americans and many institutions. This is particularly true for community colleges and many smaller institutions. A federal open access directive will allow for all Americans to access and read the results of peer-reviewed articles funded by their tax dollars. Taxpayers have paid for this work, and a public access policy evens the playing field so that taxpayers don’t pay for research twice—once to fund the original research and again to subscribe to high-priced journals. In addition to benefits for all taxpayers, public access to federally-funded research has specific benefits for students. A public access policy can make higher education more effective and ensure that we have access to the best possible research conducted by our nation. Journal subscriptions are increasingly expensive as the cost of serial subscriptions has risen more than 400% since 1986, or roughly four times the rate of inflation [1]. These costs prevent libraries from subscribing to certain journals, hindering academic achievement and performance. Additionally, many of our best and brightest students find their capacity hindered upon graduation when their library cards expire and they no longer have access to the latest research. Despite clear access benefits, perhaps the most compelling reason we support a public access policy for all federally-funded research is because we know they work: it is a proven solution that has already been embraced by the producers and consumers

of research. The National Institutes of Health (NIH) public access policy is a proven success. Over 1.5 million research articles are accessed by more than 700,000 users on the NIH database, PubMed Central each day. Additionally, 57% of these users are from the general public and industry—a clear indicator that this research is being utilized beyond academia [2]. Furthermore, publishers have not been able to demonstrate economic harm as a result of this move toward public access, even though research funded by the NIH—roughly half of all federal non-defense research expenditures—are now covered by this policy. Despite the economic downturn of recent years and the implementation of the NIH policy, publishers continue to profit from publicly funded research (with profit margins as high as 37% in some cases) and have seen increases over previous years [3]. As the White House moves forward with implementing an open access policy for federally-funded research, we urge you to make these policies as robust as possible to ensure a maximum benefit for our nation’s students, small businesses and taxpayers. We support the following for a federal open access policy: 1) A six month embargo period. While the NIH embargo period of one year is a useful first step, we support shorter embargo periods like those in the current Congressional bill FASTR of six months. These shorter embargo periods will enable our cutting edge research to have the greatest impact in the shortest amount of time, while still maintaining an appropriate time frame for publishers to recoup their investments. 2) A centralized repository. A strong centralized repository for all publications resulting from federal research will enable people to go to a single source for all of their research needs and interests. This central repository can have the greatest impact by allowing people to search for multiple papers and results in a single place and make the process as streamlined as possible for the taxpayer. We also hope that the White House will consider opportunities for reuse rights within current copyright and patent protections that can allow for data to be utilized to its highest potential. A free, open access policy for our nation makes sense. It will provide transparency and access for all people and stop a system that requires our taxpayers to pay twice for research. It will also help our nation’s students at all educational levels and make higher education more effective. Importantly, America’s public access policy comes on the heels of many other similar initiatives including open access policies at The World Bank, The European Union and in the United Kingdom. Thank you for your work on establishing this vital resource for our nation. Please feel free to contact me with any questions or if I can be of any additional assistance. Sincerely, Meredith Niles PhD Candidate, Ecology University of California, Davis Director of Legislative Affairs National Association of Graduate-Professional Students [1] The Association of Research Libraries (ARL). Monograph & Serial Costs in ARL Libraries, 1986-2011. <http://www.arl.org/storage/documents/monograph-serial-costs.pdf> [2] The National Institutes of Health Open Access Policy Overview and Impact. http://publicaccess.nih.gov/public_access_policy_implications_2012.pdf [3] The Economist. “Open Sesame”. April 14, 2012. <http://www.economist.com/node/21552574>

Indiana University - Indiana University

Robert McDonald rhmcдона@indiana.edu **Libraries & Data to Insight Center**

Crowd-Sourced Infrastructure: Universities as Partners in Provisioning Public Access to Federally Supported Research Robert H. McDonald, Inna Kouper, Beth Plale Data to Insight Center (<http://d2i.indiana.edu>), Indiana University

I. Introduction The Office of Science and Technology (OSTP) recognizes that the discovery and exploitation of the results of federally supported research (FSR) can be fully realized only when those results are widely available to researchers, corporations and the public (Holdren, White House Office of Science and Technology Policy. February 22, 2013. Available at: http://www.whitehouse.gov/sites/default/files/microsites/ostp/ostp_public_access_memo_2013.pdf). In this position paper we look at universities as key partners in provisioning public access to FSR and argue that a decentralized solution that “crowd-sources” rich cyberinfrastructure and personnel resources from many universities will enable and enhance public access to federally supported research products. As a significant portion of federal funding goes into research universities, their activities and infrastructure, including technological capacity and library and administrative resources, offer immense capabilities in implementing national and global public access that is efficient and at scale-able costs. Our work with an NSF-funded project for data stewardship for sustainability science known as Sustainable Environment Actionable Data, or SEAD (SEAD: An Integrated Infrastructure to Support Data Stewardship in Sustainability Science. Available at: <http://dx.doi.org/10.6084/m9.figshare.651719>), demonstrates that a decentralized crowd-sourced cyberinfrastructure supports the OSTP goals of leveraging existing archives, fostering public-private partnerships, optimizing search and discovery, and enabling compliance with federal policy mandates. Initially, public access infrastructure will be scoped to publications and data, but in the future we see a need to think beyond this initial strategy to find options to include a wider diversity of research products, such as software, workflows, specimens, instruments and so on.

II. Leveraging Existing Infrastructure via a Decentralized Federation Many universities are tapping into their own resources in supporting access to research publications and data. The richness of university resources that can be used to support public access to FSR can be seen within each of our institutions of higher education. Universities are bringing the expertise and existing cyberinfrastructure together with the appropriate policy organizations to drive long-term preservation of research output and permanence of the research record including the ability to deliver enhanced public access to research publications and data. These partnerships have built capabilities for linking publications and data, capturing data provenance, and re-using data through computational modeling and synthesis. The time has come for universities and federal agencies to shift from an isolated individual agency or institutional approach to a collective effort in public access that relies on local governance and loose standards-based infrastructure, evolves organically and leverages existing institutional resources. A decentralized system that uses research

universities as anchors or nodes in facilitating access to FSR will leverage the following components of existing infrastructure:

- Storage Systems, including systems of immediate storage and access, such as institutional repositories and digital libraries that exist at many universities and archiving partnerships such as the Digital Preservation Network (DPN) (<http://www.dpn.org>)
- Networking services as developed through partnerships such as Internet2 (<http://www.internet2.edu/>)
- Data Curation and Management Services (IU Data Management Task Force (2011) <https://scholarworks.iu.edu/dspace/handle/2022/13221>)
- Computational Expertise to automate metadata harvesting, search federation and component integration
- Administrative Workflows to leverage existing research administration systems

III. Challenges and Benefits of Decentralized Approach

The decentralized university-based approach raises a number of challenges. How can data stores effectively support two forms of data - observatory data, i.e., data that are collected over time and sampled by various researchers for the purposes of their own research and focused data, i.e., data that are collected for the purposes of a particular research? How can the underlying infrastructure tap into semantic linked data approaches to support linkages within and across universities, government agencies and their resources? How diverse organizationally and technically can the infrastructure nodes be? How can local governance and practices be harmonized at both a macro and micro level? Does decentralized sharing need to support flexible “plugging” and “unplugging” from the global structure? Among the barriers that the decentralized approach would also need to address are the issues of policy and integration between multiple federal agencies and state and private institutions, lack of integration between various stakeholders, for example possibly competing interests of commercial publishers and disciplinary-based institutional repositories, and the challenges of supporting standardized scholarly communication workflows that are part open and part closed. At the same time, the benefits of relying on university-centered decentralized infrastructure include:

- Leveraging resources and capabilities across the entire research lifecycle and creating opportunities to intervene at the earliest stages of research.
- Decreasing the gap between data creation and preservation by embedding data curators within the research teams.
- Minimizing costs by sharing existing infrastructure and personnel and by providing local storage and support.
- Fostering partnerships between data producers and data managers and thereby increasing efficiency of data production and dissemination.
- Customizing solutions that address local researchers’ needs.
- Increasing the efficiency of infrastructure use by utilizing sophisticated algorithms that match user needs with system requirements for access and preservation matchmaking.
- Diversifying the system of knowledge production and open access to it by integrating journal publications in their pre/post-print form and related datasets.

IV. Conclusion

To conclude, a decentralized system of access to federally supported research that is based on current agency and university infrastructure and expertise and that is aligned with the policy outcomes of the federal research agenda will enhance access to FSR. This will be

accomplished by supporting both management and analytics of research products and harmonization of multiple localized access and storage solutions while fostering a community of active proponents that enables long-term access and reuse by future users of FSR products.

John Baillieul johnb@bu.edu IEEE

Statement by the IEEE, Learned Society and Scholarly Publisher in STM The IEEE welcomes the opportunity to provide to the National Research Council some specific recommendations on how to meet the recent directive from the U.S. Office of Science and Technology Policy (OSTP) that all U.S. government agencies develop a plan to provide public access to the journal articles that result from their research grants. (Memo from John P. Holdren, Feb. 22, 2013.). The fact that multiple agencies have asked the National Research Council to coordinate this collection of public comment highlights the importance of crafting a coordinated solution to the public access conundrum rather than disparate approaches. The IEEE is a strong supporter of sustainable efforts to expand access to scholarly publications in general, and in particular to expand free public access to articles resulting from government funded research. To be sustainable these efforts must protect and advance other important societal interests inherent in scholarly publishing including peer review, protecting the integrity of the research archive, and preserving the intellectual property rights of authors and publishers. In that context, the IEEE recommends that to be successful any public access plan include these important components:

- An approach that preserves academic freedom and is business model neutral. That means the policy should allow authors to choose the most appropriate venue to publish their work, whether that journal be funded through traditional reader subscriptions, author-pays open access, funder sponsorship, or some combination of these.
- The ability of the journal to financially support its important peer-review, editorial, and archival functions. To accomplish this, any embargo period must be long enough to sustain subscriptions and other funding streams which may vary by discipline. In the case of engineering, computing, and technology subjects the IEEE recommends that the embargo period be 24 months. The behavior of users of the IEEE Xplore Digital Library shows that 85% of the articles retrieved are older than 12 months. Given this long shelf life of technology information, an embargo of shorter than 24 months would provide an incentive to many users to forgo immediate access and cancel subscriptions or avoid paying for author-paid open access
- Public-private partnerships that leverage the infrastructure and experience of publishers and minimize the expense to taxpayers. Toward this end, IEEE is a supporter of the FundRef project that helps federal agencies identify journal articles related to the research they fund – all at no cost to the government. The IEEE stands ready to work with its colleagues in the scholarly publishing community to create a similar partnership that could provide agencies with low-cost tools and processes to address the OSTP requirements. With more than 425,000 members in over 160 countries world-wide, IEEE is the world's largest professional association dedicated to advancing technological innovation and excellence for the benefit of humanity. In addition to our conferences, standards and other activities, IEEE publishes more than 150 transactions, journals and

magazines, which represent more than 30% of the world's annually published literature in electrotechnology, computing and related fields.

Teresa Davis tdavis@bcm.edu American Society for Nutrition

The American Society for Nutrition (ASN) appreciates the opportunity to provide comments regarding public access to peer-reviewed scholarly publications resulting from federally funded research. Founded in 1928, ASN is a nonprofit scientific society with nearly 5,000 members in more than 75 countries working in academia, clinical practice, government and industry. ASN is dedicated to bringing together the world's top nutrition research scientists to advance our knowledge and application of nutrition. ASN publishes the two leading, peer-reviewed scientific journals in the areas of nutrition science and dietetics, The American Journal for Clinical Nutrition (AJCN) and The Journal of Nutrition (JN), and the review journal *Advances in Nutrition*. ASN supports the principle of increased public access to scientific information that stimulates innovation, and a clear, coordinated policy for Federal agencies to increase such access. ASN voluntarily has taken the following significant steps to accomplish this: •Since 1997, the Society has included free access to the online journal collection as a membership benefit. •ASN has offered free public access to articles 12 months after publication on its website since 2000. •ASN's entire journal collection, including over 110 years of archival content, has been online through Stanford University's High Wire Press since 2006. Approximately 98% of online journal content is freely accessible to both subscribers and non-subscribers. •The content of all ASN journals is indexed in the National Library of Medicine PubMed/Medline database, and articles resulting from National Institutes of Health (NIH)-funded research are accessible from the online NIH open access repository PubMedCentral after an embargo period of 12 months. ASN supports a 12-month post-publication embargo period as a guideline for making research papers publically available. A shorter embargo period in public access policies devalues journal subscriptions, and therefore subscription revenue which many publishers rely heavily on to support publishing operations, including the costs of collecting, reviewing, editing, composing, disseminating, and archiving manuscripts. Two 2006 articles, "Self-Archiving and Journal Subscriptions: Co-existence or Competition?" (Publishing Research Consortium, http://www.publishingresearch.net/self_archiving2.htm) and "ALPSP Survey of Librarians on Factors in Journal Cancellation" (The Association of Learned and Professional Society Publishers, alpsp.org), demonstrated that an embargo period of 6 months or less would increase the likelihood that librarians may decide to cancel a journal subscription. A shorter embargo period can also more easily compromise the business models of small publishers, including many not-for-profit publishers, who publish scientific journals on a bimonthly or quarterly basis only. ASN supports public-private collaboration to avoid unnecessary duplication of existing mechanisms. We urge the government to work with publishers to provide public access directly from the article of record in the journal by providing links back to the content to enhance value to all stakeholders. To minimize administrative tasks for authors, publishers, and the government, papers should be posted to and made publicly available via a single site such as a

publisher's platform, rather than multiple repositories for different agencies or disciplines. ASN opposes publication of multiple versions of the same manuscript as this will confuse, and in some cases even corrupt, the scientific record. Federal agencies can help to optimize search capabilities to allow the public to better access and understand federally funded research findings. All final versions of scientific articles are available on publisher websites; these articles can be and are made publicly accessible after a suitable embargo period. Current search engines, such as Google Scholar, allow ready identification of and access to research articles published in scientific journals. Federal agency assistance in increasing public awareness and understanding of these findings will maximize the benefit of public access policies to U.S. taxpayers and their investment in the peer-reviewed literature. Federal efforts and funding to advance new research, expand efforts to translate research findings for the general public, specifically patients, and find ways to help the U.S. public use this vast resource of scientific information to lead healthier lives are also necessary. ASN agrees that it's important for Federal agencies to ensure that attribution to authors, journals, and original publishers is maintained. Typically the intellectual property right of copyright is transferred from authors to publishers, who make content freely available via their publisher platform and other databases 12 months after publication. Publishers and editors provide added value such as peer review, editing and formatting to improve clarity, accuracy, readability, and discoverability of published research findings, and they ensure that content is archived on safe, reliable, and multiple sites. Copyright allows publishers and editors to produce journals and other publications to share federally funded and other research findings with a worldwide audience in both print and online versions which are indexed via multiple search engines and databases to enable the broadest access possible. ASN supports allowing publishers to retain copyright while giving privileges to authors. ASN also supports clearly identifying copyright holders in open access databases and repositories such as PubMedCentral. ASN does not support blanket requirements in grant contracts which have the potential to deny authors and publishers the benefits of their copyrights, such as how and in what form their works are distributed. ASN supports decentralized approaches to archive publications and metadata. To avoid significant and unnecessary costs for the government, any potential Federal repository should link to the published research article on the publisher's site rather than post a duplicate copy in a Federal repository. ASN believes it's a duplication of efforts for multiple Federal agencies to establish separate repositories while publishers and others have systems currently in place to archive peer-reviewed scholarly publications. There are existing models of collaborative efforts amongst librarians, publishers, commercial entities, and others to maintain online archives of peer-reviewed scholarly publications, including those that result from federally funded research, including LOCKSS (Lots of Copies Keep Stuff Safe); CLOCKSS (Controlled LOCKSS); Portico; and JSTOR. Federal support for the archiving efforts already underway by public-private partnerships is critically important to maintain existing publisher

archives. Federal support could also encourage innovation in accessibility and interoperability of these archives, while ensuring long-term stewardship of the results of federally funded research. ASN looks forward to continued dialogue on this important issue and the opportunity to assist Federal agencies in any other way deemed appropriate. We urge Federal agencies to fully involve publishers in the implementation of any public access policy. Please contact Karen King, Vice President for Publications (301.634.7053, kingk@nutrition.org) if ASN may provide further assistance. Sincerely, Teresa A. Davis, Ph.D. ASN President, 2012-2013

Michael Roy **mroy@psych.org** **American Psychiatric Association**

Statement from a Professional Society Publisher (5/10/13) Broad access to the research literature is important to American Psychiatric Publishing. So we respect the ideals behind the Office of Science and Technology Policy's (OSTP) initiative "Increasing Access to the Results of Federally Funded Scientific Research." Our policy is that 12 months after publication, we grant the public free full-text access to all content on the Web site of our peer-reviewed journals, including The American Journal of Psychiatry, the most widely read psychiatric journal in the world. That is a decision we came to based on balancing the needs of our association, whose efforts to advance the field of psychiatry on behalf of patients depend on revenues derived from publishing, and our commitment to the research community, since our findings can influence fields of research outside of our subscriber base. We recognize that other publishers may have different policies and timelines based on the unique nature of their fields. The publishing industry has invested much to make the rapid dissemination of science of possible, but efficiencies are associated with a significant cost in editorial staff, manuscript processing, and online hosting. The efficiencies have been introduced to be competitive. To excel in supporting the work of our association, we have to perform better than other journals publishing in our field both in what we publish and how we publish. There are external metrics (e.g., Impact Factor) used by many as proxy variables to assess the value of content being published, and journals with high impact factors get there by being extremely rigorous in what they accept for publication. Thus, peer review at this level becomes a very extensive and expensive endeavor as it involves bringing on top-level experts in the field as salaried consultants to determine what represents high-impact science. In addition, journals that are attractive to authors are those who can perform this review rapidly, and that necessitates an online manuscript review system that costs publishers many thousands of dollars annually depending on submission load. So competition for high-quality papers is intense. And science benefits from this competition as this vigorous peer review provides a key quality indicator that gets removed when research results are simply placed in a publicly available repository. And that is a concern we have toward any movement toward immediate display of research on publicly accessible sites. Having this content freely available on a government site puts publishers at a disadvantage that we seek to remedy through a limited period of exclusivity that allows us to generate subscription revenue to recapture some of our significant investment. Once content becomes freely available through other sources, our usage and revenue drop precipitously. The balance we propose is to offset the high cost of publishing high-impact research by ensuring that for a period of time traffic comes to our website to view this content. This period is payment for the external imprimatur of quality to this research that our rigorous review has provided and allows us to continue this contribution. In short, for the goal expressed in the OSTP memo that the results of research "are made available and useful for the public, industry, and the scientific community," we feel that while a government-run public repository

can surely make the research available, the publishing industry through its peer review and innovations introduced to prepare and promote scientific endeavors makes the research useful at a level that displaying in repositories cannot surpass. We greatly appreciate the principle put forth by the OSTP, which “recognizes that publishers provide valuable services [and that it is] critical that these services continue to be made available.” We feel this principle can be ensured by allowing the publishers to determine a reasonable embargo period during which they retain exclusive display rights to raise revenue to support their association’s educational mission or other stakeholders and remain competitive in their respective markets. Respectfully submitted, Rebecca D. Rinehart, Publisher Michael D. Roy, Editorial Director American Psychiatric Publishing A Division of the American Psychiatric Association 1000 Wilson Boulevard, Suite 1825 Arlington, Virginia 22209 Telephone: 703-907-7876 (703) 907-7895 (ph) rrinehart@psych.org mroy@psych.org (e-mail)

Mark Sobel mesobel@asip.org American Society for Investigative Pathology

ASIP Comments on Public Access to Federally Supported R&D Publications I am Dr. Mark Sobel, the Executive Officer of The American Society for Investigative Pathology (ASIP), a nonprofit educational 501(c)(3) society that publishes The American Journal of Pathology (AJP) and co-publishes The Journal of Molecular Diagnostics (JMD) with the Association for Molecular Pathology (AMP), which is also a 501(c)(3) society. I am the author of over 100 peer-reviewed scientific articles, many of which were published while I was an intramural Principal Investigator in the National Cancer Institute (1976-2001). AJP has been published since 1925 and was commercially managed for most of that period; ASIP assumed the role of self-publisher from 1992-2010. AJP is the highest cited pathology journal in the world. JMD was founded in 1998 as a self-published journal, a joint venture between ASIP and AMP. JMD has climbed steadily up the ISI rankings since 2000 and is now #15 in Pathology among 78 journals. We have the experience of successfully managing both journals during revolutionary change, including the commercialization of the internet, web-based journal distribution, online Continuing Medical Education associated with the journals, electronically managed peer review, digital file-based production workflows, programming language changes from SGML and HTML to the NLM-DTD, and user-driven features and functionality only possible through the development of electronic tools and internet accessibility. As a small biomedical society, ASIP faced significant challenges to continue self-publishing two high-profile pathology journals through this turbulent period. We have 5 staff members working full-time for the journals to manage peer-review, production, and scientific integrity/fraud. In addition, 3 executive staff members contribute a combined total of 1.2 FTEs to manage the day-to-day business and strategic planning for the journals' access and visibility, content and user value, and financial viability. As a consequence of declining subscription revenue and staggering demand for more specialized mobile access and enhanced online features, ASIP contracted with Elsevier in late 2010 to manage the journals' business operations. We believe our journals are run efficiently and effectively and their institutional pricing is reasonable. The average institutional price per article in our journals is less than \$2.00. In fact, our journal prices were not raised for the three-year period 2008-2010, in part to rule out price as a factor in analyzing subscription renewals. Yet subscription renewals declined precipitously during this period - a time coincident with the free access embargo policy of AJP being reduced from 12 months to 6 months. As a consequence, ASIP moved its free access embargo on AJP back from 6 months to 12 months (the embargo for JMD was and remains 12 months), on both the official journal site and on the PubMed Central archive. Two years after returning to the 12-month embargo period, AJP subscriptions began to increase. ASIP supports the principle of increased public access to scientific information, is a signatory to the DC Principles, and offers free public access to articles 12 months after publication on our journal website. All our subscribers have free and immediate access to all our articles

from the date of publication. As stated above, we experimented with a 6-month embargo period for AJP and experienced a steep decline in institutional subscriptions. Based on our experience, a 6-month post-publication embargo period devalues journal subscriptions, is not consistent with publications (such as JMD) that are published less frequently than monthly, and does not provide subscription revenue to support affordable page charges and maintenance of publishing operations, especially peer review, editing and composition, investigations of scientific fraud, and archiving scientific articles. There is no single “appropriate” embargo period. Federal agencies should not impose inappropriate embargo periods on non-federally funded businesses. Individual publisher business models are not arbitrary, but are carefully calibrated to meet the needs of the scientific end-users. It is important that Federal agencies not ignore the role that publishers play in adding significant value to peer-reviewed publications. We believe our Society is the best guarantor and guardian of the scientific literature published in our journals. We do not support the growth and proliferation of national repositories that are redundant of the content we already provide on our website and in print. ASIP supports public-private collaboration to avoid unnecessary duplication of existing resources. We strongly urge the Federal agencies to work with publishers to provide public access directly from the article of record in the journal by providing links back to the content. We oppose multiple versions of the same article since that is the road to corruption of the scientific record. We also believe that our system of a mixed model of revenue is the best model, because it gives both authors and libraries a cost effective means of disseminating scientific information. ASIP urges the Federal agencies to ensure that attribution to authors, journals, and original publishers will be maintained. We believe that the government should allow publishers to retain copyright, since it is the publishers who must guarantee the integrity of the scientific record and who often initiate investigations of scientific fraud. Copyright holders should be clearly identified in open access databases and repositories. ASIP does not support blanket requirements in grant contracts that have the potential to deny authors and publishers the benefits of their copyrights. In conclusion, very careful consideration needs to be given to archiving and public access policies, especially if these are to be tied to growth in the U.S. economy and improving output of the U.S. scientific enterprise. ASIP strongly supports the decentralization of archive publications and metadata. To avoid unnecessary duplication of costs, Federal repositories should link to the published research article on the publisher’s website rather than post a duplicate copy in a Federal repository. ASIP has significant concerns about the long-term viability, sustainability, and protection from piracy of a single Federal repository. ASIP looks forward to working with Federal agencies to further public-private partnerships in maintaining existing archives, which should be interoperable and ensure the long-term stewardship of the results of federally-funded research.

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Comments by Dr. Gordon L. Nelson, President, Council of Scientific Society Presidents On February 22, 2013, the Office of Science and Technology Policy (OSTP) issued a memorandum to heads of Executive Departments and Agencies directing them to “develop a plan to support increased access to the results of research funded by the Federal Government.” Plans are due in six months. Also open access bills have been introduced in Congress. Advocates have opined that surely research funded by taxpayers should be freely available. Cooperating Federal Agencies are to be complimented with this meeting-- for the first time ALL stakeholders and interested parties are brought together. We need to focus on the questions -- What is the impact of open access? Are there unintended consequences? The Council of Scientific Society Presidents (CSSP) is the organization of those in the Presidency of some sixty science, mathematics, and science and mathematics education societies. The constituent societies have a membership of 1.4 million members. At our meeting two weeks ago all societies identified open access as a prime concern. On February 26th the New York Times had an editorial “We Paid for the Research, So Let’s See It,” urging that government financed research be made available at no charge within a year. That editorial was overly simplistic. A significant fraction of the scientific literature is published by not-for-profit science and mathematics and science and mathematics education societies. Publications often represent an important core activity of those societies. Their pricing is at a fraction of that of for-profit publishers. And societies give back net revenues to science via essential value-added services. To publish a journal is not free. It requires hardware, software, management of the peer review process, editorial work (editors are often paid), maintenance of the database over decades, and printing the final product. The real question is who pays: the authors (their institution or the very grants in question), the users (libraries, companies, individuals) or a third party (government – that is taxpayers – or donors). The first issue is the concern that, if the new policy is implemented without consideration for scientific societies, there will be serious damage to both science and science education. Scientific societies have been publishing journals for over 100 years. They indeed are a core society activity and critical to robust scientific research. Net revenues from publications fund a variety of STEM activities, such as scholarly meetings; paying to help students attend scientific meetings; helping students present, examine, analyze and improve their development as researchers at scientific meetings; other early career support and mentoring; science courses and seminars; development of educational resources; career advancing honors and awards; public outreach activities like chemistry day, or science cafes, to name only a very few. If open access is not done carefully some scientific societies may not survive, and with it the loss of essential services supporting the science enterprise, as well as the likely loss of access to archived articles. Open access is coming on top of the recession, which has already attacked society resources. Scientific societies operate on tight budgets and staffing (including volunteers). The

second issue is if users do not pay, who pays? The plan seems to be author publication fees on the order of \$1500 to \$2000 per article. Where are researchers to get that money? I am a chemist. If I have ten graduate students/post docs, I would likely publish ten papers per year. Publication fees would total upwards of \$20,000. Unless funding agencies increase grant size 2 to 4% to cover publication fees, I would need to reduce the number of publications and/or cut a student. Undesignated funds for an academic research group are precious. Researcher funding of publication fees is not a trivial issue. The result could be reduced publications and reduced research training. A recent letter to the editor of Chemical and Engineering News (April 22, 2013, p.4) raises a third issue. The writer said, "I am concerned about the effect of the federal open-access policy on U.S. global competitiveness... I simply do not understand how making all federally funded research available to the global community for free makes the U.S. globally competitive. I am hoping that someone will enlighten me. If the U.S. is the only country that mandates open access for all federally funded research, doesn't that put the country at a global disadvantage?" (Simon R. Bare, Elk Grove Village, Ill.) When I started my career, page charges were the norm. We have worked long and hard to reduce or remove page charges. The purpose was to create broader, more robust platforms for publication. Journals are international. Publication fees will reduce U.S. papers by perhaps 10%. Off shore authors will likely go elsewhere. They will likely not pay the publication fee. How can journals remain viable? A key will be the embargo period. An embargo period less than 18 months will likely result in not for profit journal collapse. With that will be the collapse of some scientific societies. Journal publication is not simply putting material in a data base. If you review papers for journals you are aware of the difference between a submitted paper and a published paper. It can be the difference between night and day (something that is hardly readable changed to a quality contribution). One subscribes to particular journals because they capture the key papers in one's discipline and represent state-of-the-art high quality research. Scientific societies have a special place in maintaining a vigorous scientific enterprise. Societies reinvest revenues in the science and in the scientific workforce of the future. Open access clearly impacts the health of scientific societies. Open access impacts research grants which foster innovation. Will Federal Agencies increase grants by 2 to 4% to cover publication fees? New open access policies should not ignore issues of global competitiveness. Open access is not the simple issue it has been portrayed. The characterization of scientific knowledge and science publication in this simplistic light will lead to the impairment of the science research enterprise that drives our economy. At this time, we cannot afford to risk the progress of and the impact on science that this issue may cause. Thank you. Gordon L. Nelson, Ph.D. Council of Scientific Society Presidents 1155 16th St. NW Washington, DC 20036 202-872-6230 321-674-8480 nelson@fit.edu

Eugene Arthurs **eugene@spie.org** **SPIE**

10 May 2013 To: John P. Holdren, Director OSTP, and Sponsoring Agencies From: William H. Arnold, 2013 SPIE President Eugene Arthurs, SPIE Executive Director

SPIE, the international society for optics and photonics, an 18,000-member not-for-profit society founded in 1955, fosters knowledge transfer, education, and networking among researchers, industry leaders, educators, and students. SPIE's goals to support innovation and the development of a well-educated and highly trained technical work force are in accord with those of the America COMPETES Reauthorization Act of 2010 and with the objectives outlined in the February 22 OSTP Memorandum on Increasing Access to the Results of Federally Funded Scientific Research. Over the course of decades, SPIE and our scholarly publisher counterparts have developed publishing models that balance the needs and interests of knowledge creators, knowledge seekers, libraries, and publishers. We believe that publishers collectively are better able to serve the broad information dissemination and archiving needs of constituents than entities such as funding agencies, whose focus and resources should continue to be national priorities addressed by guiding, incentivizing, and funding research, development, and economic growth. For an agency to assume the role, or even a portion of the role, of publisher seems like a diversion from its main focus and an inefficient use of resources, especially as that function is being performed capably by the publishing industry itself. While PubMed Central (PMC), for example, may be effective, it is also expensive to operate and to a significant extent redundant to what publishers are already doing, or could be doing, for the medical community. We think the optimal path to achieving the public access goals of U.S. funding agencies is for the agencies and publishers to cooperate in building a robust solution that (a) leverages what publishers do best and sustains a healthy scholarly publishing industry, (b) enables the Sponsoring Agencies to focus on achieving the goals of America COMPETES and the other public access objectives without consuming resources that should be used for research, and (c) is flexible enough to work for all business sectors, communities, and constituents. The foundation for the solution already exists. An increasing number of fully open access and hybrid open access journals serve authors who want immediate public access to their work and have the funds to pay the publication fee. All SPIE journals, for example, provide a "gold" open access publication choice. Many publishers, including SPIE, have "green" open access policies that permit articles to be deposited in repositories and other publicly accessible databases. Numerous biomedical publishers deposit articles in PMC on behalf of authors and in many cases make papers freely available in their own journals after a brief embargo period. We envision that these approaches could scale to all disciplines covered by the Sponsoring Agencies. By employing established publishing models combined with strong Sponsoring Agency-publisher coordination, we believe the public access objectives of America COMPETES can be successfully achieved. This approach will enable SPIE and other publishers to continue to provide flexible publishing opportunities for all

authors, including those funded by U.S. Government agencies, and allow the agencies to devote their resources to needed innovation and economic development. Thank you for the opportunity to provide this input.

E. Allen Foegeding eaf@ncsu.edu Institute of Food Technologists

May 10, 2013 Office of Science and Technology Policy 725 17th Street Washington, DC 20502

Statement of the Institute of Food Technologists Public Comment Meeting May 14-17, 2013 “Public Access to Federally-Supported R&D Publications” The Institute of Food Technologists (IFT) appreciates the opportunity to submit comments to the Office of Science and Technology Policy (OSTP) to offer its perspective and practical insights on public access to federally-funded research appearing in peer-reviewed journals. IFT exists to advance the science of food and we are committed to the free flow of scientific information. Furthermore, our peer-reviewed publishing efforts are critical to our nonprofit organization’s success in fostering innovations in the food science and technology field. IFT serves over 17,000 individual members, affiliated with academia, industry, and government, and all those interested in food science and technology, by publishing three internationally renowned peer-reviewed journals and a technical magazine. As a publisher, IFT maintains a comprehensive pool of over 1,800 active peer reviewers comprised of preeminent food scientists, technologists, and engineers. Such an extensive resource of peer reviewers ensures that the research made available to the scientific community is important, comprehensive, and of high quality and integrity. Two of IFT’s peer-reviewed e-publications (Journal of Food Science Education and Comprehensive Reviews in Food Science and Food Safety) are open access online from the date of publication, at no charge to authors. These journals are entirely supported by society revenues from the Journal of Food Science (JFS). JFS is available to IFT members at a discounted subscription rate and to others on a per-article download charge or through subscription. In addition, JFS opens access to all review articles and selected articles of importance, and has a hybrid business model that allows for authors to choose “Gold” Open Access for publication by payment of an APC (article processing charge). Approximately 10% of papers published in IFT’s scientific journals are funded by federal agencies which are impacted by the OSTP memorandum “Increasing Access to the Results of Federally Funded Scientific Research” (e.g., USDA, FDA, DOD, NASA, etc.). We respectfully request consideration of the following points:

- In response to section 3 of the memo, IFT already has an established archive for long-term preservation of our journal content, which can be made publicly accessible at the article level after an embargo period determined by the mandating agency. We support an embargo time of no less than 12 months; as suggested by OSTP.
- It is our opinion that implementation of this policy via a database that lists agency-funded research and links back to the original published article in the publisher’s maintained archive would be most beneficial to publishers and to the agencies alike. This will result in minimal cost to the agencies which are required to implement this initiative within their established budget, while also providing access only to the publication-of-record on the publisher’s website (i.e., not reposting unedited, accepted versions of articles in a separate location). This approach would be least detrimental to society publishers like IFT, who depend on revenues from

our scientific publications to provide high quality peer-review and essential services to our members. The current National Institutes of Health system, via PUBMED Central, has merit. However, it is important that peer-reviewed articles should be clearly accessible by discipline and that appropriate marketing and awareness of their availability is part of any open access system. • Scientific societies have a long and successful history of communicating cutting-edge science through peer-reviewed journals. This is only possible by dedicated scientists essentially volunteering their time to peer-review, editing, and adding corrections to manuscripts. In association with professional publishing staff, this assures high quality and consistency, in addition to maintaining accessibility to publications. In closing, we want to emphasize our full agreement with the goal of making publically-funded research available to all interested parties. We look forward to working with the government in developing a system to “maximize the impact and accountability of the Federal research investment...[to] accelerate scientific breakthroughs and innovation...” [quoted from Memo, section 1, end of para. 3]. However, to properly achieve that goal, we must maintain the benefits of the current publishing structure and not add un-needed complications and costs. Sincerely, E. Allen Foegeding, Ph.D. Editor in Chief, IFT Scientific Journals

Adam Fagen afagen@genetics-gsa.org Genetics Society of America

GENETICS SOCIETY OF AMERICA PUBLIC ACCESS TO FEDERAL R&D PUBLICATIONS The Genetics Society of America (GSA) welcomes the chance to provide input into the development of models for public access to the outputs of federally supported research and development. Founded in 1931, GSA represents nearly 5,000 members who work to advance knowledge in the basic mechanisms of inheritance, from the molecular to the population level. GSA publishes two scholarly journals: (1) GENETICS, which has published original research on a range of topics bearing on heredity since 1916, and (2) G3: Genes|Genomes|Genetics, an open access journal established in 2011 to provide a forum for the publication of high-quality, foundational research, with a particular focus on research that generates useful genetic and genomic information including novel datasets of broad interest to the research community. GSA has pursued policies that balance access to our publications, service to our members and the public, and the economic viability of our business models. GSA supports the goals of the OSTP memo, including increasing access to federally-funded scholarly research; archival preservation; search and discovery; article and data/metadata identifiers; and interoperability between agency and private sector platforms. We feel that GSA and other publishers are in the best position to carry out these objectives, all at low cost. Indeed, most publishers have already developed a robust infrastructure to provide these and other objectives. GSA is committed to providing complete and fast access to its publications, while maintaining rigorous peer review and peer editing and the high standards that define our journals. Manuscripts accepted in GENETICS are published online early and are free to read within two weeks of acceptance. After final online publication, each issue is embargoed for 12 months. This embargo period allows GENETICS to offer a fair price and to retain its subscription base, which is critical to its current and future success. GENETICS authors also have the opportunity to make their articles available without embargo by selecting an open-access option. G3: Genes|Genomes|Genetics, GSA's fully open-access journal, provides free access to all its articles immediately upon publication each month. It is critical that there be a single host for the final version of record for journal articles. We believe that the repository should be the copyright holder and publisher. We already provide easy continuous access to primary research articles in fulfilling our own mission. To promote economic efficiency and avoid duplication of efforts by the government, readers should be directed to the version of record on the publisher's website. The GSA encourages the government to work with publishers to provide links to the articles on the publisher's website. Similarly, we expect the government not to expend the considerable costs and resources to duplicate existing archives held by individual journals and publishers. GSA is a supporting publisher of CHORUS (Clearinghouse for the Open Research of the United States) and its distributed approach to public access, where publishers would host the open access content on their sites in the format most appropriate for the field of study. Directing readers to publisher

websites enables interested parties to benefit from the innovations and access to information we already make available. For example, GENETICS and G3's data policies support the OSTP's position that data be fully available to other researchers. Our articles are required to include all the raw data. We believe the interests of science are best served by allowing other scientists to access data, not only for study replication but as building blocks of science. However, it should be noted that the long-term hosting of such data is not without costs. In addition, the maximum use of metadata and data requires that standards are developed and implemented. GSA and other publishers are committed to ensuring that articles remain available in perpetuity. In fact, a growing collection of private and public-private resources (including Google, Google Scholar, Scopus, Web of Science, HighWire Press—as well as CLOCKSS, LOCKSS, and Portico for archiving purposes) has proven effective for ensuring a permanent archive that can be easily accessed. We believe that publishers that already represent the members of the community—especially scientific societies—are in the best position to serve the needs of scholars in the field. Since research areas often span the interests of several federal agencies, we are concerned that dissimilar requirements of different agencies will cause confusion among the research community and lead to considerable inefficiency, as authors attempt to comply with the different requirements, depending on their funding source. Finally, while we agree that embargo periods may differ by discipline, we are concerned that stakeholder petitions to change embargos may not allow sufficient engagement of publishers. Potential changes to embargos are likely to erode peer review and peer editing and negatively impact existing business models (and therefore the viability) of publishers in all sectors of scholarly publishing and therefore, must be discussed in depth with all of the important stakeholders. GSA would again like to emphasize that we share with OSTP and the Administration common goals of access to publications, including the expanded use of and broad access to scholarly articles, and a practical, cost-effective way forward that involves participation by all stakeholders. We also support, as indicated in the Memo, consistent and state-of-the-art metadata tagging and opportunities for re-use and data mining, long-term preservation and storage of scholarly publications. These activities should be done with as minimal duplication of effort and resources as possible, such that a standardized, cost-effective, and useful solution might be implemented. Thank you very much for your consideration of our comments.

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Association for the Sciences of Limnology

John Downing president@aslo.org and Oceanography

Open access publication policies could have unintended consequences for the US science enterprise. The following comments derive from my experience as president of the Association for the Sciences of Limnology and Oceanography (ASLO), as well as discussions with many colleagues in the Council of Scientific Society Presidents (CSSP). A draft was submitted to several CSSP colleagues who have offered suggestions and edits. Although many have contributed to these ideas, the opinions expressed do not necessarily reflect those of ASLO or CSSP. Government policies on open-access publication must minimize the risk of unintended consequences for science and scientists. Should any proposals for adoption of open-access (OA) for all federally funded research within a year or less of publication be adopted, it may lead to:

- The disappearance of many scientific societies
- Loss of essential services supporting the science enterprise
- Future loss of access to archived articles
- Reduced science output
- Subsidizing of global innovation by US scientists
- Loss of foreign revenues to US science societies
- Fading stimulus for scientific innovation.

Publications fund science societies' beneficial activities. Significant scientific literature is published by non-profit science societies and publications are their economic core activity. Subscription pricing set by the societies is usually a fraction of for-profit publishers, and societies give back those revenues to science via essential value-added services. In ASLO, for example, 70% of the cost of science services derives from journal subscription revenue. Members' services are subsidized 5:1 over membership fees by journal subscriptions and 100% of that revenue goes back to supporting the science enterprise. Scientific societies provide essential services. Among these are:

- Objective science publications
- Scholarly meetings
- Professional networking
- Early-career support and mentoring
- Professional interaction
- Science discourse
- Enhanced diversity in STEM fields
- Career-advancing honors and awards
- Outreach and public information
- Independent educational resources.

Non-profit science societies need a gradual, and consistent transition. Scientific societies operate on very tight budgets and staffing, principally by volunteers. Non-profit science societies need a clear, gradual, and stable research-funding environment. Science societies having to conform to multiple policies developed by multiple funding agencies independent of each other, will be wasteful of societies' author, volunteer, and staff resources. Volunteer boards govern Science societies. This means that they are objective sources of science and information but also that they cannot rapidly make major changes in business models. Thus, a rapid transition would favor corporate publishers, further exacerbating the global dominance of for-profit science publishing. In the aquatic sciences, most journals were published by science societies in the mid-20th century while now 80% of all citations of aquatic science articles accrue to journals published by for-profit publishers (Fig. 1). Short embargo periods will drastically reduce subscription revenue to societies. The length of the embargo period is critical for science societies.

Short embargo periods will mean that science society publications will be at higher risk of being cut from libraries' budgets in favor of the "big deals" of corporate publishers. Funding agencies and the scientific publishing community should collaborate to agree upon a mutually reasonable embargo period. A new funding stream needed. The move to open access publication will alter the flow of funds, meaning that the cost of publication will be born by authors, not libraries. Public policy changes need to identify time-stable funds to support dissemination of research results. These funds will need to outlive the length of research grants. OA will discriminate against poorer scientists and those from less-developed countries. OA science publication mandates will lead to the disappearance of many low-cost science publication options. Intended to be egalitarian, they will favor wealthy scientists and nations. Author-pays OA will force US scientists to subsidize global innovation. OA mandates mean that foreign scientists will receive US research free, paid for by US scientists or agencies. Publication costs will reduce the budgets of US scientists decreasing research training in our nation. Research is greater than the sum of its grants. Publications result from scientists' innovations; materials and labor purchased with grants; publishers' investments, and costs of sustaining publication data over decades. If individual scientists must abandon intellectual investment quickly because of government mandates, we risk squelching innovation.

Conclusion. Scientific societies have a special place in maintaining a vigorous scientific enterprise by reinvesting publishing revenues in the scientific workforce of the future. Well-intended plans altering the publishing environment without considering them compromise this engine of scientific productivity. Avoiding this requires a gradual transition, a stable, alternative OA publication funding stream, inclusive publication options, and recognition and valuation of scientists' intellectual investment. Policy should distinguish between science societies, who are publishing to enrich the science enterprise, and for-profit publishers who use science to enrich their own enterprise.

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Written contribution to the meeting on Public Access to Federally Supported R&D Publications
Submitted May 10, 2013 By Sue Ann Gardner, Scholarly Communications Librarian University
Libraries, University of Nebraska-Lincoln Lincoln, Nebraska Introduction As one who works daily to
provide research materials for the scholarly community, students, industry, and the public, the issue of
public access to Federally-supported R&D publications is near and dear to me. I strive continually to
provide the greatest access to publications within the boundaries of copyright law, permissions, and
emerging principles of scholarly open access. The current state of affairs troubles me, and it is heartening
to see steps taken at the Federal level to address issues that directly impact academic discourse and
intellectual freedom. “Final Published Versions” and Commercial Publishers In the “Memorandum for
the Heads of Executive Departments and Agencies,” dated February 22, 2013, on page 3, it states: “the
results of unclassified research that are published in peer-reviewed publications directly arising from
Federal funding should be stored for long-term preservation and publicly accessible to search, retrieve,
and analyze in ways that maximize the impact and accountability of the Federal research investment.” I
could not agree more with this directive. The devil is in the details, however, and I would like to point out
some key aspects that need to be refined in order for this plan to be truly effective. Further down on page
3, it continues: “[E]ach agency plan shall: a) Ensure that the public can read, download, and analyze in
digital form final peer-reviewed manuscripts or final published documents within a timeframe that is
appropriate for each type of research conducted or sponsored by the agency.” This is a point where a
distinction needs to be made. The “final peer-reviewed manuscripts” are quite simply inadequate proxies
for the “final published documents.” They are not equivalent, and allowing one or the other to be posted
in repositories leads to a morass of potentially conflicting versions floating around which researchers,
students, entrepreneurs, and the public may access, and unknowingly use a version that mischaracterizes
the authors' intent. The “final published versions” are the currency of academic discourse. Researchers
must cite the final published versions when communicating via scholarly writing. In order for scholarly
communication to advance unimpeded, to “accelerate scientific breakthroughs and innovation, promote
entrepreneurship, and enhance economic growth and job creation” (Memorandum, p. 1), publishers must
be required to provide access to “final published versions.” The unspoken issue throughout the
Memorandum is that commercial publishers have made such inroads into academia that they are now
adversely affecting academic discourse. These publishers have chosen to partner with academics to
provide services that scholars, students, businesspeople, and the public have come to rely upon, but their
business practices have resulted in impeded scholarly communication. Many commercial academic
publishers allow authors to post only “authors’ versions,” as mentioned above, even after an embargo
period, and this is nothing less than debilitating. I am not overstating this. As a scholarly communications

librarian, I can attest to the difficulty and, often, the sheer impossibility, of providing manuscript copies (i.e authors' versions), especially retrospectively, for inclusion in our institutional repository (IR). I can also attest that, even if authors are mandated to post manuscripts, this will likely not happen without a very well-organized infrastructure in place to do so. Published versions, conversely, are readily available to those with campus and personal subscriptions and those versions may be readily included in repositories and on authors' web sites. It must be said that commercial publishers must restructure their economic models to allow authors to post published versions—the citeable, actual versions of papers—so that scholarly communication can progress in an effective and robust manner. Not-for-profit publishers have essentially universally acknowledged the realities of the flow of scholarly communication, and they allow authors to freely communicate their research findings in the final published form. Authors will continue to seek venues that support their research and teaching needs, and the commercial publishing sector should place itself in relation to this need, or frankly risk obsolescence. Federal Funds Should Result in Openly Accessible Publications Federal funds that are disbursed to investigators to conduct research cover many aspects of the research endeavor, such as salaries, travel, equipment and supplies, student assistance, overhead for the home institution, etc. These funds drive our STEM output tremendously in universities countrywide. The public—and the academic community—deserve a return on their investment which includes ready access to the products of that research. This is imperative for accountability, for unimpeded continued scientific inquiry, and for the opportunity for in-depth general public learning. That is what our democracy is founded on, after all, an educated populace, something which we sincerely need to promote in this age of increasing technology and global competition.

Conclusion As a scholarly communication librarian, as an academic author myself, and as the spouse of a prolific academic author, I regularly run up against the barriers that this meeting has been convened to address. I implore all interested stakeholders to step forward carefully as this process unfolds, and to keep the creators of the R&D publications in mind as policy is being codified. If authors are allowed to make their research openly accessible, in the final published form, via institutional, Federal agency, and subject repositories, they will invariably do so enthusiastically, and the academic community, the STEM industry sector, students, and the public, will all be the beneficiaries.

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These comments offer two sets of suggestions for improving the tagging of publications for information retrieval.

1. Enhancing Search by Geotagging Publications and Data A recent project concerned with factors affecting the availability and quality of water at selected points within a large watershed was driven by fundamental questions about what is going on upstream: What data has been collected about the groundwater and surface water flowing toward these points of interest? What has anyone learned about the aquatic ecology and riparian habitat? What prior studies have examined water governance issues or projected land uses within the watershed or above the aquifer that feeds my water supply? Finding useful information relative to these kinds of questions could be much enhanced by the consistent implementation of standards for geotagging publications and data. Implementation of these standards would, for example, allow a user to supply a polygon (such as a watershed boundary) and retrieve the published information pertaining to that area. Ideally, that would not only save search time, but it would help increase an understanding of the region and ultimately make natural resources management more effective there. Researchers and research groups are already making use of geotagging. Accelerating its application will enhance the use of research results for the benefit of the public.

2. Tagging Publications With the Functional Linkages They Investigate We have long used keywords to tag our scientific publications. Keywords alone, however, do not explicitly capture the functional linkages among the variables investigated. Furthermore, scientific papers tend to be devoted to a narrow set of research questions. Even when multifaceted studies are undertaken, researchers may have incentive to disaggregate their findings and report them in separate papers. A search system that can readily aggregate study results in meaningful ways would be helpful. By tagging publications with the functional linkages with which they are concerned, useful relationships within a body of literature – even among different disciplines – can be more readily discovered by a system equipped to retrieve and assemble those linkages. For example, if one study reports the effect of a chemical pollutant on human health and another reports the effectiveness of a technology for reducing the presence of that pollutant in the environment, then the link between the health problem and a potentially useful pollution control technology may immediately emerge from a search on the chemical, the health problem, or the technology. Modern societal challenges are often complex and multifaceted, and the proliferation of knowledge within disciplinary specialties and subspecialties makes useful synthesis of that knowledge ever more challenging. A mechanism for cataloging and searching that can assemble connections between individual sets of discoveries will help us understand, appreciate and manage our world better.

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Public Access to Federally Supported R&D Publications We suggest policies and procedures for public access to federally supported R&D publications. First, it is important to have a broad definition of “federally supported R&D publications.” Many federal agencies conduct or require research as part of environmental impact studies, for example, and documentes, reports, and formal publications generated by this kind of research should be included under the term. Research publications about archaeological and historical resources should be included, as well as more commonly recognized subjects like geology, biology, medicine, climate, etc. For example, most of the archaeological research in the US is funded as part of environmental impact and historic preservation reviews required by NEPA, the National Historic Preservation Act, or the Archaeological Resources Protection Act. Federal agencies report that the number of archaeological investigations they undertake or require exceeds 50,000 annually. The documents, reports, and formal publications from such studies should be considered as “federally supported R&D publications.” It is rare for the results of the archaeological or historical research from such investigations to be published in peer-reviewed journals or books. Requiring a peer-review publication from such studies, and making these publications available would be positive and make the information widely accessible for subsequent investigations on related topics or geographic areas. Alternatively, agencies could require that the documents and reports of these kinds of investigations be subject to peer-review, and that any subsequent appropriate revisions be made, prior to accepting the final report(s) of the investigation. Such a procedure would not require publication in a traditional scholarly book or journal, but the professional review would be accomplished in either case. Realistically, either of these requirements would be limited to projects of sizable scope in order for the review to be worthwhile. Another possible solution would be for agencies to require peer-reviews of all substantial reports created for archaeological, environmental, or historic preservation identification and evaluation studies or data-recovery and documentation studies. This would have the additional value of improving the final reporting on projects not done for strictly academic or scholarly functions, but as part of public project planning and construction projects. Instituting such an approach and requirements as part of agency policies and procedures would broaden access to information that will make subsequent investigations more effective and efficient. Any new studies would have the advantage of better information from which they would be starting, information that is firmer and more widely based than if access to data, information, and interpretations from earlier studies is not accessible. Easier, more accurate, and quicker environmental reviews for public projects clearly would contribute to US economic growth and productivity. Disciplinary digital repositories will be the most effective way in which to manage public access to federal R&D publications. The variation in metadata organization and terminology among the wide variety of scientific disciplines involved in government research is too large to be effectively and

efficiently accommodated by one or a few centralized repositories. Further, these disciplinary repositories should be interoperable, that is, linked in some manner. In this way, the actual document (or other information resource) is stored in a disciplinary repository but the descriptive information (metadata) about the item is accessible in other related repositories as well. Existing publisher archives could be made better known and more widely used if metadata about the publishers' catalog listings, including summaries of the books, articles or book chapters they contain were exposed to searches by being accessible through disciplinary repositories. In the field of archaeology, for example, the Digital Archaeological Record (tDAR) is used by academic publishers to create a metadata page for their archaeological publications. The metadata includes a description of the contents of the publication and standard archaeological metadata terms to assist with discover by individuals search the tDAR repository. Publishers may upload a portion of the publication the metadata page refers to (e.g., the front matter and an introductory chapter). One publisher uses tDAR to make supplemental data for published books available. Publishers also may include information about how to order the publication, or a link to the publisher's web site for those who want to purchase it. There are mutual benefits from this kind of commercial/not-for-profit partnership. The Center for Digital Antiquity which maintains tDAR, is a not-for-profit organization at Arizona State University. The repository function that Digital Antiquity carries out through tDAR gains additional content and information that it can make available to its users. Publishers gain an inexpensive and easy way of advertising their publications. The overall benefit is that available information is made more easily discoverable, accessible, and usable. In effect, open and not-for-profit repositories like tDAR are linking disparate information about a topic or an area, by including metadata from commercial publishing firms with the metadata and documents in open repositories. Users gain a "one-stop-shopping" experience that increases accessibility for users.

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As a land grant institution, Kansas State University is committed to providing public access to the research carried on here. Researchers at Kansas State University receive grants totaling several million dollars a year from federal funding agencies. Many of the journal articles they author as a result of the research are held behind subscription pay walls and are not available to the general public. Taxpayers fund universities and faculty to do research and open access allows the results of that research to be read and used by taxpayers, decision-makers, teachers, students and others around the world. As a cosignatory of the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities, we at Kansas State University strongly endorse the OSTP directive to make peer-reviewed publications and scholarly data publicly available when research is funded through federal agencies.

Nick Shockey nick@arl.org Right to Research Coalition

Written Comment on Behalf of the Right to Research Coalition National Academy of Sciences Meeting on Public Access to Federally Supported R&D Publications May 10, 2013 I'm writing to express the Right to Research Coalition's support for the White House Memorandum on "Increasing Access to the Results of Federally Funded Scientific Research," dated February 22, 2013. Properly implemented, the memorandum will significantly increase American students' access to the research literature, which is crucial to a complete, up-to-date education before graduation and to allow graduates to keep their training current afterward. The Right to Research Coalition is an alliance of 66 student organizations, representing nearly 7 million students, that work to promote free, open, online access to scientific and scholarly publications. Right to Research Coalition members, including organizations such as the National Association of Graduate-Professional Students and the American Medical Student Association, believe that students' educations should not depend upon their institutions' ability to pay for often-expensive journal subscriptions, especially when the bulk of research is publicly funded. We believe articles resulting from publicly funded research should be made freely available as soon as possible and have a strong preference for immediate availability. Students should receive training based on the most current information available in their field, rather than information that is twelve or even six months old. In many disciplines, such a delay puts the information at risk of being stale or out of date. The National Institutes of Health Public Access Policy has been in place for more than five years with a twelve-month embargo and had no demonstrable negative impact on publishers. Other leading research funders are implementing policies with a shorter, six-month embargo period. Recognizing the needs of various stakeholders involved in academic publishing, we support the inclusion of a flexible embargo period of no longer than six months after publication in a peer-reviewed journal. The Right to Research Coalition also strongly supports the use of a centralized, federal repository system. We believe the success of PubMed Central (PMC) powerfully illustrates the benefits of such a centralized archive. PubMed Central sees over 1.5 million full-text article downloads each weekday from more than 700,000 unique users, 40% of whom are from the general public. American students in medicine and the biomedical sciences rely on PubMed as an indispensable resource, and those in other disciplines would benefit significantly from having a similar, comprehensive repository – one where all articles can be displayed together in one location, rather than being walled off in numerous silos on publishers' websites. The NIH built PubMed Central to be portable, meaning other agencies can quickly adapt and repurpose PMC to fit their individual needs at low cost. We also believe such repositories represent an excellent return on taxpayer investment. The NIH, which accounts for roughly half of all federal, non-classified research spending, estimates that PMC costs a couple hundredths of one percent of their overall budget to operate; yet, this minimal cost ensures all NIH-funded research can be read and built upon by anyone with an Internet

connection. We also believe federal agencies should ensure articles reporting on the results of agency-funded research are made available under open licenses, such as those provided by Creative Commons, to enable them to be used to the fullest extent possible. Each year, over 1.8 million scientific articles are published in English language journals alone – more than any single researcher could read in a lifetime. Open licenses are essential to unlocking the research literature to computers as an entirely new class of reader. Text mining technology, such as IBM's Watson, is growing more powerful by the year; however, the implementation of such techniques will be greatly hampered if articles remain locked under full copyright and in proprietary formats – even if they are freely available to individual readers. Some publishers allow researchers to mine the full-text of their articles on a case-by-case basis, but by ensuring any interested researcher will have to go through rounds of negotiation with each and every publisher, this method does not scale. Google, a company started by two graduate students, provides an apt analogy. If Sergey Brin and Larry Page needed to request permission to index each and every page of the Internet, it is hard to imagine Google would have grown into the economic engine it is today. In research, the friction of permission barriers creates a powerful disincentive for student researchers and faculty to invest in these new, potentially revolutionary techniques. In summary, we strongly encourage federal agencies implementing the White House memorandum to make articles resulting from federally funded research available through a centralized, federal repository system within six months of publication or less and with the open licensing necessary for the articles to be used to their fullest possible extent. We believe such implementation balances the needs of all relevant stakeholders, while maximizing the benefits to American students, researchers, and all of those who read and build upon America's research output. Our community stands ready to work with the National Academy of Sciences and individual agencies as they work toward implementation of this memorandum. Sincerely, Nick Shockey Director, Right to Research Coalition

Victoria Stodden vcs@stodden.net Columbia University

The published papers arising from federally funded research should be made publicly accessible immediately upon publication. I have two ideas to help implement that goal. One: Separate the journal name from the publisher. Allow the editorial board to contract with publishers, for say 5 years at a time for example, to carry out the publication. That way if the editorial board is not happy with the job the publisher is doing, then can switch to another publishing contract when the original one expires. This will inject some competition into the publishing business and allow the scientists a direct say in how their work is communicated. The publishers have a monopoly situation with each journal name and should be either regulated as monopolies or this monopoly broken. Two: Establish a neutral organization to manage copyright for all the published papers for the public good. Scientists have shown, over the last many years, they are not in a position to manage IP rights effectively (they are not lawyers, and they are trying to share their work by publishing). We need a separate neutral body who can manage scientific IP for the good of science - i.e. establishing openness as a norm in scientific communication.

Felice Levine

American Education Research Association

The American Educational Research Association (AERA) is the major national scientific association of 25,000 members dedicated to advancing knowledge about education, encouraging scholarly inquiry related to education, and promoting the use of research to serve the public good. Founded in 1916, AERA as a scientific and scholarly society has long been committed to knowledge dissemination, building cumulative knowledge, and promoting access to education research and data. AERA supports the principle of providing public access to research and scholarly articles, whether federally funded or not. In our own suite of six peer-reviewed journals, one journal has been open access through the AERA website since 2000. AERA also allows authors to put toll-free hyperlinks on their own websites or in their institution's archive that provide immediate and free access to the version of record (VoR) upon publication. AERA has previously indicated that it would extend this same opportunity to agencies for funded research. In addition, in partnership with our publisher, SAGE, we provide authors the option of making any article that is published in our suite of journals fully open access. For a \$1,000 article processing charge (APC) paid for by the author(s), readers of the journal have immediate and ungated access to the article through the main journal website. In April 2013, AERA's Council advanced our commitment to open access publishing by approving *AERA Open*, a new, peer-reviewed, open access journal. *AERA Open* not only will make knowledge available, but also will use its available space to promote access to data; research instruments, protocols, and guides; and other supplemental sources of information that will enhance the value of articles as well as stimulate others to pursue research or its application. *AERA Open* will be freely accessible to users. Authors whose articles are accepted for publication will pay a modest APC, currently \$100 for graduate students and \$400 for AERA members, with somewhat higher fees for nonmembers. AERA's pricing model is considerably more modest than in the life sciences, where APCs average about \$3,000 per article. All of AERA's open access models (toll-free links, optional APCs for AERA journals, and *AERA Open*) are accessible to all researchers, not just those federally funded. Publishing has long been central to the role of scientific societies, as recognized by OSTP in its February 22, 2013 memorandum. Scientific societies serve as disseminators of quality, peer-reviewed research. They advance cumulative and innovative knowledge through a vetting process based on high standards of peer review. They also serve as knowledge catalysts, reinvesting resources generated through scholarly publishing into efforts to further advance their fields. The revenue from publishing is essential not only to sustain high-quality publishing but also to support capacity building for the next generation of scholars (e.g., doctoral dissertation grants), professional development, and other programming (e.g., funding research conferences) core to the scientific enterprise. Efforts to provide open access to federally-funded research must be implemented in a way that preserves the vital role of scholarly publishers, while simultaneously embracing the principle of open access. Changes that are

federally introduced will shape and ultimately alter how scientific societies disseminate knowledge and support their fields. A shift to open access will also enlarge the public responsibility of scholarly societies to certify the quality of knowledge they disseminate in a world where users will increasingly have much more information available to them of uncertain merit. In November 2012, AERA held a conference on Open Access Publishing in the Social Sciences with diverse stakeholders from societies, publishers, libraries, and the open access community. There was wide support for the principle of open access and also for working collaboratively, including with government agencies, to develop and test the best models for reaching this goal. We urge OSTP and agencies drafting their plans to consider the following recommendations with a similar commitment to flexibility, experimentation, and collaboration. First, we encourage the federal government to work with scholarly publishers to adopt an approach that takes advantage of existing mechanisms for public access to federally funded research, such as toll-free links. Toll-free hyperlinks can be utilized immediately upon publication without danger to the sustainability of the enterprise. Such links also help to ensure proper use and citation counts, which would be compromised if articles were maintained separately in publisher's archives and a federally-maintained archive. Article citations, abstracts, and metadata could be included in agency databases of completed awards. Resources would need to be allocated to ensure that information was updated to include publications produced well after the award period. Second, for ungated access, we encourage federal agencies to establish a post-publication embargo period of at least 12 months, and ideally for a longer period, unless grantees are provided with sufficient resources to cover APCs. For journals where the majority of published research is federally funded, any shorter embargo period could erode subscription revenue for scientific societies and impede their ability to support their fields and develop their own models for testing open access options. It would be wise for the federal government to encourage publishing experimentation. Third, the federal government needs to address APCs, which have the potential to disadvantage researchers (including emerging scientists) at institutions where resources are minimal to cover such costs. The federal government cannot uniformly rely on institutions or libraries to underwrite these fees. AERA encourages the federal government to provide funds equitably for APCs in all federal grants in order to offset author costs and promote open access. This is especially important in the social and behavioral sciences, including education research, where the size of research grants is far lower on average than in other science and engineering fields. Lastly, we urge the federal government to test a decentralized approach to public access to federally funded research rather than establish a mega archive. A decentralized approach at the outset might be more challenging for locating results of federally funded research or treating publications as a data base. In the long-run, however, it might be wiser to invest in the development of technological solutions that permit distributed linkages and searches. We recommend taking 18- to 24-months to develop a technological tool that would search across distributed

systems to connect the public to the results of federally funded research. Such an investment has the potential for major payoffs for the end user while minimizing costs to the government and unintended consequences for scientific societies. In conclusion, AERA is supportive of making peer reviewed publications, including work based on federal support, widely accessible. We commend and urge continued openness as to the best approach. To that end, OSTP might establish an advisory group of federal and non-federal stakeholders with the task of devising experiments and innovative solutions. Alternatively, the National Research Council might be requested to take up such a task.

access policies should reflect a diversity of perspectives and allow for evolutionary change in models for disseminating scientific information.

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BMJ (formerly BMJ Group) appreciates the opportunity to comment on the “Increasing Access to the Results of Federally Funded Scientific Research” memo. BMJ Group publishes around 40 biomedical journals, including the flagship the *BMJ*. BMJ agrees that there are benefits from making the direct results of federally funded scientific research be accessible to the public, industry and the scientific community and that research published in peer reviewed journals should be publically accessible to maximize its impact and accountability. The memorandum calls for Federal agencies to “ensure that the public can read, download and analyze in digital form final peer-reviewed manuscripts or final published documents within a time frame that is appropriate for each type of research conducted or sponsored by the agency... facilitate easy public search, analysis of, and access to peer-reviewed scholarly publications directly arising from research funded by the Federal Government... [and] ensure full public access to publications’ metadata without charge upon first publication...” BMJ believes that the “Gold” model of Open Access via publication in open access peer reviewed journals is the ideal mechanism to achieve these goals and than the “Green” model of author self-archiving is not viable and may not fulfil the proposed regulations. The PEER project investigated from September 2008–May 2012 the potential effects of large scale, systematic depositing of authors' final peer-reviewed manuscripts; finding the “Green” Open Access model to be currently unfeasible and concluded that author self-archiving was unlikely to generate a critical mass of Open Access content. (PEER (Publishing and the Ecology of European Research) Usage Research Reports and Final Project report 2012. <http://www.peerproject.eu/reports/>). BMJ took part in the PEER project and endorses its findings. Providing Gold Open Access via journals is a well established way to widely disseminate publicly funded research that is supported by a range of viable business models; provides professional services for authors, reviewers , readers, librarians, and funders; and provides effective peer review mechanisms. Research published using this mode of open access can be available upon publication rather than after an embargo period. The memorandum calls for a “...twelve-month post-publication embargo period... [while providing] a mechanism for stakeholders to petition for changing the embargo period for a specific field...” We believe that for biomedical and clinical research results, an embargo of 12 months may unnecessarily delay the development and implementation of measures that will lead to better patient outcomes. Open access is more than "free access" because it allows (via licensing and proper attribution of the original source) reuse of the text and metadata - thereby maximising the usefulness of the content to all readers and other researchers (see <http://www.plos.org/about/open-access/howopenisit/>.) Over many years BMJ has piloted, evaluated, and developed a range of successful open access publishing models, supported by APCs and using Creative Commons licences. All Open Access articles in BMJ Journals are flagged as Open Access in the metadata, on the table of contents, in the article content box, and in the PDF. Here is the range of BMJ

Open Access offerings: - *BMJ Open* (<http://bmjopen.bmj.com/>) is a fully open access “Gold” journal which publishes original research papers and nothing else and is online-only. All of this research is published with Open Access. We offer waivers and discounts on the APC when necessary. *BMJ Open* uses fully open peer review, posting reviewers’ signed reports alongside published papers. - *The BMJ* (formerly the British Medical Journal) was the first general medical journal to provide free online access to all of its contents, in 1998. The *BMJ* is now a hybrid journal with a) pay walled educational articles, debate, and journalism and b) full Open Access to all research papers (<http://bmj.com>) – thus for research the *BMJ* is a “Gold” Open Access journal. We offer waivers and discounts on the APC when necessary. The *BMJ* uses signed peer review, so authors know who appraised their paper and vice versa. - *BMJ Journals*: the rest of the approx 40 *BMJ Journals* are all hybrids offering optional “*BMJ Open Access*” with APCs. Several of these *BMJ Journals* are co-owned and/or published for learned societies who have embraced the option of Open Access. These journals use traditional peer review. “*BMJ Open Access*” articles may be reused by both authors and third parties, in accordance with the terms and conditions of the Creative Commons (CC) Attribution NonCommercial 3.0 Unported licence. Under this CC licence, users are free to share (copy, distribute and transmit) and adapt (make a translation or derivative work) the contribution for noncommercial purposes under the conditions in the full legal code (<http://creativecommons.org/licenses/by-nc/3.0/legalcode>). The *BMJ Group* also offers the Creative Commons CC-BY licence for authors whose funders (including RCUK) require completely unrestricted reuse. As an evidence-based publisher, *BMJ* has invested in research and development in peer review and open access publishing (<http://www.bmj.com/about-bmj/evidence-based-publishing>) and continues to innovate with the help of authors, reviewers, readers, and funders. Completed studies conducted by *BMJ* about open access are listed here (<http://www.bmj.com/about-bmj/evidence-based-publishing/completed-research#oapublishing>). The memorandum also calls for “digitally formatted scientific data resulting from unclassified research supported by Federal funding should be stored and publicly accessible to search, retrieve and analyze... to validate research findings including data sets used to support scholarly publications...” The *BMJ* and *BMJ Open* fully support this initiative because access to data is essential to ensure transparency in research. The journals’ editors believe that this is the most important element of the Open Access movement, as it has the greatest potential to improve the evidence base for medicine and healthcare. Both the *BMJ* and *BMJ Open* require all authors of original research papers to state in their manuscripts whether, how, and where they will make the data available and what steps they have taken to protect patient confidentiality. Both journals have partnered with the Dryad Digital Repository (<http://datadryad.org/>) to help authors to deposit their datasets in open, easily accessible files linked to their published articles. Moreover, from January 2013 randomised controlled trials of drugs and medical

devices are considered for publication in the *BMJ* only if the authors commit to making the relevant anonymized patient level data available on reasonable request.

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The following comments are submitted to the “NAS public meeting on Public Access to Federally Supported Research and Development Publications – May 14-15, 2013.” The University of California’s Council of University Librarians (CoUL) applauds the actions of the federal agencies to develop open access policies for the results of the research that they fund, and for soliciting stakeholder input. We submit the following suggestions:

Maximize the benefit of public access policies:

Implementing consistent public access policies is essential to maximizing the benefits of those policies. Enabling the quickest public access to scientific results will maximize funders’ investments by exposing the results to the widest audience possible. New policies should minimize the burden of compliance by having common standards and protocols to follow. There are existing protocols, for example, for depositing manuscripts into repositories, and the NIH/PubMed public access policy offers procedures that could be replicated by other agencies.

Direct OA publishing, supported via grant funds, is perhaps the most straightforward and least burdensome mechanism by which to implement public access for all stakeholders. Publishing an open access article (“gold OA”) eliminates the need for secondary deposit requirements alongside the normal publishing stream. It also provides for funding of research publication at a time when such funding is at risk in many quarters. Deposit in a single repository or set of interoperable repositories is also desirable; however, with direct OA publishing, articles could be harvested into repositories using automated means, without cumbersome deposit mechanisms.

Encourage interoperable search, discovery, and analysis across disciplines and archives

In order to encourage interoperable search, discovery and analysis and timely deposit, agencies must make the work of submitting metadata and related content as easy and low-cost as possible.

1 There must be a clearly defined, flexible metadata schema that accommodates the essential bibliographic elements of scholarly published content. Although the majority of content is likely to fall into standard formats such as monograph-like objects or journal articles, other formats, such as data sets, must be accounted for as well. Because different types of material and fields have different core metadata elements, any schema(s) will need to be flexible and not deeply mapped to the practices of any discipline. It will also be beneficial to use existing schemas to take advantage of existing workflows, documentation, knowledge bases, etc. An excellent starting point would be the NLM suite of schemas (<http://dtd.nlm.nih.gov/>) that together cover a wide array of scholarly material formats, from non-peer reviewed product reviews to formally published monographs. Many publishers and repositories in a wide variety of disciplines use these standards already as a relatively efficient medium of data exchange. While local metadata formats may be entirely different, the NLM standards are clear and well-

documented, making them relatively reasonable transformation targets.

2 Content deposits should include both the source's original metadata record and a transformation that adheres to the published standard(s) described above. Supplying original metadata records ensures that unique metadata meaningful to content from that source will be retained, and could be surfaced to those interested in materials from that source.

3 Articles should be published in a variety of ways, including a web interface for people and additional interfaces for machine-reading and text-mining (e.g., OAI-PMH and RESTful APIs). Methods for making articles searchable online should be kept up-to-date so that they are as easy to find and use as possible.

4 Unique identifiers for individuals (ORCIDs, once they become available) and publications (ARKs, DOIs, Handles) should be used when they are submitted with records, and should be added to records that lack them.

Centralized or decentralized?

The question of whether to centralize or decentralize the management of public access to peer-reviewed scholarly publications that result from federally funded research is a complex one with technical, cultural and financial implications. However, any solution must emphasize discovery, access and preservation of this research. All potential repositories must support access and use conditions that enable robust use by all interested communities – including the ability to layer services, products, etc. on top of the publicly funded research. It is also crucial that the repository infrastructure includes highly developed preservation and curation services, to ensure enduring access to the research regardless of the vicissitudes of local economic and technical environments. Third party providers might prove useful but, the federal government must retain the right, regardless of repository location/technical platform, to archive and distribute publicly funded articles.

Embargo period

Very limited embargo periods on content that is not published as open access are generally sufficient to protect publishers. It is well established that making preprints freely available in the arXiv repository has not had a negative impact on the American Physical Society (APS) or its British counterpart, the Institute of Physics (IOP) (See article at: <http://eprints.ecs.soton.ac.uk/11006/>). A number of journals have experimented with embargo periods of less than 12 months, without ill effect (for example, *Molecular Biology of the Cell* releases its content after two months). Some attention may need to be paid to journals in the humanities and similar disciplines with extended periods between issues and a longer citation half-life, but shorter embargo periods are preferable. The interests of the American people and the long-term public good must guide this decision.

Intellectual property

Agencies should enable the widest possible benefit from published research by requiring clear terms

about permissible uses. Creative Commons licenses are currently the most common way to communicate this information; their use would facilitate appropriate attribution and credit, which are critical to scientists and to preserving the formal record of research. Creative Commons' CC-BY license would help ensure that the economic foundation of the publication process is predicated on open access rather than in conflict with it, producing a far better alignment of public and private interests.