



**BEFORE THE OFFICE OF SCIENCE AND TECHNOLOGY POLICY**

**REQUEST FOR INFORMATION CONCERNING PUBLIC ACCESS TO PEER-REVIEWED SCHOLARLY PUBLICATIONS THAT RESULT FROM FEDERAL FUNDED SCIENTIFIC RESEARCH**

**COMMENTS OF NETCOALITION AND THE COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION**

NetCoalition serves as the public policy voice of some of the world's most innovative Internet companies, including Amazon.com, Ask.com, Bloomberg, eBay, Google, Wikipedia, and Yahoo. The Computer & Communications Industry Association (CCIA) represents large, medium and small companies in the high technology products and services sectors, including computer hardware and software, electronic commerce, telecommunications and Internet products and services – companies with more than \$200 billion in annual revenues. Our associations welcome the opportunity to respond to the Office of Science and Technology Policy's November 4, 2011 request for comment on public access policies for science and technology funding agencies. We strongly support the Administration's objective, articulated in the OSTP's December 9, 2009 request for comments on this topic, of enhancing the public's access to scholarly publications resulting from research funded by federal agencies. We appreciate the Administration's dedication to maximizing the return on federal investments in research and development.

We agree that increasing access to the results of government-funded research will stimulate scientific and technological innovation and competitiveness.

Our members have long supported public access to the results of federally funded research. They urged Congressional adoption of the public access policy of the National Institutes of Health (NIH), and opposed legislative efforts to undermine that policy.

Similarly, our members endorsed enactment of S. 1373, the Federal Research Public Access Act of 2009 (FRPAA). In an August 12, 2009 letter to Senators Lieberman and Cornyn, NetCoalition stated:

It is the mission of NetCoalition companies to help their users locate and access the information they need. FRPAA furthers this mission by placing valuable publicly funded research in an online location where search engines operated by NetCoalition members can index and link to it. FRPAA thus simultaneously assists the broad dissemination of important scientific information and promotes the growth of the Internet.

Below, we respond to some of the questions contained in the November 3, 2011 request for information.

**1. What type of access to peer-reviewed publications that result from federally funded scientific research is required to maximize U.S. economic growth and improve the productivity of the American scientific enterprise?**

The more access the public has to peer-reviewed publications that result from the \$60 billion of scientific research funded each year by the federal government, the more rapidly the U.S. economy will grow. Government funded research is the foundation for most of the technological innovation of the past century. Virtually all the innovations that define the world we live in -- nuclear and solar energy, the digital technology and the Internet, aviation, effective medical treatment -- are the direct result of enormous

government investment in basic and applied research.<sup>1</sup> The more quickly the results of that research can be disseminated to the public, the more quickly new products and services can be developed, which in turn will lead to economic expansion and job growth.

This certainly is the case in the information technology sector. While large technology companies often subscribe to peer-reviewed journals directly relevant to their research and development, because of budget constraints, they usually do not subscribe to all journals of potential interest in related fields. Engineers and scientists in these companies are forced to conduct research with partial blinders on, seeing only what is directly before them and missing the potential interdisciplinary connections and the broader context that full access can provide. Access to papers resulting from federally-funded research would give these engineers and scientists a wider, more interdisciplinary perspective, thereby accelerating innovation in unexpected directions.

Additionally, the Information Revolution has democratized research to an unprecedented degree. An individual with a laptop and a broadband connection has the capability of developing software solutions to extremely complex problems, provided that he has access to data and know-how developed by others. These software solutions can lead to the birth of new companies, or can hasten the rate of product-development by existing companies. Public access to the results of government-funded research would dramatically increase the set of building blocks for these independent developers.

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<sup>1</sup> According to a 2008 National Science Foundation report, 57% of the funding for basic research comes from the federal government. National Science Foundation, *National Patterns of R&D Resources: 2008 Data Update*, Figure 4-2. Fifteen percent of basic research funding came from universities and colleges (including public institutions); 11% from nonprofit sources (such as foundations); and only 18% from businesses. *Id.*

Furthermore, there is significant evidence that open access to scholarly communications encourages a more efficient and collaborative research environment, which increases the rate of discovery and advancement of knowledge.<sup>2</sup> A robust public access policy thus would provide more “raw material” for large and small technology companies to refine into products and services that would expand the U.S. economy.<sup>3</sup>

Greater public access to peer-reviewed publications resulting from federally-funded research will also help the U.S. technology sector address one of the greatest obstacles to its growth: the shortage of well-trained engineers. Reducing the cost of access to cutting edge publications will lower the cost of educating engineering students and providing more advanced training to working engineers. Increasing the quantity and quality of engineers will allow technology companies to provide new products and services at an accelerated rate.

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<sup>2</sup> See, e.g., *The effect of open access and downloads ('hits') on citation impact: a bibliography of studies*, [opcit.eprints.org/oacitation-biblio.html](http://opcit.eprints.org/oacitation-biblio.html). An analysis of the 300 most influential innovations in science, commerce, and technology revealed that collaborative academic environments generated more world-changing ideas than the competitive sphere of the marketplace. Steven Johnson, *Where Good Ideas Come From: The Natural History of Innovation* (2010).

<sup>3</sup> Professor Mark Lemley explains that “surveys of hundreds of significant new technologies show that almost all of them are invented simultaneously or nearly simultaneously by two or more teams working independently of each other. Invention appears in significant part to be a social, not an individual, phenomenon. Inventors build on the work of those who came before, and new ideas are often ‘in the air,’ or result from changes in market demand or the availability of new or cheaper starting materials.” Mark Lemley, *The Myth of the Sole Inventor*, 110 MICHIGAN LAW REVIEW \_\_\_\_ (2011), available at <http://ssrn.com/abstract=1856610>, July 21, 2011, p. 4. The “air” Professor Lemley references includes journal literature. For example, when discussing the Wright Brothers’ reliance on the work of others, Professor Lemley describes how the Wright Brothers “wrote to the Smithsonian in 1899 asking for all available information on the development of flight....” *Id.* at 34. The Smithsonian provided them with publications reporting on research concerning fixed wing, fuselage, and tail-fin design, which they incorporated into their aircraft. *Id.*

In short, adopting a public access policy across all federal agencies with a twelve-month embargo period (as in the NIH policy) would stimulate economic growth. Adopting a public access policy with a shorter embargo period – or no embargo period at all – would stimulate even more economic growth. A public access policy represents an economic stimulus plan that has already been paid for.

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

There is no evidence that the NIH public access policy has actually harmed publishers. But even if the expansion of that policy to other agencies would reduce publishers' profitability, the Administration should not be deterred from proceeding. The public interest in access to these publications vastly outweighs the intellectual property interests of publishers and other stakeholders. The taxpayers have paid for the research reflected in the articles at issue; the drafting of the articles themselves; and the salaries of the experts performing the peer-review. While publishers do add some value, that value is dwarfed by the investment made by the public via the federal government. Given the low cost distribution afforded by the Internet and open access publishers and repositories, there is no reason for the federal government to continue to allow publishers to employ business models that enable them to appropriate the value the public has invested in the creation of the articles.

The scientific, technical, and medical (STM) journal market has been lucrative for commercial publishers, with generous profit margins, in large measure because the

creation of the content they sold was so heavily subsidized by the public.<sup>4</sup> If a broad public access policy cuts into publishers' profit margins and results in them exiting the market, so be it. Open access publishers already exist that are more than capable of performing the peer-review and long-term stewardship functions.<sup>5</sup>

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The Administration has been considering this issue for more than two years. This delay has denied American technology firms and individual innovators access to the results of hundreds of billions of dollars of research underwritten by U.S. taxpayers. This has impeded the development of new products and services that would grow the economy and create jobs.

The public benefits of increased access to peer-reviewed publications dwarf the possible adverse consequences publishers may suffer by virtue of losing exclusive control over information they did not create. Our economy cannot afford further delay to the adoption of a broad public access policy. The Administration should implement a broad public access policy as soon as possible.

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<sup>4</sup> It should be noted that the four largest STM publishers are foreign-owned: Reed Elsevier –U.K./Netherlands; Thomson – Canada; Wolters Kluwer – Netherlands; and Springer – Germany.

<sup>5</sup> Indeed, many commercial STM publishers themselves now publish open access journals.

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