



**Association of Research Libraries
Office of Scholarly Communication**

FRAMING THE ISSUE: OPEN ACCESS

In early 2002, an ARL task force recommended that the Association promote "open access to quality information in support of learning and scholarship." A key component of this effort is educating members of the research and academic communities about open access and its potential. ARL encourages discussions among library staff, campus administrators, university counsels, faculty, and policymakers about open access and how its application in research institutions can provide a cost-effective way to disseminate and use information. What follows is a resource guide to assist and inform these discussions. It highlights the key points to consider in thinking about and discussing open access, gives examples of open access implementation, and provides sources for more information.

- Why is Access to Information Important?
- What Obstacles Limit Access?
- What is Open Access?
- Initiatives that Call for Open Access
- Open Access Implementation
- Standards that Enable Open Access
- Resources

1. WHY IS ACCESS TO INFORMATION IMPORTANT?

- **Society benefits from the open exchange of ideas.** Access to information is essential in a democratic society. Public health, the economy, public policy all depend on access to and use of information, including copyrighted works.
- **Access to copyrighted materials inspires creativity and facilitates the development of new knowledge.**
 - Intellectual property is the lifeblood of progress in the sciences and arts.
 - New knowledge is developed from existing information. Authors build on the intellectual products of others to create new works.
- **Copyright exists for the public good.** Copyright was intended to serve the public interest by encouraging the advancement of knowledge while protecting the rights of authors and copyright owners. It is meant to balance the competing interests of creators, publishers, and users, not stifle the free flow of information.
- **Federal investment in R&D is leveraged by access to research results.** The federal government spent close to \$50 billion on non-defense related R&D in 2002. The government depends on the dissemination of the results of

that research as a stimulus to further economic, scientific, medical, and environmental development.

2. WHAT OBSTACLES LIMIT ACCESS?

- **Economic Trends in Scholarly Publishing.** Rapidly rising journal subscription prices have severely eroded the ability of libraries, universities, and scholars to purchase the publications necessary for research and education.
 - **Expenditures for serials by research libraries increased 210% between 1986-2001 while the CPI increased 62%.** The typical library spent 3 times as much but purchased 5% fewer titles.
 - **Book purchases declined by 9% between 1986-2001 as libraries sought to sustain journals collections.** Based on 1986 purchasing levels, the typical research library has foregone purchasing 90,000 monographs over the past 15 years.
 - **In the electronic environment, the model has changed from the purchase of physical copies to the licensing of access.** In general, libraries do not own copies of electronic resources and must negotiate licenses (rather than depend on copyright law) to determine access and use.
 - **Large bundles of electronic journals offered by major commercial publishers will force smaller publishers out of business.** Multiple-year licenses to large bundles of content that preclude cancellations will force libraries to cancel titles from smaller publishers to cover price increases of the bundles. This diminishes competition and increases the market control of the large publishers.
 - **Lack of corrective market forces has permitted large companies to reap high profits from publishing science journals.** In 2001 Reed Elsevier's STM division's operating profit was 34% while its legal division's operating profit was 20%, its business division's 15%, and education 23%.
 - **Mergers and acquisitions increase prices and eliminate competition.** Research has shown that mergers exacerbate the already significant price increases of journals owned by the merging companies. While there were 13 major STM publishers in 1998, only seven remained by the end of 2002.
- **Legislative and Legal Issues.** In addition to the use of licenses, several large commercial entities, anxious to protect their content and profits, have promoted legislation to extend limitations on access to copyrighted materials.
 - **DMCA (Digital Millennium Copyright Act) of 1998** is the most comprehensive reform of copyright law in a generation. It is a flawed attempt to take copyright principles into the digital age.
 - **Fair use** and other exemptions of the Copyright Act. The anti-circumvention provision of DMCA could eliminate fair use and other exemptions because it allows content owners to use

technical protection measures to control access to digital works. Fair use is a provision in Copyright Law that allows the use of copyrighted works for such purposes as teaching and research without seeking permission if certain conditions are met.

Content owners could use technical protection measures not only to restrict access but also to restrict use of copyrighted electronic resources in libraries. This could jeopardize fair use and libraries' ability to preserve digital works. Several court cases have upheld the anti-circumvention provision.

- **First sale** provision allows libraries to loan copies of works and receive gifts from donors. The DMCA commissioned a study by the Copyright Office on whether first sale should apply to digital works. The Copyright Office agreed with the arguments of content owners who said that first sale should not cover digital transmissions.
- **Sonny Bono Copyright Term Extension Act (CTEA) (1998)**
 - CTEA added 20 years to copyright protection and eliminates adding any works to the public domain until 2018. It was designed to protect the economic interests of large content companies, such as Disney, and does not take into account the vast amount of copyrighted material shared by scholars once it enters the public domain.
 - *Eldred v. Ashcroft* argued that CTEA undermines the constitutional purposes of copyright to promote science and the arts and limits free speech protections. In January 2003, the Supreme Court voted 7-2 to uphold CTEA.
- **Database Legislation**
 - Would bypass copyright law and create a new form of intellectual property for databases. Proponents have been pushing database legislation for many years.
 - Could allow publishers to restrict access to and use of databases of factual or public domain information that are not protected by copyright.
 - Combined with new technological protections, this legislation would give database owners unprecedented control over factual information.
- **UCITA (Uniform Computer Information Transactions Act)**
 - Proposed state law that would legalize shrink-wrap and click-on non-negotiated licenses for computer software and digital information, thus permitting content owners to use these licenses to override copyright exemptions.
 - Only passed in two states amid growing awareness of potentially harmful effects on consumers. American Bar Association Working Group recommended that entire legislation be redrafted.

- Recent amendments to UCITA by NCCUSL (National Conference of Commissioners on Uniform State Laws), the organization drafting and promoting the legislation, still do not address library, consumer, and other-sector concerns.

3. WHAT IS OPEN ACCESS?

- **Open access is a cost-effective way to disseminate and use information.** It is an alternative to the traditional subscription-based publishing model made possible by new digital technologies and networked communications. As used by ARL, open access refers to works that are created with no expectation of direct monetary return and made available at no cost to the reader on the public Internet for purposes of education and research. The Budapest Open Access Initiative stated that open access would permit users to read, download, copy, distribute, print, search, or link to the full texts of works, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the Internet itself. Open access does not apply to materials for which the authors expect to generate revenue.
- **Open access operates within the current legal framework of copyright law.** Authors own the original copyright in their works. In the process of publishing, authors can transfer to publishers the right for publishers to post the work freely on the Web, or authors can retain the right to post their own work on institutional or disciplinary servers. Authors, however, retain control over the integrity of their work and have the right to be properly acknowledged and cited.
- **Open access is intended to be free for readers, not free for producers.** The costs of producing digital open-access literature are believed much lower than the costs of producing print literature, but financial and human resources are required. Author or institutional fees for dissemination have been proposed as possible alternatives to the traditional library subscription model for funding the costs of open access.
- **Open access focuses on academic research.** Open access is concerned with scientific and research texts that scholars give to the community without expectation of direct monetary return, including peer-reviewed journal articles, preprints, preliminary findings, and data sets.
- **Open access and peer review.** Open access does not mean that peer review is bypassed. Peer review is medium-independent, as necessary for online journals as for print journals, and no more difficult.

4. INITIATIVES THAT CALL FOR OPEN ACCESS

- **Budapest Open Access Initiative (BOAI)** is a statement of principle, strategy, and commitment to making research articles in all academic fields publicly available on the Internet. The initiative has been signed by a growing number of researchers, universities, laboratories, libraries, foundations,

journals, publishers, learned societies, and scholars from around the world. The BOAI recommends using two complementary strategies: self-archiving in institutional/disciplinary repositories and open access journals.

- **SPARC (the Scholarly Publishing and Academic Resources Coalition)** is actively promoting both open access journals and the development of institutional repositories. SPARC has a number of open access partners including: Algebraic and Geometric Topology, Documenta Mathematica, eScholarship, Geometry & Topology, Journal of Insect Science, Journal of Machine Learning Research, and New Journal of Physics.
- **Public Library of Science (PLoS)** is a grassroots initiative signed by over 30,000 scientists to encourage publishers to deposit their journals in central archives, like PubMed Central, within six months of publication. These scientists believe that information from multiple sources stored in a common format in central repositories can significantly enhance their ability to search across collections, manipulate data, and develop tools to integrate the literature with a variety of other information resources. Having generated only modest response from publishers, the leaders of the PLoS are planning to develop their own set of open access journals.

5. OPEN ACCESS IMPLEMENTATION: Some Examples

- **PubMed Central.** A digital archive of life sciences journal literature developed, managed, and supported by the National Center for Biotechnology Information at the U.S. National Library of Medicine. Access to PubMed Central is free and unrestricted. Participation in PubMed Central is voluntary and publishers can deposit journal articles at any time. Copyright remains with the journal or author.
- **BioMed Central (BMC).** An independent commercial publishing house committed to providing immediate free access to peer-reviewed biomedical research. BMC publishes more than 50 online journals in biology and medicine and uses authors' fees and institutional memberships to fund its open access journals. Authors who publish in BMC journals retain copyright.
- **arXiv.org e-Print archive.** Started in 1991, arXiv.org is a fully automated electronic archive and distribution server for preprints in physics and related disciplines, mathematics, computer science, and cognitive science. The service, formerly hosted by Los Alamos National Laboratory, was transferred to Cornell in September 2001.
- **Institutional repositories** are digital archives of intellectual products created by the faculty, staff, and students of an institution and accessible to end users both within and without the institution, with few if any barriers to access. Institutions may act independently or within a state or regional consortium. A number of institutions, such as Caltech and the University of California, have already built such repositories. DSpace, a repository being developed at MIT, will host research material from professors at the institute and will allow researchers to select access levels for each item they contribute.

- **Disciplinary repositories** are used by certain academic disciplines to facilitate the sharing and storage of research materials. These repositories (known as "eprint servers") have enjoyed high rates of participation within their respective fields. Repositories exist in disciplines such as classical literature, history of philosophy, economics, chemistry, cognitive sciences, mathematics, and physics.
- **Self-archiving**, generally within an institutional or disciplinary repository, refers to the depositing by the author of a digital document in a publicly accessible Web site. It includes articles and preprints by individual researchers.

6. STANDARDS THAT ENABLE OPEN ACCESS

- **The Open Archives Initiative (OAI)** develops and promotes interoperability standards that aim to facilitate the efficient dissemination of content. The OAI Metadata Harvesting Protocol allows third-party services to gather standardized metadata from distributed repositories and conduct searches against the assembled metadata to identify and ultimately retrieve documents. While many proponents of OAI advocate open access, i.e., the free availability of works on the Internet, the fundamental technological framework and standards of the OAI are independent of the both the type of content offered and the economic models surrounding that content.

7. RESOURCES: For More Information

A. General Information

For an extensive bibliography and information about Open Access, see Peter Suber's SPARC Open Access Newsletter
<<http://www.earlham.edu/~peters/fos/index.htm>>

BioMed Central Open Access Advocacy Kit
<<http://www.biomedcentral.com/info/about/advocacy>>

Case, Mary M. and Prudence S. Adler. "Promoting Open Access: Developing New Strategies for Managing Copyright and Intellectual Property." ARL Bimonthly Report, 220 (February 2002) <<http://www.arl.org/newsltr/220/access.html>>

Create Change: A Resource for Faculty and Librarian Action to Reclaim Scholarly Communication. <<http://www.createchange.org/home.html>>

Creative Commons <<http://www.creativecommons.org>>

European Science Foundation, "Open access: Restoring scientific communication to its rightful owners," European Science Foundation Policy Briefing, 21 (April 2003) <http://www.arl.org/sparc/SPB21_OAI.pdf>

Free Online Scholarship Newsletter <<http://www.earlham.edu/~peters/fos/>>

Guèdon, Jean-Claude. In Oldenburg's Long Shadow: Librarians, Research Scientists, Publishers, and the Control of Scholarly Publishing <<http://www.arl.org/arl/proceedings/138/guedon.html>>

Information Commons: An Online Publication Advocating Access to Ideas <<http://www.info-commons.org/>>

Scholarly Communication at Risk, The Johns Hopkins Scholarly Communications Group <<http://openaccess.jhmi.edu/threats.html>>

SPARC (Scholarly Publishing Academic Resources Coalition) <<http://www.arl.org/sparc/>>

Suber, Peter. "Removing the Barriers to Research: An Introduction to Open Access for Librarians." College & Research Libraries News, 64 (February 2003) pp. 92-94, 113. <<http://www.earlham.edu/~peters/writing/acrl.htm>>.

B. Copyright and Intellectual Property

ALA OITP Copyright Education Program <<http://copyright.ala.org/index.html>>

ARL: Copyright and Intellectual Property <<http://www.arl.org/info/frn/copy/copytoc.html>>

Petersen, Rodney J. Copyown: A resource on copyright ownership for the higher education community <<http://www.inform.umd.edu/CompRes/NEThics/copyown/>>

SURF Foundation. Copyright Management for Scholarship <<http://www.surf.nl/copyright/>>

C. Obstacles to Open Access

Anti-DCMA site <<http://www.anti-dmca.org/>>

Berkman Center for Internet & Society. OpenLaw: Eldred v. Ashcroft <<http://eon.law.harvard.edu/openlaw/eldredvashcroft/>>

Copyright Term Extension <<http://www.arl.org/info/frn/copy/extension.html>>

Database Proposals and Legislation
<<http://www.arl.org/info/frn/copy/database.html>>

Digital Future Coalition <<http://www.dfc.org/>>

Digital Millennium Copyright Act: Status and Analysis
<<http://www.arl.org/info/frn/copy/dmca.html>>

Electronic Frontier Foundation <<http://www.eff.org>>

Library community's amicus brief in Eldred v. Ashcroft [pdf]
<http://www.arl.org/info/frn/copy/amici5_20_02.pdf>

McCabe, Mark. "Research Papers on Publishing and Mergers"
<<http://www.prism.gatech.edu/~mm284/>>

Ted Bergstrom's Journal Pricing Page
<<http://www.econ.ucsb.edu/~tedb/Journals/jpricing.html>>

UCITA <<http://www.arl.org/info/frn/copy/ucitapg.html>>

D. Implementing Open Access

About e-Scholarship <<http://escholarship.cdlib.org/about.html>>

"Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities" <<http://www.zim.mpg.de/openaccess-berlin/berlindeclaration.html>>

Bethesda Statement on Open Access Funding
<<http://www.earlham.edu/~peters/fos/bethesda.htm>>

BioMed Central <<http://www.BioMedCentral.com>>

Budapest Open Access Initiative <<http://www.soros.org/openaccess/>>

Directory of Open Access Journals (DOAJ) <<http://www.doaj.org>>

DSpace Institutional Repository at MIT <<http://hpds1.mit.edu/index.jsp>>

Frankel, Mark S. "Seizing the Moment: Scientists' Authorship Rights In the Digital Age" <<http://www.aaas.org/spp/sfrr/projects/epub/index.shtml>>

Gadd, Elizabeth, Charles Oppenheim, and Steve Proberts, "Self-archiving--the 'right' thing? An introduction to the RoMEO Project," SCOUNL Newsletter 27

(Winter 2002)

<<http://www.sconul.ac.uk/publications/newsletter/27/ARTICLE9.PDF>>

"Guide to Business Planning for Converting a Subscription-based Journal to Open Access" <<http://www.soros.org/openaccess/oajguides/index.shtml>>

"Guide to Business Planning for Launching a New Open Access Journal" <<http://www.soros.org/openaccess/oajguides/index.shtml>>

Model Business Plan: A Supplemental Guide for Open Access Journal Developers & Publishers

<<http://www.soros.org/openaccess/oajguides/index.shtml>>

Litchfield, Malcolm. "...but Presses Must Stress Ideas, Not Markets" Chronicle of Higher Education, June 28, 2002

Los Alamos e-Print archive <<http://arXiv.org>>

Networked Digital Library of Theses and Dissertations (NDLTD)

<<http://www.ndltd.org/info/request.htm>>.

Nixon, William J., "The evolution of an institutional e-prints archive at the University of Glasgow," Ariadne, Issue 32, July 8, 2002

<<http://www.ariadne.ac.uk/issue32/eprint-archives/>>

PALS Report on Institutional Repositories, January 2004

<<http://www.palsgroup.org.uk/>>

Public Library of Science <<http://www.publiclibraryofscience.org/>>

Public Library of Science. PLoS Biology

<<http://www.plosbiology.org/plosonline/?request=index-html>>

Public Library of Science. Announcing PLoS Medicine

<<http://www.plosmedicine.org/medicine/>>

Public Library of Science. Publishing Open Access Journals.

<http://www.plos.org/downloads/oa_whitepaper.pdf>

Public Library of Science. Open-Access Publication of Medical and Scientific Research <http://www.plos.org/downloads/oa_background.pdf>

PubMed Central <<http://www.pubmedcentral.com/>>

"The Case for Institutional Repositories: A SPARC Position Paper"

<<http://www.arl.org/sparc/IR/ir.html>>

SPARC Resources for Institutional Repositories
<<http://www.arl.org/sparc/core/index.asp?page=m0>>

Suber, Peter, "Open Access Builds Momentum," ARL Bimonthly Report, 232
(February 2004)

Tennant, Roy, "Institutional Repositories," Library Journal, September 15, 2002
<<http://libraryjournal.reviewsnews.com/index.asp?layout=articlePrint&articleID=CA242297&publication=libraryjournal>>

Young, Jeffrey R. "'Superarchives' Could Hold All Scholarly Output" Chronicle of
Higher Education, July 5, 2002

University of California eScholarship Repository <<http://repositories.cdlib.org>>

Wellcome Trust, "Scientific Publishing: A Position Statement by the Wellcome
Trust in Support of Open Access Publishing"
<<http://www.wellcome.ac.uk/en/1/awtvispolpub.html>.

Wellcome Trust, "Costs and business models in scientific research publishing"
<<http://www.wellcome.ac.uk/en/1/awtpubrepcos.html>>

Willinsky, John. "Scholarly Associations and the Economic Vitality of Open
Access Publishing," Journal of Digital Information, Vol. 4, Issue 2 (April 9, 2003)
<<http://jodi.ecs.soton.ac.uk/Articles/v04/i02/Willinsky/>>

E. Open Archives Initiative

DLF Evaluation of the Open Archives Initiative
<<http://www.diglib.org/architectures/testbed.htm>>

"Now That We've Found The 'Hidden Web,' † What Can We Do With It?" The
Illinois Open Archives Initiative Metadata Harvesting Experience
<<http://www.archimuse.com/mw2002/papers/cole/cole.html>

Open Archives <<http://www.openarchives.org>>

Shearer, Kathleen. "The Open Archives Initiative: Developing an Interoperability
Framework for Scholarly Publishing" [pdf] CARL/ABRC Background Series #5.
<http://www.carl-abrc.ca/projects/scholarly/open_archives.PDF>