

# OPEN ACCESS FOR LIBRARIANS IN DEVELOPING COUNTRIES

*Heather Morrison*

## Definition of Open Access

Open Access literature is free online for anyone, anywhere, to read, download, and use, providing that the author is properly cited. To be fully open access, literature must be freely available as soon as it is published, if not before (as a preprint). Open Access is an obvious choice for works that authors have traditionally given away, such as scholarly, peer-reviewed journal articles, the focus of the open access movement. Open Access makes sense for other materials too, such as government documents, theses, and conference proceedings.

There are three major definitions of open access: Budapest, Berlin, and Bethesda. Links can be found in the reference list.

There are two main approaches to open access: open access publishing, and self-archiving of articles in open access archives. There are different forms of open access archives, including institutional repositories and subject or disciplinary repositories.

## Why Open Access?

“An old tradition and a new technology have converged to make possible an unprecedented public good” (Budapest Open Access Initiative). The old tradition is that of scholars giving away their peer-reviewed research articles. The new technology is computers and the internet.

Until recently, the best way to disseminate the results of research was to publish in a paper journal, which was then distributed to subscribers, members, or libraries. There were limits to distribution, because there were costs to printing and distributing each additional copy of a journal issue. It is now possible to place a single copy of an article on the world wide web for anyone, anywhere to download. There is a cost to producing the article in the first place, but no extra costs for more copies.

This free electronic distribution is the optimum dissemination for scholarly knowledge. People need to have access to computers, the internet, and literacy skills to take advantage of this freely available knowledge.

For the researcher, open access enhances research impact. The easier it is for people to find and read an article, the more likely it is that the article will be cited. There is a substantial body of research literature illustrating this citation impact advantage, across many disciplines (Hitchcock).

The citation impact advantage is significant for all researchers, even the well-funded researchers in the developed world who are already publishing in the top journals. The importance of this impact advantage, however, is much greater for researchers and

publishers in the developing world. D.K. Sahu, an open access publisher in India, talks about the difference open access has made to Medknow Publications. The *Journal of Postgraduate Medicine* has gone from a fairly limited readership of less than 400 print subscriptions, to internet downloads of more than 3,500 per day as an open access journal. Medknow's experience has been that open access has actually increased subscriptions, as well as submissions – including international submissions. (Sahu).

The benefits to readers, including researchers as readers, are obvious: much greater access to the research literature. This benefits students, educational institutions, professionals such as doctors, nurses, teachers, and others in the community.

### **Open Access Business Models (Open Access Publishing)**

Open access journals may be subsidized, by governments, universities, learned societies, or others. It is not unusual for subscription journals to be subsidized. If a journal is subsidized, open access just makes sense, as there are cost savings, for example from not having to authenticate users. Some open access journals charge processing fees. Others rely entirely on volunteer labor and in kind contribution of hardware, software, etc. Advertising revenue may be a factor as well.

### **Open Access Resources for Searching: Journals and Open Access Archives**

The resources that are already available as open access are significant, and the growth rate is phenomenal.

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

The Directory of Open Access Journals (DOAJ) is a list of peer-reviewed open access journals, vetted by librarians at Lund University. As of May 2006, there are over 2,200 journals listed in DOAJ. 633 of these journals are searchable at the article level. New titles are being added at the rate of more than one per day. These journals are from around the world, and are published in a number of different languages. All the journals and articles in DOAJ are freely available online.

***Scielo*** <http://www.scielo.org>

The Scielo, or Scientific Electronic Library Online is one of the world's larger open access journal collections. Scielo is a collaboration of publishers in Latin countries (Brazil, Chile, Cuba, Spain, Portugal), where open access publishing is the norm.

There are a number of ways to search for open access articles that authors have self-archived. A web search will often suffice. For example, a google title search for a known article will often retrieve any full-text copy that is available.

**Subject open access archives:**

***arXiv*** <http://www.arxiv.org/>

Over 360,000 preprints in Physics, Mathematics, Computer Science, and Quantitative Biology. arXiv is the oldest and best-known of the open access archives. Physicists have long had a tradition of freely sharing their preprints.

**rePec** <http://repec.org/>

Research Papers in Economics – over 375,000 items, over 272,000 available online. RePec is a project managed primarily by a group of volunteers from around the world. Economists have a long tradition of free sharing their working papers.

**PubMedCentral** <http://www.pubmedcentral.nih.gov/>

Coordinated by the U.S. National Institute of Health, PubMedCentral provides free access to medical literature, and also provides the kind of preservation / archiving service for the medical literature that has traditionally been provided by the U.S. National Library of Medicine.

**Medline Plus** <http://medlineplus.gov/>

Consumer Health Information from the U.S. National Institute of Health

**E-LIS** <http://eprints.rclis.org/>

Open archive for Library and Information Studies. E-LIS contains close to 3,700 documents as of May 2006. E-LIS is hosted by CILEA in Italy and is run primarily by a group of volunteer editors from over 50 countries. E-LIS supports over 22 languages.

**OAIster** <http://oaister.umdl.umich.edu/o/oaister/>

One specialized search tool for open access archives is OAIster, a project of the University of Michigan Digital Library. OAIster makes it possible to search or browse archives that are compliant with the OAI-PMH protocol. The OAI-PMH (Open Archives Initiative – Protocol for Metadata Harvesting) is a standard designed to make it easy to harvest data from many archives, whether for immediate searching or to create a database of records that will be faster or easier to search than many different archives. As of May 2006, an OAIster search will look at more than 7 million items. Users can also browse the archives of 634 institutions. Many of the items available through OAIster are free, but not all.

### **Resources for Creating Open Access Journals and Archives**

There are many free, open source resources for creating open access journals or archives, such as:

**Open Journal Systems (OJS)** <http://pkp.sfu.ca/ojs/>

Developed by John Willinsky and colleagues at the Public Knowledge Project, University of British Columbia, OJS is used by several hundred journals around the world, for example African Journals Online (230 journals), and the Brazilian Institute of Science and Technology Information (79 journals).

**Free, open source software for open access archives (repositories):**

*Dspace* <http://www.dspace.org/>

*Eprints* <http://www.eprints.org/>

*Bioline International* <http://www.bioline.org.br/>

Provides assistance to publishers in developing countries.

## Open Access Policy

Many organizations are in the process of developing their open access policies. There are a few early leaders with policies in place.

Research funding agencies are at the forefront of open access policy developments. Open access just makes sense for the research funder: it means more research impact (the more researchers who can read the results of research you have funded, the more people who can continue the work and learn more), more real-world impact (for example, when health care professionals have free access to the medical literature), and, when taxpayers see the results of funded research, it helps to build support for more funding for the funding agency.

The Wellcome Trust, the world's second-largest medical research funding agency, has the strongest open access policy in effect to date. Grantees are required to deposit their manuscripts, for open access, in PubMedCentral, within 6 months of publication. This policy applies to all grants awarded since October 2005.

The U.S. National Institute of Health, the world's largest medical research funder, enacted a Public Access Policy in 2005. This policy is widely regarded as flawed, because researchers are requested, but not required, to deposit results of research, and because the permitted delay period (12 months) is seen as too long. Results of this policy have been disappointing, such as a compliance rate of less than 4%. There are initiatives underway to correct the flaws in this policy.

A bill recently introduced in the U.S., the Federal Research Public Access Act of 2006, calls for all U.S. federal funding agencies with extramural research portfolios of \$100 million per year or more, to create a public access policy requiring researchers to deposit their peer-reviewed manuscripts for open access within 6 months of publication.

There are major policy initiatives happening in the U.K., the European parliament, and many other countries as well.

Universities and other organizations are beginning to develop and implement open access policies, too. CERN is one of the early leaders in this area; the CERN archive includes over 360,000 fulltext documents.

## What You Can Do

Promote Open Access resources – tell your patrons about the DOAJ and open access archives, and help them to find the open access resources.

Create Open Access resources – build an institutional open access repository, create an open access journal, help your researchers to create one.

Educate researchers and policy-makers about open access. Sponsor workshops on open access, archives or journal publishing.

Talk about what access to the scholarly literature is like for you and your users. There are highly profitable publishers in the developed world, who claim that everyone already has access to all of the scholarly literature. If this is not true for you or for your library's patrons, set the record straight. A good place to speak up is the SPARC Open Access Forum, at: <http://www.arl.org/sparc/soa/index.html#forum>

## To Learn More

Read Peter Suber's Overview of Open Access, keep up with events by following the Open Access News blog, OA Librarian, or consult the references below.

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***Heather Morrison is a Project Coordinator with the British Columbia (Canada) Electronic Library Network, and a well-known open access advocate. Links to Heather's publications and presentations can be found from her blog, The Imaginary Journal of Poetic Economics, <http://poeticeconomics.blogspot.com>***