OPEN ACCESS TO SCHOLARLY COMMUNICATIONS

What is Open Access?

"Open Access" (OA) means the free (gratis) availability of peer-reviewed literature to the public on the internet, permitting any user to read, download, copy, distribute, print, search, or link to the full texts of the articles (*Budapest Open Access Initiative* (2002)). There are two ways in which this can be realised: through **open access journals** and through institutional or subject-based **repositories**.

An **open access journal** is freely available online and does not rely upon traditional subscription-based business models to generate income. Instead, new business models including an article processing fee, sponsorship, advertising or a combination of these are used. Peer-reviewed OA journals have been launched across numerous disciplines including biology and neglected tropical diseases from the *Public Library of Science (PloS),* while *BioMed Central* and *Bioline International* collectively publish over 255 titles. In October 2009, the *Directory of Open Access Journals (DOAJ)* lists over 4,358 titles. Furthermore, a number of major traditional publishers including Oxford University Press, Springer and Elsevier offer authors the option of placing their journal articles on open access in exchange for payment of a fee, known as an article processing charge.

An **institutional repository** is a publicly accessible archive where the work published by authors affiliated with the university or institution is posted online. These may be pre-prints and/or the finished articles. There may be some holdback and/or other conditions attached to posting the final edited version of the article (as published in traditional journals) to the repository, but an increasing number of journal publishers are co-operating with repositories. Using interoperable software which is Open Archives Initiative (OAI) compliant, the deposited works can be searched and harvested. Examples of OAI compliant open source software are *DSpace, EPrints*, and *Fedora*. The *Directory of Open Access Repositories (OpenDOAR)* is a searchable directory of academic OA repositories and their content.

Open access has changed forever the landscape of scholarly communications, while the economics of OA is still debated among academics and researchers, university administrators, librarians, funding agencies and commercial and learned society publishers.

The first global **Open Access Week** took place in October 2009.

What is the driving force behind Open Access?

Scientists and academic authors strive for maximum impact for their work. The more their research output is cited and used, the better it is for their career and institution, future funding possibilities as well as the overall benefit of science and society. Spurred by the move from the paper to the electronic working environment, the structure within which researchers work has been changing rapidly. New tools of communication have caused researchers to become increasingly aware of the

restrictions and barriers to accessing their work, and the work of their peers, under the traditional journal publishing system. This typically required authors to transfer their copyright to the publisher, thus removing their control over distribution of the work e.g. an author could be prevented from posting their own work on their personal website or distributing it in class to their students. Research output was thus available only to those institutions subscribing to the journal in question.

The European Commission's *Study on the Economic and Technical Evolution of the Scientific Publication Markets in Europe* (2006) confirmed that between 1975 and 1995, the price of print journals had risen by 300% above the cost of inflation. Such annual above inflation increases in journal prices combined with decreasing library budgets led to a "serials crisis", where libraries were cancelling subscriptions not only to low use titles but also to core titles.

Funding agencies want to ensure that the research they fund has the greatest possible research impact (measured in the number of citations) and that publicly funded research is made publicly available. Yet they found that sometimes they could not access the results of research that they themselves had funded because their institution did not subscribe to the journal in which it was published. In particular, debate on the right of public access to publicly funded research has led to new policies for grantees e.g. in December 2007 the United States adopted a mandate directing the U.S. National Institutes of Health to provide open online access to the findings of research it has funded (which currently amounts to $29 billion annually), while the Wellcome Trust's *Position Statement in Support of Open and Unrestricted Access to Published Research* (2005) requires self-archiving within six months.

If the traditional publishing system alone were to continue, peer access to research outputs would become increasingly restricted since libraries can no longer afford to provide sufficient access to traditional journal articles. The global movement for change to introduce OA journal publishing and open institutional repositories for research papers and data that has resulted from this dissatisfaction, has garnered support from academics, prestige funding institutions, legislators and libraries, and continues to grow.

Policy

OA policy milestones

2002: The *Budapest Open Access Initiative (BOAI)* backed by Open Society Institute (OSI) was the first major international statement of principle and commitment in support of OA. It offers the first definition of OA and sets out the strategies and goals for access to scholarly communications.

2003: the **Howard Hughes Medical Institute (HHMI)** produced the *Bethesda Statement on Open Access* and the **Max Planck Society** the *Berlin Declaration.* Both provide definitions of OA and focus on the role of funders.

2004: the UK **House of Commons Science and Technology Select Committee** *Scientific Publications. Free for All?* report recommended that all UK higher

education institutions and government-funded research councils establish free-of-charge online institutional repositories and called for support of OA journals.

2005: the UK's **Wellcome Trust** became the first research funder to mandate OA to the research that they support.

2006: a **European Commission** funded **study on the scientific publication markets in Europe** recommended that funding agencies mandate that European funded research publications be made available in OA archives. The seven **UK Research Councils** adopted OA mandates in respect of the research they fund.

2007: the **Ukraine Parliament** mandated OA for publicly funded research. In December the **European Research Council** issued *Guidelines for Open Access*.

2008: a **European Commission** Science in Society pilot project was launched to make results from approximately 20% of 7th Research Framework Programme (FP7) projects available on OA. The **European University Association** recommended OA for University Leadership. **Harvard University's Faculty of Arts and Sciences** became the first U.S. faculty to vote unanimously for an OA mandate.

2009: the **new Lithuanian law on science** requires publicly funded research to be openly accessible online. A Bill for a *Federal Research Public Access Act*, originally proposed in 2006, was reintroduced in the U.S. Senate – requiring OA for all research funded by the 11 largest governmental funding agencies. The **University of Kansas** became the first public university in the U.S. to adopt an OA policy for its research outputs.

OA and developing and transition countries

2005: the *Salvador Declaration on Open Access* was adopted at an international seminar in Brazil.

2006: The **Academy of Science of South Africa's** *Report on a Strategic Approach to Research Publishing in South Africa* found that in the previous 14 years, one-third of South African journals had not had a single paper cited by their international counterparts; fewer than 10% of South Africa's 255 accredited journals had been cited frequently enough to feature in the main international research databases, despite South Africa being the continent's leading publisher of research. Research by Chawki Hajjem et al of the Université du Québec showed that electronically available OA articles received on average 50% more citations than other articles from the same journals. A workshop convened by the Indian Institute of Science, the Indian Academy of Sciences and the M S Swaminathan Research Foundation highlighted the invisibility of unique developing country research within the corpus of international science and produced a model *National Open Access Policy for Developing Countries*.

A series of national and regional workshops sponsored by the Open Society Institute (OSI) and organised by **Electronic Information for Libraries (eIFL.net)** since 2002 has led to the establishment of over 165 OA repositories, the creation of OA working groups, pledges of support from national research foundations, and the formulation

of national recommendations, such as the *Belgorod Declaration* by Belarussian, Russian and Ukrainian universities. Additionally, Hong Kong universities introduced an OA policy for publicly funded research, and open access to research information was included in the Olvia Declaration of universities in Ukraine. OA institutional mandates were established by the University of Pretoria, South Africa; Ternopil State Ivan Pul'uj Technical University, Ukraine and several institutions of the Russian Academy of Sciences, for example, Central Economics and Mathematics Institute.

Copyright and OA

Uploading copyrighted material, such as scientific/scholarly work, data files to a repository usually requires permission from the rightsholder. Institutions need clear copyright policies that set out the relationship between authors and the institution, clarifying who owns the copyright in the work. The norm is for authors to retain the copyright i.e. the institution, as the employer, will not usually seek to exercise its employer's right to hold the copyright in scholarly communications. However, this should be clearly stated in institutional policies or in contracts of employment. Likewise authors may need guidance on negotiating publishing contracts with traditional journals to enable deposit of their papers in the institutional repository. The SURF Copyright in Higher Education website is a helpful source of information in this regard.

Libraries and OA

As the stakeholders at the centre of the "serials crisis" and committed to ensuring the widest possible access to information for everyone, librarians have by and large, been among the most vocal advocates for OA. The library is usually the focal point for OA within higher education and research institutions and normally houses and maintains the institutional repository. Many library associations have issued statements supporting OA or have signed major OA declarations. Libraries are encouraged to ensure their users make use of the growing wealth of high quality, peer reviewed OA scholarly material.

What can librarians do to promote open access?

- Launch an open access, OAI-compliant institutional repository for text and data.
- Help faculty deposit their research articles in the institutional archive.
- Help to publish open access journals and create open educational resources.
- Help with data curation and sharing.
- Spread the word, be advocates for open access.
- Show the benefits of open access to the non-academic community in the locality, especially the non-profit community e.g. undertake digitisation projects for local groups, e.g. community organisations, museums, galleries, other libraries.

Based on "What you can do to promote open access" by Peter Suber http://www.earlham.edu/~peters/fos/do.htm)

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Van Orsdel, Lee C. and Born, Kathleen. Periodicals Price Survey 2005: choosing sides. Library Journal, 15 April 2005. http://www.libraryjournal.com/article/CA516819.html

What you can do to promote open access by Peter Suber http://www.earlham.edu/~peters/fos/do.htm

Resources

Directory of Open Access Journals http://www.doaj.org/

Directory of Open Access Repositories http://www.opendoar.org

DRIVER - Digital Repository Infrastructure Vision for European Research http://www.driver-repository.eu/

eIFL.net Open Access Program. http://www.eifl.net/cps/sections/services/eifl-oa

European Research Council Scientific Council Guidelines for Open Access http://erc.europa.eu/pdf/ScC_Guidelines_Open_Access_revised_Dec07_FINAL.pdf

European Commission Science in Society Access to Scientific Information pages http://ec.europa.eu/research/science-society/index.cfm?fuseaction=public.topic&id=1660

JISC and SURF Copyright Toolbox http://copyrighttoolbox.surf.nl/copyrighttoolbox/ Designed to assist with a range of scholarly communications issues including author-publisher contracts.

A guide to developing Open Access through your digital repository. Open Access to Knowledge Law Project, 2007. http://www.oaklaw.qut.edu.au/node/32

Sherpa/RoMEO guide to publisher copyright policies & self-archiving http://www.sherpa.ac.uk/romeo.php

Open Access Directory http://oad.simmons.edu

Open Access scholarly information sourcebook http://www.openoasis.org

Open Access Week www.openaccessweek.org

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Registry of Open Access Repositories http://roar.eprints.org/

Registry of Open Access Mandates http://www.eprints.org/openaccess/policysignup/

Scholarly Publishing and Academic Resources Coalition (SPARC) http://www.arl.org/sparc/ See also Author rights: using the SPARC Author Addendum to secure your rights as the author of a journal article http://www.arl.org/sparc/author/addendum.shtml

Science Commons Scholar's Copyright Project http://sciencecommons.org/projects/publishing/

SURF Foundation Copyright in Higher Education http://www.surffoundation.nl/auteursrechten/en/Pages/Default.aspx

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