



SCHOLARLY PUBLISHING & ACADEMIC RESOURCES COALITION
SPARC EUROPE

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Open Access Repositories and Journals – an International Overview

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SPARC Europe

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Scholarly Publishing & Academic Resources Coalition

- Formed in 2002 following the success of SPARC (launched in 1998 by the US Association of Research Libraries)
- Encourages partnership between libraries, academics, societies and responsible publishers
- Originally focused on STM, but coverage expanding
- Has over 110 members in 14 countries
- By acting together the members can influence the future of scholarly publishing



Political Agents for Change

Scholarly Communication is being impacted by a number of public policy drivers;

- The ‘knowledge economy’ (e.g. the Lisbon agenda)
- Accountability and assessment – ‘value for money’
- E-Science / E-Research
- Concerns regarding access to data and Public Sector Information
 - Freedom of Information Culture
 - Social agent – the ‘Facebook Generation’



Political Imperative – Lisbon Agenda

In March 2000, the EU Heads of States and Governments agreed their aim to make the EU **‘the most competitive and dynamic knowledge-driven economy by 2010’**.

One of the key strategic means of achieving this goal was identified as **‘preparing the transition to a knowledge-based economy and society by better policies for the information society and R&D...’** and specifically increasing investment in R&D to **3% of GDP**

In a post-industrial economy there is increasing acknowledgement of the relationship between:

- Investment in R&D
- Access to knowledge
- Technology transfer
- Wealth creation



Accountability and Assessment – ‘Value for Money’

With increased spending on R&D and education comes increased desire for accountability and assessment of:

- Universities
- Departments
- Libraries
- Research Groups
- Individuals

And with more assessment comes a desire for more metrics of success:

- Number of citations
- Who is citing whom
- Downloads
- Patent registration
- Rate of technology transfer

And a desire to streamline the assessment process



E-Science / E-Research

‘Scientists developing collaboration technologies that go far beyond the capabilities of the Web

- To use remote computing resources
- To integrate, federate and analyse information from many disparate, distributed, data resources
- To access and control remote experimental equipment

Capability to access, move, manipulate and mine data is the central requirement of these new collaborative science applications’

Tony Hey

Successful E-Science needs:

- Resources to integrate, federate and analyse
- Interoperability
- Open access



Access to Data

Allowing data to be used, reused, repurposed, shared, mined, etc. makes it more valuable:

- Human Genome Project
- Clinical trials
- Weather and environmental data,
- Chemical structures, etc. etc.

National Institutes for Health - USA

‘In NIH’s view, all data should be considered for data sharing. **Data should be made as widely and freely available as possible while safeguarding the privacy of participants, and protecting confidential and proprietary data.**

http://grants2.nih.gov/grants/policy/data_sharing/data_sharing_guidance.htm

OECD

Science, Technology and Innovation for the 21st Century. Meeting of the OECD Committee for Scientific and Technological Policy at Ministerial Level, 29-30 January 2004, ‘Declared their commitment to:

‘Work towards the establishment of access regimes for digital research data from public funding in accordance with the following objectives and principles:

‘**Openness, Transparency**, Legal conformity, Formal responsibility, Professionalism, Protection of intellectual property, **Interoperability**, Quality and security, Efficiency, Accountability.’

http://www.oecd.org/document/0,2340,en_2649_34487_25998799_1_1_1_1,00.html



The Effect of the Internet

- Opportunities for **expanded access** and **new uses** offered by
 - ever-expanding networking
 - evolving digital publishing technologies and business models
- New dissemination methods
- Better ways to handle increasing volume of research generated
- 90% of journals now online



The Situation Today – Dissatisfaction at Many Levels

- Authors
 - Their work is not seen by all their peers – they do not get the recognition they desire
 - Despite the fact they often have to pay page charges, colour figure charges, reprint charges, etc.
 - Often the rights they have given up in exchange for publication mean there are things that they cannot do with their own work
- Readers
 - They cannot view all the research literature they need – they are less effective
- Libraries
 - Even libraries at the wealthiest institutions cannot satisfy the information needs of their users
- Funders
 - Want to see greater returns on their research investment
- Society
 - We all lose out if the communication channels are not optimal.



Open Access

What is it?

Call for *free, unrestricted access* on the public internet to the literature that scholars give to the world *without expectation of payment*.

Why?

Widen dissemination, accelerate research, enrich education, share learning among rich & poor nations, enhance return on taxpayer investment in research.

How?

Use existing funds to pay for *dissemination*, not *access*.



Budapest Open Access Initiative

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Two complementary strategies:

- **Self-Archiving:** Scholars should be able to deposit their refereed journal articles in open electronic archives which conform to **Open Archives Initiative** standards
- **Open-Access Journals:** Journals will not charge subscriptions or fees for online access. Instead, they should look to other sources to fund peer-review and publication (e.g., publication charges)

<http://www.soros.org/openaccess/>



What is a Journal?

Scholarly publishing comprises four functions:

REGISTRATION Establishing intellectual priority	CERTIFICATION Certifying the quality/validity of the research	AWARENESS Assuring accessibility of research	ARCHIVING Preserving research for future use
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Current model:

- Integrates these functions in journals
- This made sense in print environment



The Four Functions of a Journal



Institutional
Repositories



REGISTRATION

Establishing
intellectual
priority

CERTIFICATION

Certifying the
quality/validity
of the research

AWARENESS

Assuring
accessibility
of research

ARCHIVING

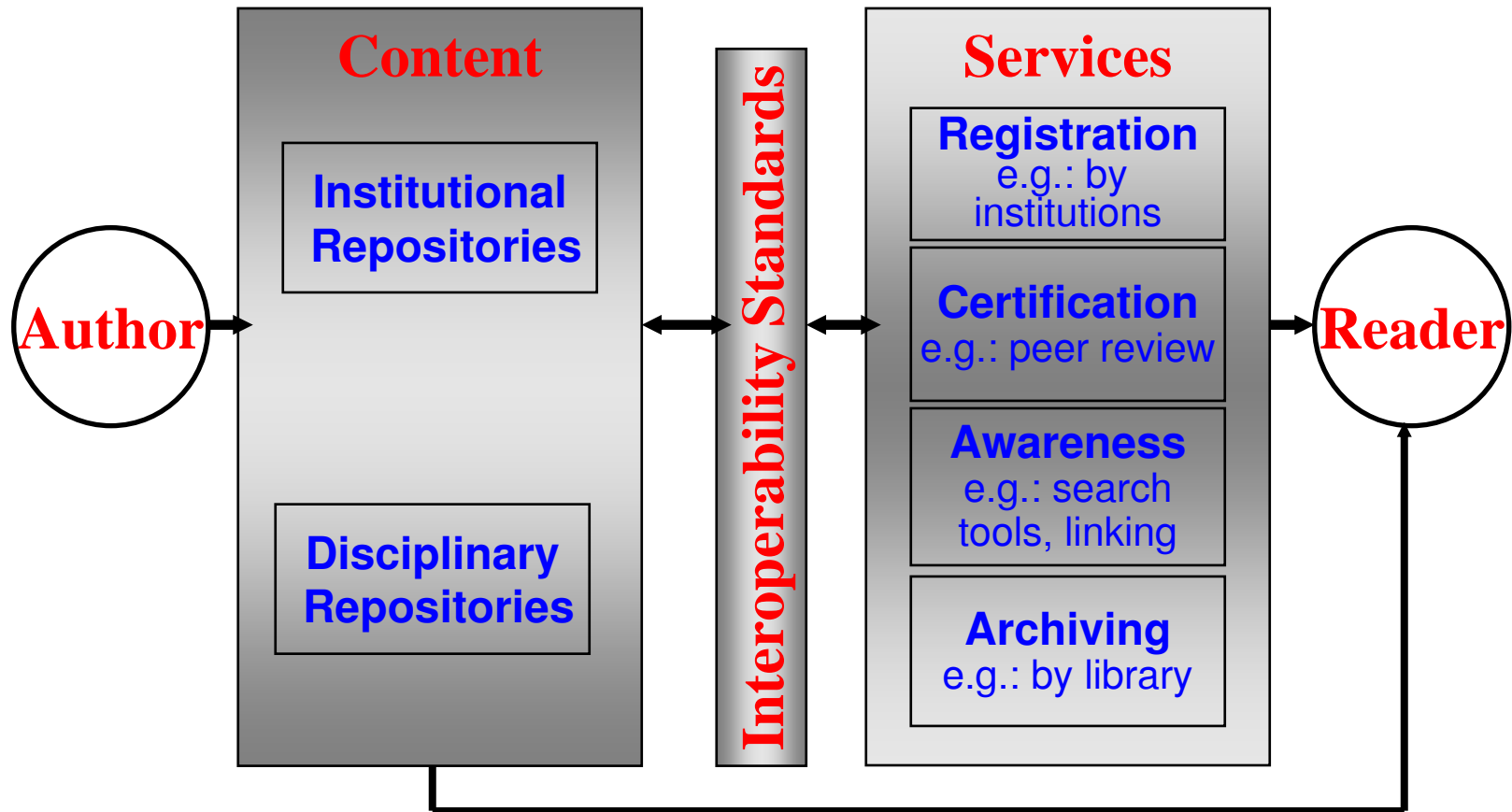
Preserving
research
for future use



Open Access
Journals



How the pieces work together





Theory Into Practice - Institutional Repositories

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- GNU EPrints – Southampton
- D-Space – MIT
- CDSWare – CERN
- ARNO – Tilburg, Amsterdam, Twente
- Fedora – Cornell University / University of Virginia

- SHERPA – UK
- DARE – The Netherlands
- DRIVER – EC



Theory Into Practice - Institutional Repositories

OpenDOAR (Directory of Open Access Repositories)

- An authoritative directory of academic open access repositories
- List of almost 1300 repositories
- Can be used to search across content in all listed repositories
- Gives information on repository policies (copyright, re-used of material, preservation, etc.)
- 9 repositories from Greece listed



Repository66.org Repository Ma

Show information

form: All (1047) Country: All (1047) Registered between January 1994 and August 2008 filter results show





Theory Into Practice

- Open Access Journals

- Lund Directory of Open Access Journals (<http://www.doaj.org/>) – lists 3750 peer-reviewed open access journals
- *PLoS Biology* (launched 2003), *PLoS Medicine* (2004), *PLoS Computational Biology*, *PLoS Genetics*, *PLoS Pathogens* (2005)
- *BioMed Central* (published over 43,500 papers)
- *Documenta Mathematica* (Ranked 13th of 200 mathematics journals listed by ISI)
- SPARC Europe has helped to launch the *Open Access Scholarly Publishers Association* (OASPA - <http://www.oaspa.org/>) to represent the interests of open access publishers



The Power of Open Access – Self Archiving

- For 72% of papers published in the *Astrophysical Journal* free versions of the paper are available (mainly through ArXiv)
- These 72% of papers are, on average, cited **twice** as often as the remaining 28% that do not have free versions.

Figures from Greg Schwarz

- Tim Brody from Southampton has shown that papers for which there is also a free version available have, on average, greater citations than those that are only available through subscriptions

http://citebase.eprints.org/isi_study



The Power of Open Access – Journals

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- Open access PNAS papers have 50% more full-text downloads than non-open access papers

http://www.library.yale.edu/~license/ListArchives/0505/m_sg01580.html

- ...and are on average twice as likely to be cited

<http://biology.plosjournals.org/perlserv/?request=get-document&doi=10.1371/journal.pbio.0040157>



Open Access Policies

As the public policy agenda develops we are seeing an increasing number of policies relating to open access from:

- Research groups
- Universities
- Research centers
- Funding bodies
- Governments
- National and international bodies



Berlin Declaration in Support of Open Access

- ‘Our mission of disseminating knowledge is only half complete if the information is not made widely and readily available to society.’
- Signatories should promote open access by
 - encouraging researchers/grant recipients to publish in open access.
 - encouraging the holders of cultural heritage to support open access by providing their resources on the Internet.
 - developing means to evaluate open access contributions and online-journals in order to maintain the standards of quality assurance and good scientific practice.
 - advocating that open access publication be recognized in promotion and tenure evaluation.
- Issued on 22nd October 2003

<http://www.zim.mpg.de/openaccess-berlin/berlindeclaration.html>



Berlin Declaration in Support of Open Access

- 255 signatories world-wide, including:
 - **Germany:** Fraunhofer Society, Wissenschaftsrat, HRK, Max Planck Society, Leibniz Association, Helmholtz Association, German Research Foundation, Deutscher Bibliotheksverband
 - **France:** CNRS, INSERM
 - **Austria:** FWF Der Wissenschaftsfonds
 - **Sweden:** Swedish Research Council, Swedish Library Association, Association of Swedish Higher Education
 - **China:** Chinese Academy of Sciences, National Science Foundation China (NSFC)
 - **Italy:** Rectors of almost all Italy's universities
 - **Spain:** Rectors and Chancellors of 13 universities, Spanish National Research Council (CSIC)
 - **Greece:** Alexander Technological Educational Institute of Thessaloniki1, Panepistimio Makedonias - Oikonomikon kai Koinonikon Epistimon, National Hellenic Research Foundation



Open Access Policies

The Wellcome Trust, UK

- From October 1 2006, it became a condition of funding that copy of any **original research paper** published in a peer-reviewed journal must be deposited into PubMed Central (PMC). http://www.wellcome.ac.uk/doc_WTX022827.html

Research Councils, UK

- Six of the seven UK research Councils require deposit of papers in freely accessible electronic repositories. http://www.sparceurope.org/press_release/RC%20OA%20policies%20v1.5.xls

National Institutes of Health (NIH), US

- The NIH is the world's largest non-military research funder, spending just under \$30 billion per year
- In December 2007 a provision directing the NIH to provide the public with open online access to findings from its funded research was passed into law.
- Now grant recipients are required to deposit electronic copies of their peer-reviewed manuscripts into PubMed Central no later than 12 months after publication in a journal.
- Approximately 80,000 papers each year could be made freely available as a result of the policy

<http://www.taxpayeraccess.org/media/release07-1226.html>



European Commission

Pilot Project

- EC pilot launched in August 2008 to give OA to results from approximately 20% of projects from the 7th Research Framework Programme (FP7) - especially in health, energy, environment, social sciences and information and communication technologies.
- Grantees required to:
 - deposit peer reviewed research articles or final manuscripts resulting from their FP7 projects into an online repository, with either six or twelve month embargo (depending on subject area).

The European Research Council (ERC)

- In December 2007 the ERC issued [Guidelines for Open Access](#) and the ERC Scientific Council has established the following interim position on open access:
 - All peer-reviewed publications from ERC-funded research projects be deposited on publication into an appropriate research repository where available and subsequently made Open Access within 6 months of publication.
 - The ERC is keenly aware of the desirability to shorten the period between publication and open access beyond the currently accepted standard of 6 months.



European Research Council

The European Research Council aims (with the help of a seven-year 7.5 billion Euro budget) to:

- ‘support the best of the best scientific efforts in Europe across all fields of science, scholarship and engineering.’

In December 2007 the ERC issued [Guidelines for Open Access](#) and the ERC Scientific Council has established the following interim position on open access:

- The ERC requires that all peer-reviewed publications from ERC-funded research projects be deposited on publication into an appropriate research repository where available, such as PubMed Central, ArXiv or an institutional repository, and subsequently made Open Access within 6 months of publication.
- The ERC considers essential that primary data... are deposited to the relevant databases as soon as possible, preferably immediately after publication and in any case not later than 6 months after the date of publication.
- The ERC is keenly aware of the desirability to shorten the period between publication and open access beyond the currently accepted standard of 6 months.



European Heads of Research Councils (EUROHORCs)

All the major public funding agencies in 23 European countries are members of EUROHORCs

- In May 2008 the General Assembly of EUROHORCs agreed to recommend a minimal standard regarding Open Access to its Member Organisations. The proposed minimal standard is an *intermediate step* towards a system in which free access to all scientific information is guaranteed without jeopardizing the system of peer review, quality control, and long-term preservation. **It encourages its members to reduce embargo time to not more than six months and later to zero.**

Recommendations for Member Organisations (MOs) of EUROHORCs

- All MOs of EUROHORCs should sign the Berlin Declaration on Open Access (2003). It is strongly recommended that when ever possible they adopt the EURAB recommendations or at least a weaker version of it by excluding a compulsory limitation of the embargo time to 6 months or less.
- The overwhelming majority of scientific journal support self-archiving already, but only a very small minority of scientists make use of this possibility. Thus, all scientists, either funded by or doing research for MOs, should be informed about the already existing mechanisms for Open Access and strongly advised to make use of them.



Self-Archiving Policies

Research Organisations:

- CERN – Requires researchers to deposit papers in the CERN repository
- CNRS (Centre National de la recherche scientifique)

Institutions:

- Stanford University – School of Education
- Harvard University – Faculty of Arts and Science and Law School
- University of Stirling
- University of Helsinki
- Queensland University of Technology
- Bielefeld University
- University of Bremen
- University of Hamburg
- Universidade do Minho
- University of Southampton
- Case Western Reserve University
- University of Oslo



European University Association

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Recommendations for University Leadership

- Universities should develop institutional policies and strategies that foster the availability of their quality-controlled research results for the broadest possible range of users, maximising their visibility, accessibility and scientific impact.
- The basic approach ...should be the creation of an institutional repository or participation in a shared repository..
- **University institutional policies should require that their researchers deposit (self-archive) their scientific publications in their institutional repository upon acceptance for publication.** Permissible embargoes should apply only to the date of open access provision and not the date of deposit.
- ...It should be the responsibility of the university to inform their faculty researchers about IPR and copyright management...
- University institutional policies should explore also how resources could be found and made available to researchers for author fees to support the emerging "author pays model" of open access.

[http://www.eua.be/fileadmin/user_upload/files/Policy_Positions/Recommendations_Open_Access_ad_opted_by_the EUA Council on 26th of March 2008_final.pdf](http://www.eua.be/fileadmin/user_upload/files/Policy_Positions/Recommendations_Open_Access_ad_opted_by_the_EUA_Council_on_26th_of_March_2008_final.pdf)



Open Access – A Policy Issue

- We see a growing consensus between funders and university administrators on the need for OA mandates
- Funders see dissemination as part of the research process and publication costs as research costs
- Administrators see repositories as a key tool to support research and learning
- This leads to a growth in the number of OA mandates being adopted
- Already, the mandates in place will result in a significant number of papers being made OA over the next few years.
- We are fast approaching the point where it will be unusual for any leading institution or funder *not to* have a mandate!
- These policies and high-level support will underpin work on institutional repositories



A Changing Environment

“It is one of the noblest duties of a university to advance knowledge, and to diffuse it not merely among those who can attend the daily lectures--but far and wide.”

Daniel Coit Gilman, First President, Johns Hopkins University,
1878 (on the university press)

“ An old tradition and a new technology have converged to make possible an unprecedented public good. ”

Budapest Open Access Initiative, Feb. 14, 2002

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