



SCHOLARLY PUBLISHING & ACADEMIC RESOURCES COALITION
SPARC EUROPE

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Open Access and the Future of Scholarly Communication

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The Situation Today – Dissatisfaction at All 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
- Society
 - We all lose out if the communication channels are not optimal.



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 (and is growing)
- By acting together the members can influence the future of scholarly publishing



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
-----------------------------------------------------------------	-------------------------------------------------------------------------------	--------------------------------------------------------------	--------------------------------------------------------------

Current model:

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



Unlocking opportunities

- Opportunities for **expanded access** and **new uses** offered by
 - ever-expanding networking
 - evolving digital publishing technologies and business models
- Better ways to handle increasing volume of research generated
- Technology offers the chance for research and library communities to take back control of scholarly communication



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 are institutional repositories (open archives)?

Essential elements

- *Institutionally defined*: Content generated by institutional community
- *Scholarly content*: preprints and working papers, published articles, enduring teaching materials, student theses, data-sets, etc.
- *Cumulative & perpetual*: preserve ongoing access to material
- *Interoperable & open access*: free, online, global



Why institutional repositories?

- **For the Individual**
 - Provide a central archive of their work
 - Improved discovery and retrieval
 - Increase the dissemination and impact of their research
 - Acts as a full CV
- **For the Institution**
 - Increases visibility and prestige
 - Acts as an advertisement to funding sources, potential new faculty and students, etc.
 - Helps in administration, e.g., Research assessment and evaluation
- **For Society**
 - Provide access to the world's research
 - Ensures long-term preservation of institutes' academic output



The 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



Certification

- Certification gives:
 - Authors – Validation of their work (important for promotion and grant applications)
 - Readers – Quality filter
- Journals provide peer review and give a ‘quality stamp’ to research and authors
- Journals should be open access



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

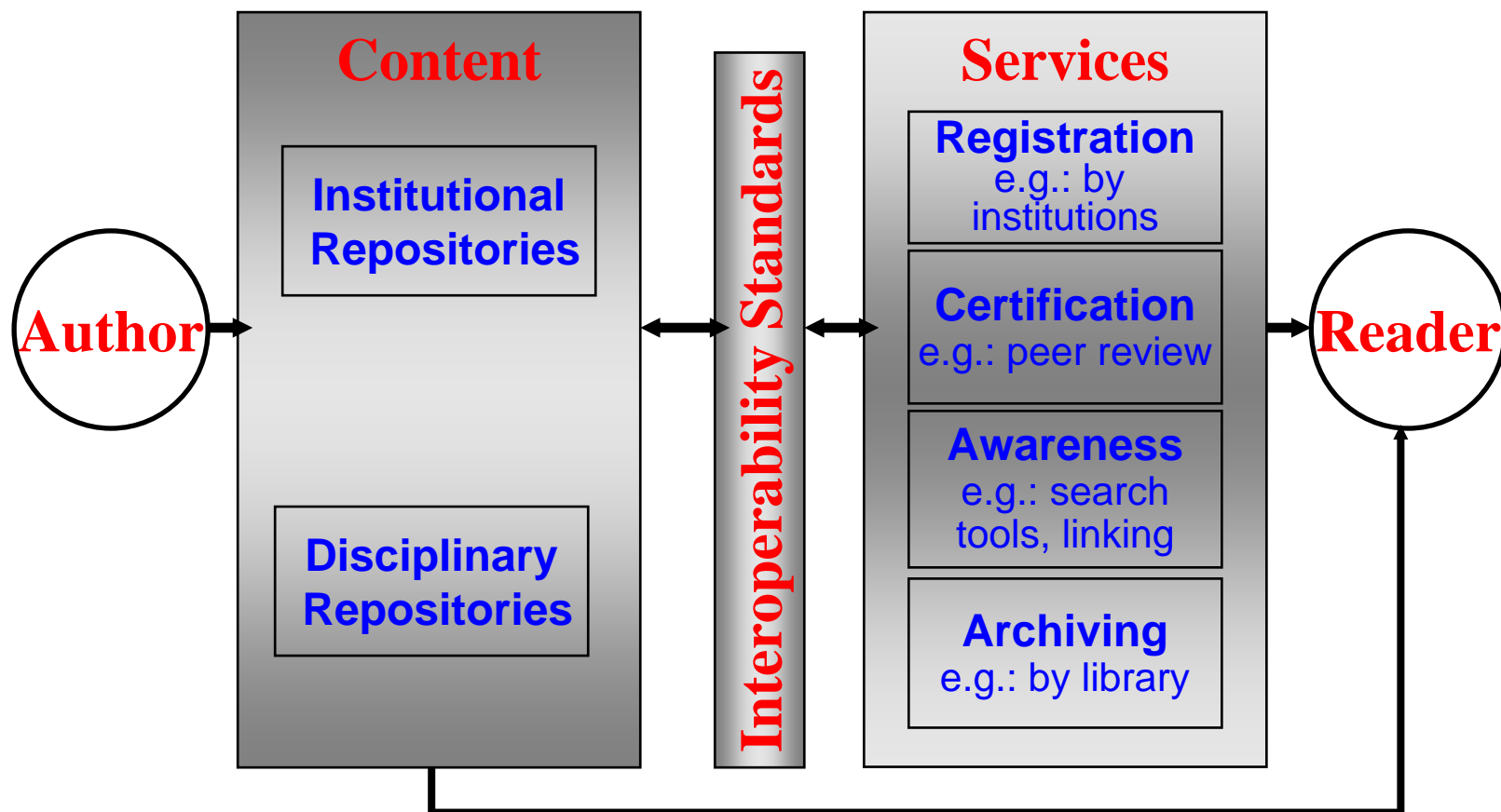
ARCHIVING
Preserving
research
for future use



Open Access
Journals



How the pieces work together





Utopia!

- All research material freely available in a world-wide network of interoperable repositories
- Peer-reviewed papers receive quality stamp from journals, financed by authors not readers
- All peer-review papers are freely available to anybody with internet access



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

- SPARC Resources –
(<http://www.arl.org/sparc/core/index.asp?page=m0>)



Theory Into Practice - Institutional Repositories

OpenDOAR (Directory of Open Access Repositories)

- An authoritative directory of academic open access repositories
- Lists of 800 repositories
- Can be used to search across content in all listed repositories
- Gives information on repository policies (copyright, re-used of material, preservation, etc.)
- Two repositories from Greece listed:
 - *Aristotle University of Thessaloniki Repository*
<http://cds.lib.auth.gr/>
 - *University of Macedonia, Psepheda: Digital Library & Institutional Repository (Psepheda (Ψηφίδ))*
<http://dspace.lib.uom.gr/>



Theory Into Practice

- Open Access Journals

- Lund Directory of Open Access Journals (<http://www.doaj.org/>) – lists over 2440 peer-reviewed open access journals
- *PLoS Biology* (launched 2003 – IF 14.7), *PLoS Medicine* (2004), *PLoS Computational Biology*, *PLoS Genetics*, *PLoS Pathogens* (2005)
- *BioMed Central* (published over 18,000 papers)
- *New Journal of Physics* (IF 3.585)
- Scientific Electronic Library Online (SciELO-<http://www.scielo.org/index.php?lang=en>) – 279 titles open access online



Open Access – Making the Transition

- Give Authors the choice:
 - If they pay a publication charge the paper is made open access on publication.
 - If they do not pay the publication charge the paper is only made available to subscribers.
- Over time, as proportion of authors who pay increases subscription prices can fall
- Eventually, entire journal is open access

<http://www.sparceurope.org/Open%20Access/From%20Here%20to%20There.doc>



Open Access – Making the Transition

- A number of ‘traditional’ publishers are transforming their closed access journals into open access journals:
 - Proceedings of the National Academies of Science (PNAS)
 - Oxford University Press
 - American Institute of Physics
 - Company of Biologists
 - American Physiological Society
 - American Society of Limnology and Oceanography
 - Springer
 - Blackwell’s



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



Wellcome Trust

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- The Wellcome Trust is an independent research funding charity which currently spends over £400 million per annum.
- The Trust is working with the National Library of Medicine (NLM) to establish a European site for PubMed Central.
- 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).
- The Trust will provide grantees with additional funding to cover the costs of page processing charges levied by open access publishers

http://www.wellcome.ac.uk/doc_WTX022827.html



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

- 181 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)



Research Councils UK – Statement in Support of Open Access

- The eight Research Councils in the UK spend approximately £2.1 billion annually
- ‘Ideas and knowledge derived from publicly-funded research must be made available and accessible for public use, interrogation, and scrutiny, as widely, rapidly and effectively as practicable.’
- Where appropriate, funded researchers will be required to:
 - ‘Personally deposit, or otherwise ensure the deposit of, a copy of any resultant articles published in journals or conference proceedings, in an appropriate repository, as designated by the individual research council.
 - ‘Wherever possible, personally deposit, or otherwise ensure the deposit of, the bibliographical metadata relating to such articles, including a link to the publisher’s website, at or around the time of publication.’
- There is no be a single policy to cover all Research Councils, but each Council is free to adopt its own policy appropriate to the specific subject area.



Research Councils UK – Statement in Support of Open Access

- Five Councils have mandated deposit of papers resulting from projects funded from 1 October 2006 in freely accessible electronic repositories:
 - [Biotechnology & Biological Sciences Research Council](#)
 - [Economic & Social Research Council](#)
 - [Medical Research Council](#)
 - [Natural Environment Research Council](#)
 - [Particle Physics & Astronomy Research Council](#)
- One Council ‘strongly encourages’ authors to deposit papers:
 - [Council for the Central Laboratory of the Research Councils](#)
- The remaining two Councils have no policies in place:
 - [Arts & Humanities Research Council](#) (policy expected by end 2006)
 - [Engineering & Physical Sciences Research Council](#)

http://www.sparceurope.org/press_release/RC%20OA%20policies%20v1.2.xls



US National Institutes of Health

Political Interest:

- US Congress instructed the National Institutes of Health (NIH) to develop new access policy
- Originally, copies of all papers reporting research funded by NIH would have been deposited in PubMed Central six months after publication
- Final announced policy – grant recipients are ‘requested’ to deposit their papers up to 12 months after publication
- Approximately 60,000 papers each year could be made freely available as a result of the policy
- However, uptake of voluntary policy has been disappointing (about 4%)

<http://grants.nih.gov/grants/guide/notice-files/NOT-OD-05-022.html>



Federal Research Public Access Act of 2006

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- Introduced to the US Senate by John Cornyn (Republican) and Joseph Lieberman (Democrat) on 2nd May 2006.
- Bill would require federal agencies that fund over \$100 million in annual external research to make electronic manuscripts of peer-reviewed journal articles stemming from their research publicly available via the Internet.
- Agencies affected include: Departments of Agriculture, Commerce, Defence, Education, Energy, Health and Human Services (including NIH), Homeland Security, and Transportation, as well as the Environmental Protection Agency, NASA, and the National Science Foundation.
- Any embargo would be limited to 6 months after publication.

<http://www.taxpayeraccess.org/frpaa/index.html>



European Commission Study

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- ‘Study on the economic and technical evolution of the scientific publication markets in Europe’
- Connected to the EC’s objective of ‘establishing a genuine European Research Area and [their] aim to raise the profile of European research’
- Looking at:
 - What are the main changes in Europe?
 - What and who is driving change and why? If there is any resistance to positive change, what/who is blocking it?
 - What are the consequences for users (authors, readers, libraries)?
- Launched 15 June 2004

<http://www.europa.eu.int/comm/research/press/2004/pr1506en.cfm>



European Commission Study

- Concludes that ‘...policies should make sure that the market is sufficiently competitive and ‘dissemination-friendly’. In particular, they should address the need to:
 - enhance access to research output;
 - prevent strategic barriers to entry and to experimentation.
- **Recommendation A1. Guarantee public access to publicly-funded research shortly after publication**
 - Research funding agencies ... should promote and support the archiving of publications in open repositories, after a ... time period to be discussed with publishers. This archiving could become a condition for funding.
 - The following actions could be taken at the European level: (i) Establish a European policy mandating published articles arising from EC funded research to be available after a given time period in open access archives, and (ii) Explore with Member States and with European research and academic associations whether and how such policies and open repositories could be implemented.

http://europa.eu.int/comm/research/science-society/pdf/scientific-publication-study_en.pdf



European Commission Study

- SPARC Europe strongly supports the Recommendations of the Study.
- Open Access should be a condition for Framework grants and for grants issued under the new European Research Council.
- The negative effect on the market of acquisitions and mergers is noted and we must remain vigilant to ensure that no new large mergers are approved.
- We can use the study locally to encourage action by the Member States



Funding Bodies - The Future

- The last three years has seen funding agencies in Europe and US begin to take an interest in open access
- They see dissemination as part of the research process and publication costs as research costs
- We will continue to see increasing high-level support for open access
- We can expect further policy statements over the next year, some of which will mandate deposit in suitable repositories
- These policies and high-level support will underpin work on institutional repositories



Self-Archiving Policies

Research Organisations:

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

Institutions:

- 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

<http://www.eprints.org/signup/fulllist.php>



Open Access – A Policy Issue

Open Access policies are:

- Welcomed by authors
- Complied with by authors
- Compatible with copyright and respect authors' moral rights
- Compatible with patent registration
- Respectful of academic and intellectual freedoms
- Aligned with the aims of most funding bodies and institutions
- Effective!



What Institutions Are Doing

Self-archiving:

- Set-up and maintain institutional repository.
- Help faculty deposit their research papers, new & old, digitizing if necessary.
- Implement open-access policies

Open-access journals:

- Help promote open access journals launched at their institution become known externally.
- Ensure scholars at their institution know how to find open access journals and archives in their fields.
- Support open access journal ‘institutional memberships’ (e.g. BioMedCentral, PLoS)
- Engage with politicians and funding bodies to raise the issue of open access

<http://www.createchange.org/>



Open Access – Appealing to All the Major Stakeholders

- To the funders of researcher – both as a public service and as an increased return on their investment in research
- To the authors – as it gives wider dissemination and impact
- To readers – as it gives them access to all primary literature, making the most important ‘research tool’ more powerful
- To editors and reviewers – as they feel their work is more valued
- To the libraries – as it allows them to meet the information needs of their users
- To the institutions – as it increases their presence and prestige
- To small and society publishers – as it gives them a survival strategy and fits with their central remit



Create Change!

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“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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