



University of  
**Strathclyde**

*Making science count: Open  
Access and its impact on the  
visibility of science*

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# Headline findings:

## Journal market value and volume

Universe of 20,000-25,000 peer-reviewed scholarly journals serving 5.5 million researchers – plus other readers- globally

60% of all journals are published online (most are also parallel published in print).

Around 10% of journals are published under some form of open access model.

Publisher revenues of circa \$5 billion for English-language journals in STM in 2004 – but this is a significant underestimate (it excludes non-English language journals and journals in disciplines outside of STM)

Very poor data about buyers of scholarly journals beyond higher education

Existing market studies not comprehensive (focus only on STM)

More survey data directly from the publishers themselves (anonymised) would go a long way to filling the gaps



# Citations, impact factors and their role

Are traditional (i.e., subscription-based) journals more likely to be cited than OA journals?

Key methodological challenge: article cannot be OA + non-OA at the same time = no like-for-like comparison

Deposit of articles in OA repositories seems to be associated with a larger number of citations, and earlier citations for articles

But *reasons* for this not clear. The little existing evidence suggests that authors put their *best* work into OA format

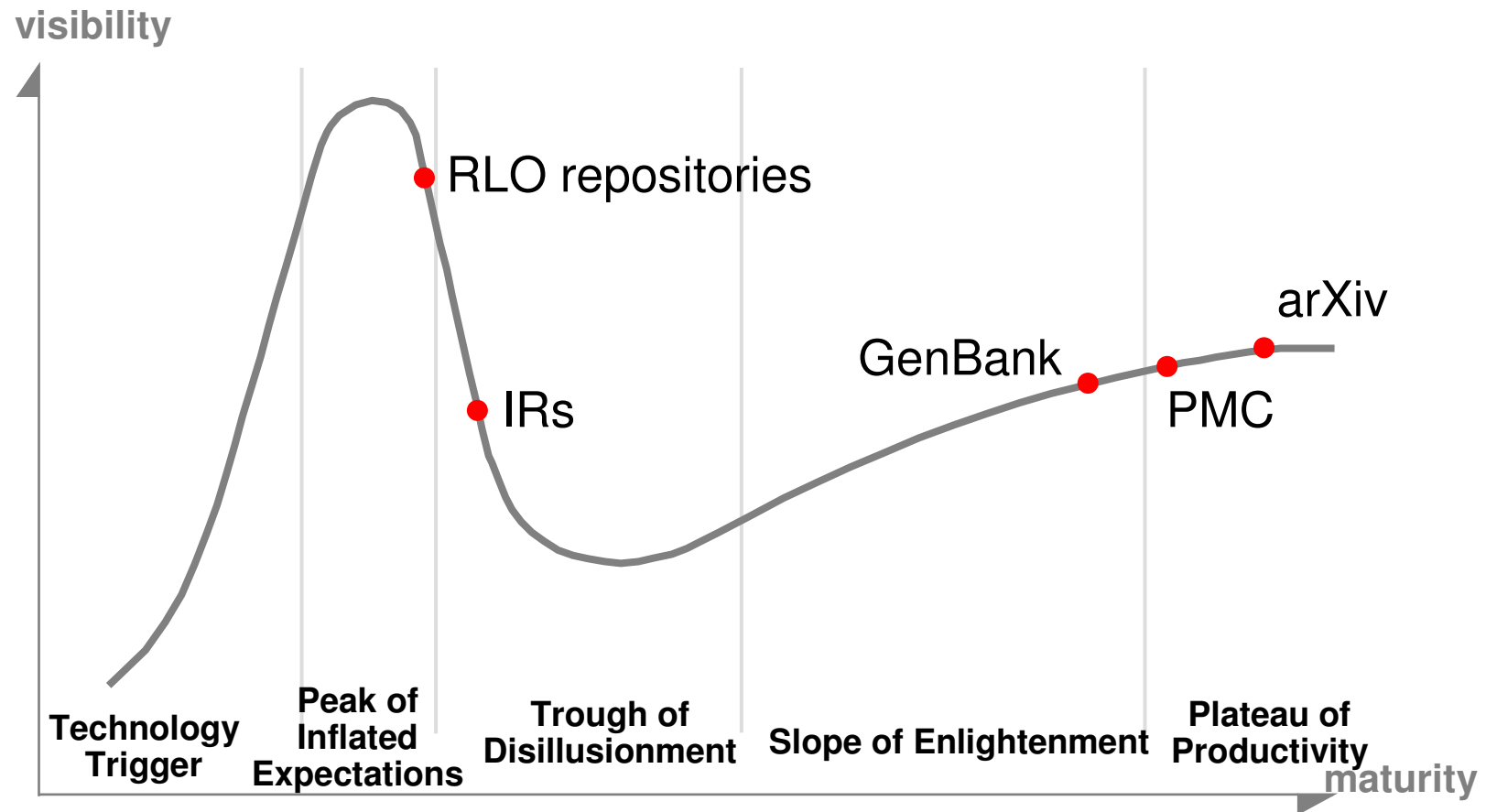
Evidence of IF advantage for OA journals over toll-access journals less consistent - one study of a hybrid journal shows higher citation counts for OA articles than subscription-access articles – but only covers one journal = more work is needed

Evidence scattered, uses inconsistent methods and covers different subject areas

Consistent longitudinal data on IF trends needed

Qualitative factors should not be ignored –range of factors can affect citation counts

# Hype cycle\*: OA repositories



\*Gartner Inc.: reproduced with permission

# Where have we come from?

Subject-based repositories, 1991-

Institutional repositories, 2000-

OAI PMH, 2001-

Policy developments

- BOAI, 2002

- Bethesda Statement, 2003

- Berlin Declaration, 2003

- Scottish Declaration, 2004

- NIH, 2004

- RCUK, 2006,

- The Bangalore Policy statement

  - India, China, Brazil, South Africa, and Ethiopia

- Investigations and reports

- UK Science and Technology Committee, 2004

- European Commission, 2006

Initiatives and services

- ROMEIO/SHERPA/DOAR

- Cream of Science

# Where are we now?

Repositories: 790+ OAI repositories worldwide (c.f. 250 in 2004)

Content: 12 million+ records

National/large-scale initiatives

- JISC initiatives, UK

- SURF programmes eg DARE, Netherlands

- DEST initiatives eg ARROW, Australia

- EU work eg DRIVER, Europe

- etc

Publisher policies

- self-archiving

- hybrid options

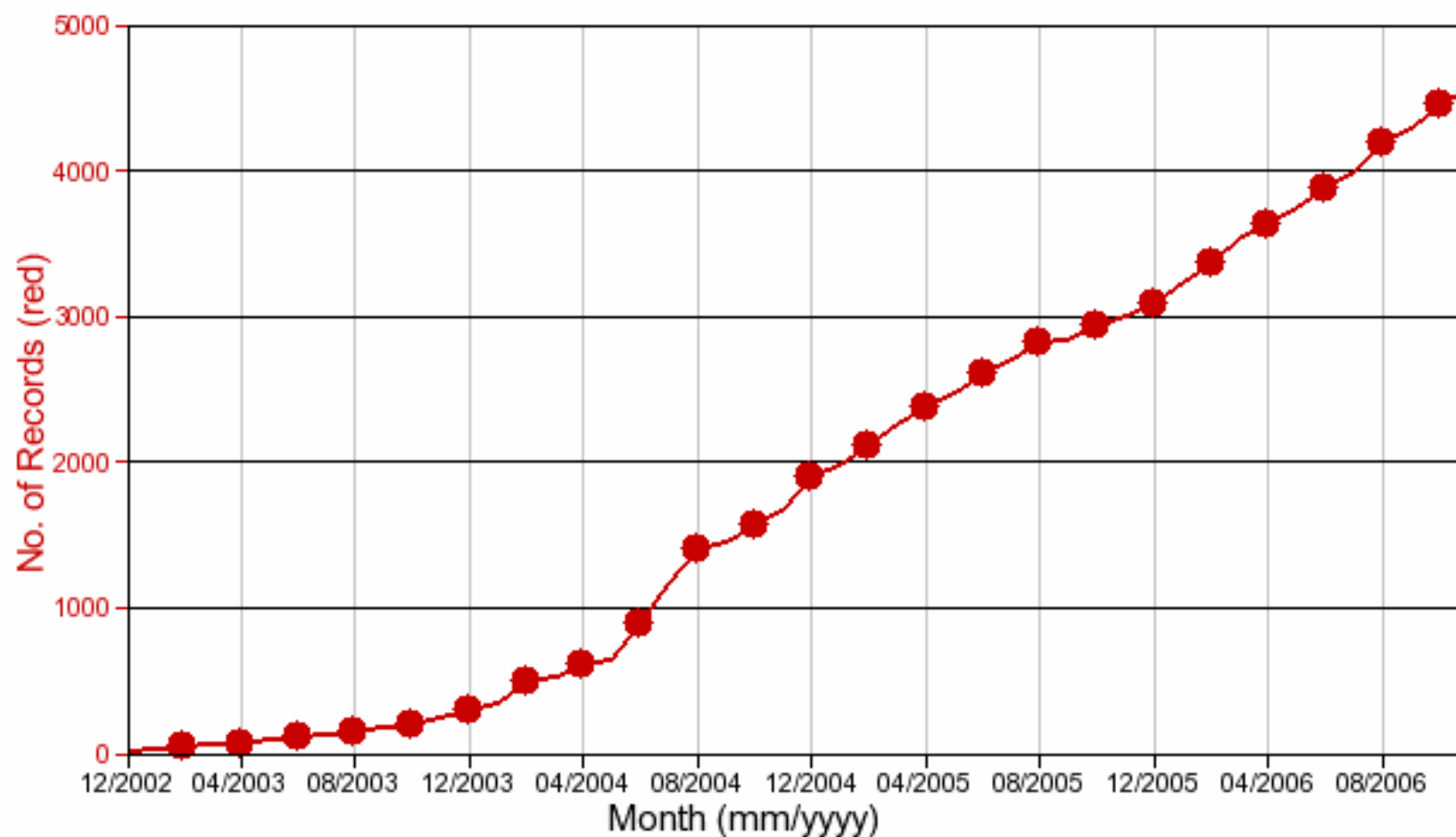
# Some facts

- Awareness of Open Access is increasing amongst scholars in all disciplines
- The number of repositories has increased at an average of 1 per day over the last year
- The rate of increase is rising



## E-Lis: Research in Computing and Library and Information Science

Generated by <http://archives.eprints.org/>





# A few more facts

There are circa 800 repositories  
globally

There are 32 documented policies

There are 10 mandates

# Here's the problem...

- Only 15% of research articles are spontaneously self-archived
- The average number of postprints self-archived in institutional repositories is 297
- We analyzed the effect of providing 'Open Access' (OA; free online access to research articles) on their 'citation impact' (how often they are cited). Using a subset of the ISI CD-ROM database from 1992 - 2003, we compared, within each journal and year, articles to which their authors had (OA) or had not (NOA) provided open access by self-archiving them on the web. The number of OA and NOA articles and their respective citation counts were calculated within biology, business, psychology and sociology journals. The percentage of OA articles varied from 5-20% (mean and median, 12%). The citation counts (OA-NOA/NOA) showed a consistent OA advantage (mean 96%, median 73%) for all four fields and 28 subspecialties tested, varying from 25% to over 250%. An OA impact advantage has already been reported in the physical sciences and engineering (physics, computer science), but there was uncertainty about whether the same thing happens in other disciplines. Our data now show that both the biological and the social sciences show the OA advantage.  
Hajjem, C., Gingras, Y., Brody, T., Carr, L. and Harnad, S. (2005) Open Access to Research Increases Citation Impact. Technical Report, Institut des sciences cognitives, Université du Québec à Montréal.
- JISC discovered at least a twofold increase in citation rates across most subject areas
- Antelman found a greater research impact in philosophy, political science, electronic engineering and mathematics

## Search or Browse for Repositories

Any Subject Area   
Any Content Type  
Italy (24) Any Language Any Software  
Summaries 20 per page. Sort by: Repository Name   
To search the contents of the repositories listed in OpenDOAR, please see our [trial search page](#).

Results 1 - 20 of 24.

Page: << Previous 1 2 Next >>

### [Alm@DL - Biblioteca Digitale dell'Università di Bologna](#)

**Organisation:** [Centro Inter-Bibliotecario \(CIB\)](#), [Università di Bologna](#), Italy

**Description:** This site is a university repository providing access to the publication output of the institution. The site interface is only available in Italian. The site has several collections containing work by staff and students including cultural contributions and electronic reviews.

**Size:** 2785 items (2006-09-04)

**Subjects:** Multidisciplinary

**Content:** Preprints; References; Theses; Unpublished

**Languages:** Italian

### [Almae Matris Studiorum Acta \(AMS Acta\)](#)

**Organisation:** [Università di Bologna](#), Italy

**Description:** This site is a university repository providing access to the publication output of the institution. The contents reflect the interests of the institution and are particularly rich in material from the theoretical & applied science and technology fields. The site is still under construction and currently help and guidance material is unavailable. The site interface is available in Italian only.

**OAI-PMH:** <http://amsacta.cib.unibo.it/perl/oai2>

**Software:** GNU EPrints

**Size:** 1943 items (2006-08-04)

**Subjects:** Multidisciplinary

**Content:** Publications; Conferences; Theses; Books

**Languages:** English; Italian

### [Almae Matris Studiorum Campus \(AMS Campus\)](#)

**Abstracts 260 (16) Downloads 177 (19)**

**Views by country (derived from IP address of query) for all years**

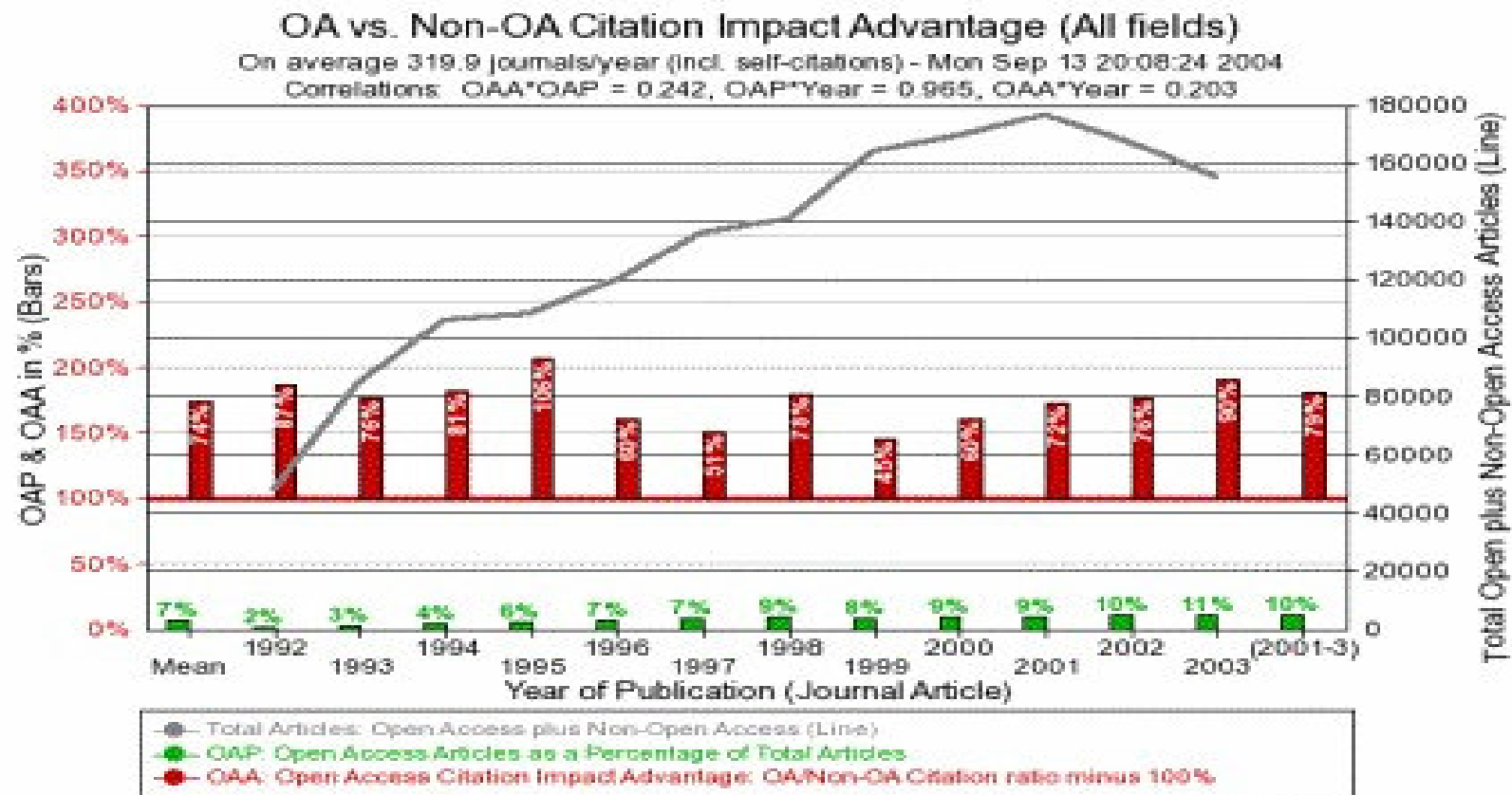
<b>Country</b>	<b>Abstracts</b>	<b>Downloads</b>
United States	197	106
United Kingdom	14	21
Our Intranet	26	13
Canada	1	6
China	1	4
Italy	2	4
Japan	6	4
Spain	2	3
Korea, Republic of	0	3
Ireland	1	2
Malaysia	1	2
Czech Republic	1	2
Netherlands	1	1
Sweden	3	1
Bulgaria	0	1
Argentina	0	1
New Zealand	0	1
Germany	1	1
Poland	0	1
Switzerland	2	0
Portugal	1	0

The numbers  
in (parentheses) are  
the number of distinct  
countries that  
views/downloads  
originated from.

**Grand Totals: 260 abstract views originating from 16 distinct countries**

**177document downloads originating from 19 distinct countries**

# Citation advantage



# Mandate what?

- The author's final version
- In the native format
- Because text-mining and data-mining tools need to work on OA articles
- They work best on XML

# Early Download Impact Predicts Later Citation Impact

- Open access articles are cited **SOONER**
- Open access journal articles are downloaded **MORE OFTEN**
- Open access abstracts are viewed **MORE FREQUENTLY**
- There is a **SIGNIFICANT CORRELATION** between downloads today and citations two years later.
  - This correlation has two immediate implications:
    - (1) Download counts can be used as early performance indicators for papers and authors, even before their impact is reflected in citation counts
    - (2) Enhancing usage impact is yet another reason for authors to provide open access to their articles by self-archiving them.



# Cream of Science: Showcasing Research

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**Cream of Science**

[www.creamofscience.org](http://www.creamofscience.org)

Cream of Science showcases prominent research from the Netherlands.

The website lists the names of 219 top Dutch academics, providing worldwide access to their **45936** publications. About 60% of these can be accessed full text. Access to the other publications is unfortunately protected by copyright.

Searchterm(s)   [Advanced >>>](#)

You can:

- **Search** scientific publications of 219 prominent researchers in the Netherlands from one convenient place.
- **Browse** the site 'Cream of Science'site by name, discipline or institute.
- **Find** the publication lists of these 219 researchers, of which 60% is full text available.

Cream of Science is the result of the DARE programme, funded by SURF. All Dutch universities, the National Library of the Netherlands, the Royal Netherlands Academy of Arts and Sciences (KNAW) and the Netherlands Organisation for Scientific Research (NWO) participate. Adding new "cream researchers"™ is done locally.

**Browse Cream**

- [alphabetically](#)
- [by discipline](#)
- [by institute](#)



# UKPubMedCentral

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wellcome trust

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↓ Policies and advocacy

Policies and positions

Spotlight issues

Submissions to consultations



## OPEN AND UNRESTRICTED ACCESS TO THE OUTPUTS OF PUBLISHED RESEARCH

### Policy summary

It is a fundamental part of our charitable [mission](#) to ensure that the work we fund can be read and utilised by the widest possible audience.

In support of this objective the Wellcome Trust [Grant Conditions](#) have been amended such that electronic copies of any research papers that have been accepted for publication in a peer-reviewed journal, and are supported in whole or in part by Wellcome Trust funding, must be deposited into PubMed Central (PMC) (or UKPMC once established). These papers will be made freely available via these web-based repositories as soon as possible, and in any event within six months of the journal publishers' official date of final publication.

This requirement applies to all grants, regardless of award date.

For further details, see the full [position statement](#) on open and unrestricted access to the outputs of published research, and the [authors' guide and FAQ](#).

### Latest developments: September 2006

The Wellcome Trust, as part of a group of [UK research funders](#) [PDF 24KB], has announced that the contract to run UK PubMed Central (UKPMC) has been awarded to a partnership between the British Library, the University of Manchester and the European Bioinformatics Institute (EBI).

Based on the [PMC](#) model currently used by the US National Library of Medicine at the National Institutes of Health, UKPMC will provide **free online access** to the digital archive of published articles resulting from research paid for by any of the funding consortium. It will be **fully searchable** and extensively linked to other online resources.

Launch of the service is scheduled for **January 2007**. See the [press release](#) (31 July 2006) for further information.

Page last updated: 20 September 2006

# Why does it matter?

- UK Research Assessment Exercise
  - 1\* = nationally significant
  - 2\* = international reputation
  - 3\* = working ONLY at international level
  - 4\* = global superstar (with own TV show)
- Metrics based on:
  - Esteem
  - Research environment
  - Publications and increasingly citations

# And also because....

- ❖ World league table of universities
  - ❖ Has two metrics:
    - ❖ Who knows/mentions the  
institution in a survey
    - ❖ Citation count

**And how do you increase both of  
these.....**