

# How open access journals and repositories facilitate public access to publicly funded research

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# What does Open Access to scientific research mean?

- Universally available via the Internet, without any barriers to access
- Licensed so as to allow redistribution and reuse as long as attribution is given
- Permanently archived in an internationally recognized repository (*e.g.* PubMed Central)

# What's wrong with the traditional subscription model?

- Restricted access to research is contrary to the interests of
  - the scientists/clinicians who do the research
  - the funders who pay for it
  - society as a whole, general public
- It is an historical artefact of the economics of print publishing

# Benefits of Open Access

- Lack of subscription barriers ensures all researchers have access
- Articles are available to all aggregators, indexing services, search engines *etc.*
- Breaks down barriers between fields
- Public access to research promotes engagement with, and understanding of, science and medicine

# Role of funders in Open Access

- More and more funders and have policies *requiring* funding recipients to deposit articles in a open access archive
- Wellcome Trust's lead has been followed by the majority of biomedical UK funders as part of UK PubMed Central
- European funders and research organizations have similar policies
- NIH policy (deposit *requested*, not required) is under review

# Funding Agencies

Europe
Fonds voor Wetenschappelijk Onderzoek
Consiglio Nazionale delle Ricerche (Italy)
Fondazione Telethon (Italy)
Wellcome Trust (UK)
National Health Service (UK)
RCUK (UK)
Nederlandse Organisatie voor Wetenschappelijk Onderzoek (Netherlands)
Suomen Akatemia (Finland)
Swiss National Science Foundation (Switzerland)
Vetenskapsrådet (Sweden)
Fonds zur Forderung der wissenschaftlichen Forschung (Austria)
Centre National de la Recherche Scientifique (France)
Consejo Superior de Investigaciones Cientificas (Spain)
Danmarks Grundforskningsfond (Denmark)
Deutsche Forschungsgemeinschaft (Germany)
Health Research Board (Ireland)

# Funding Agencies

## North-America

Canadian Institutes of Health Research (Canada)

Howard Hughes Medical Institute (US)

National Institutes of Health (US)

National Science Foundation (US)

Rockefeller Foundation (US)

## ROW

International Human Frontier Science Program Organization (International)

Israel Science Foundation (Israel)

South African Medical Research Council (South Africa)






# UK PubMed Central funders


**UK PubMed Central**

**Funders**


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- UKPMC Suppliers
- UKPMC Funders
- UKPMC OAI Service




**Arthritis Research Campaign**  
ARC Open Access Policy




**Biotechnology and Biological Sciences Research Council**  
BBSRC Open Access Policy




**British Heart Foundation**  
As from 8 January 2007 the BHF requires that a copy of the final version of each peer-reviewed research paper accepted for publication, supported in whole or in part by BHF funding, shall be deposited in UKPMC, to be made freely available within 6 months of publication. Full policy to follow.




**Cancer Research UK**  
Open Access Policy under review




**Chief Scientist Office**  
CSO Open Access Policy (MS Word: 103 kB)



**Department of Health**  
DH Open Access Policy (PDF 100kb)



**Medical Research Council**  
MRC Open Access Policy



**The Wellcome Trust**  
Wellcome Trust Open Access Policy

## Government

- House of Commons S&T committee report Published November 2004
- CURES Act introduced in US Senate  
December 05
- European Commission Report  
Published April 06



# Routes towards Open Access

- **Gold OA**

## **Publishing in an open access journal**

- Fully OA journals  
e.g. BioMed Central, Public Library of Science *etc*
- Optional OA in traditional journals  
(now offered by most major publishers)

- **Green OA**

## **Depositing articles in an OA repository**

### Subject repositories

- PubMed Central
- UK PubMed Central
- ArXiv

### Institutional repositories

- DSpace
- Eprints
- Fedora
- Open Repository

# OA journals and OA repositories are complementary

- Repositories are vital but are not a complete solution
- Dependence on subscription journals means
  - Embargo period (to preserve subscriptions)
  - Version in repository is not the 'official' one
  - Extra work for authors to deposit
- OA journals allow *full and immediate* access to official version, and deposit on behalf of author

# Gold route Open access journals case study: BioMed Central

# About BioMed Central

- Largest publisher of peer-reviewed open access journals
- Launched first open access journal in 2000
- Now publishes >170 OA titles
- >25,000 peer reviewed OA articles published
- All research articles published under Creative Commons licence
- Costs covered by 'article processing charge' (APC)

# Journals published by BioMed Central

- 60 BMC-series journals
  - run by an in-house editorial team
  - cover all areas of Biology and Medicine
  - *e.g. BMC Cell Biology, BMC Genomics, BMC Cancer*
  - Flagship titles: *BMC Biology* and *BMC Medicine*
- 100 independent journals
  - run by external groups of scientists
  - often fill interdisciplinary niches  
*e.g. Malaria Journal*
- Hybrid journals (OA research + subscription content)
  - *e.g. Arthritis Research & Therapy, Genome Biology*



# Article-processing charges - who pays?

- Authors may pay out of grant funds
- Some funders provide a central fund for open access publishing costs
- Institutions may cover costs centrally, on behalf of their authors, via BioMed Central Institutional Membership
- Some titles cover costs themselves

# Institutional Membership

- **Supporter Membership**  
Institution pays a flat fee, authors pay a discounted Article Processing Charge
- **Prepay Membership**  
Institution covers cost of publication centrally, at a discounted rate

## BioMed Central Finances

- Average face-value of Article Processing Charge: ~£750
- Realized income per article, after discounts and waivers: ~£600
- Based on current trends, we expect to be able to announce break-even before the end of 2007

# High impact journals

Some examples of BioMed Central journals that have already achieved excellent Impact Factors for their fields

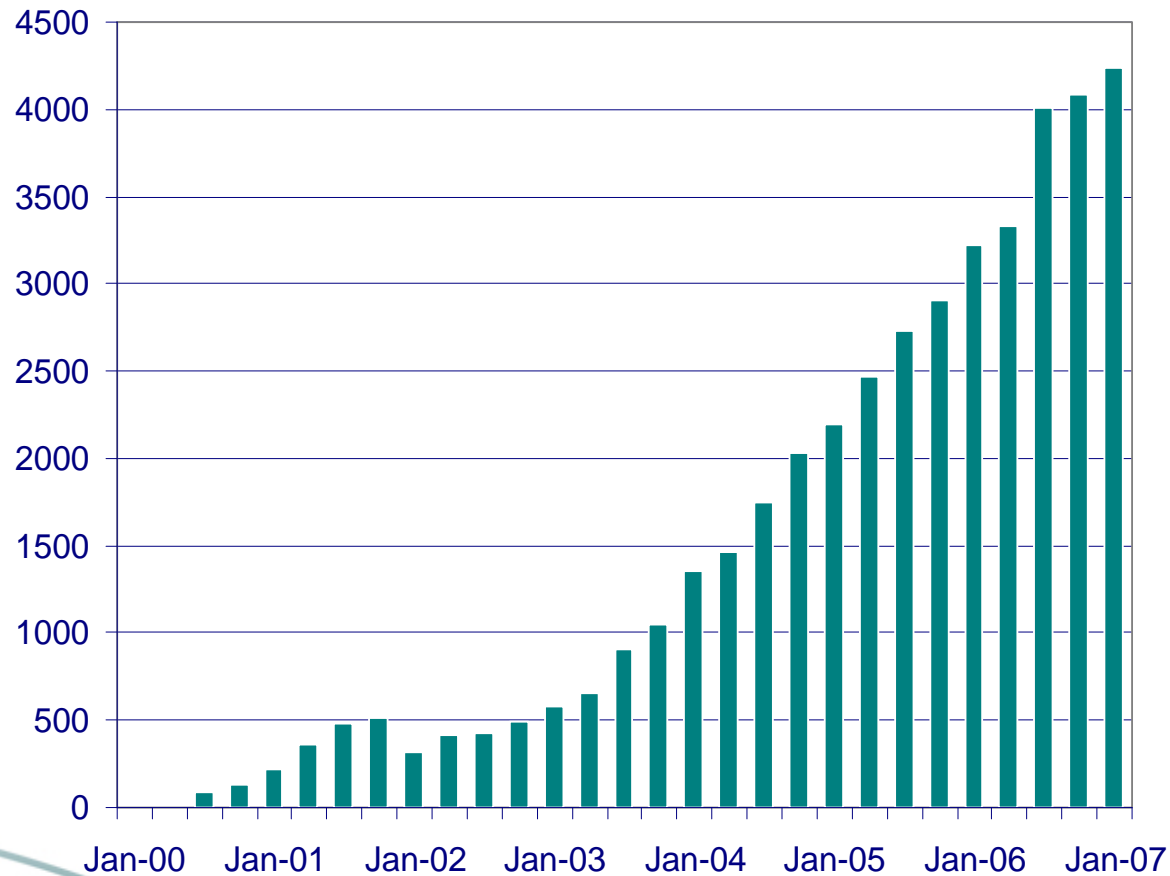
Genome **Biology**  IMPACT FACTOR **9.71**

 BMC Bioinformatics  IMPACT FACTOR **4.96**

 MALARIA JOURNAL  IMPACT FACTOR **2.14**

 BMC Developmental Biology  IMPACT FACTOR **5.41**

# Quarterly article submissions to BioMed Central OA journals

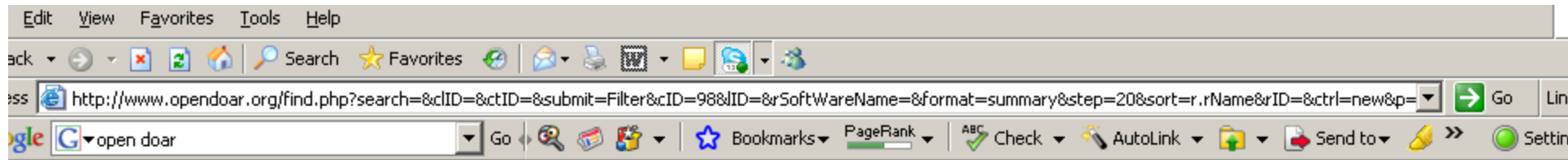


# BioMed Central (publisher) + PubMed Central (repository)

- All articles published with BioMed Central are deposited with PubMed Central
- 24,500 articles deposited so far
- 520,000 users per month access BioMed Central content on PubMed Central

# Data ingestors

- BioMed Central encourages re-use and re-distribution of articles
- Various organisations ingest our articles
- Ingest can be via 'push' or 'pull'



# OpenDOAR

## Directory of Open Access Repositories

[Home](#) | [Find](#) | [Suggest](#) | [Tools](#) | [FAQ](#) | [About](#) | [Contact Us](#)

### Search or Browse for Repositories

per page. Sort by:

To search the *contents* of the repositories listed in OpenDOAR, please see our [trial search page](#).

Result 1 of 1.

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#### [Hirsla](#) (Landspítali University Hospital Research Archive)

**Organisation:** [Landspítali University Hospital](#), Iceland

**Description:** This site is an institutional repository for materials produced by the scholars working at the University Hospital. It is notable that the vast majority of materials listed on this site are metadata (bibliographic) only, and that full-text items are a small subset of the whole. The site is well supported with guidance material for users. The interface is in English. An RSS feed is available.

**Software:** Open Repository

**Size:** 560 items (2007-03-02)

**Subjects:** Health and Medicine

**Content:** Publications; References; Unpublished

**Languages:** English; Icelandic

**Policies:** Metadata re-use permitted for not-for-profit purposes; Re-use of full data items permitted for not-for-profit purposes; Content policies defined; Submission policies defined; Preservation policies defined



# Green route Open access repositories case study: Open Repository

# What is Open Repository?

- A hosted repository service
- Based on DSpace
- Operated by BioMed Central

# Open Repository offers:

- Fully functional repository ready for use
- Customized web front end
- All server maintenance and back ups
- All major DSpace functionality
- Additional BMC functionality
- Training and support
- And all this for...

# COST

**...From** US \$13, 500 for the first year  
(or £7,500 or €11,025 )

=

One off set-up fee + 1yr maintenance

# Open Repository Datafeeds

- Use OAI-PMH to feed metadata from PubMed Central into submission workflow
- Define email stems and institution names in config
- Scheduled task runs 'pull'
- XSLT transformation into Dublin Core for ingest
- Transformed metadata submitted to 'hidden' collection workflow
- Administrators assign item to collection



# How is open access changing research practice?

- Making research more global
- Speeds the pace of discovery
- Rise of e-science
- Online publishing allows large data sets, colour images, movies to be published

# How is open access changing science reporting?

- Makes results of research freely accessible to the public:
- Blogs, RSS feeds, news articles lead straight the full text of the original research
- Journalists have ready access to articles outside the traditional top titles

More than 8700 journalists, writers and editors are registered with BioMed Central



# THANK YOU!

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