

# Open Access: An Introduction

by Keith G Jeffery

Open Access (OA) means that electronic scholarly articles are available freely at the point of use. The subject has been discussed for over 10 years, but has reached a crescendo of discussion over the last few years with various declarations in favour of OA from groups of researchers or their representatives. The UK House of Commons Science and Technology Committee considered the issue in 2004, reporting in the summer in favour of OA. This indicates the importance of the issue, and led to statements from large research funding bodies such as the Wellcome Trust and the Research Councils UK.

## Motivations

*Ethics:* There is an ethical argument that research funded by the public should be available to the public. Since research is an international activity, this crosses national boundaries.

*Research Impact:* The Internet provides an opportunity. Modern harvesting techniques and search engines make it possible to discover publications of relevance if they are deposited in an OA repository with a particular metadata standard. If all authors did this then the world of research would be available 'at the fingertips'. There is evidence that articles available in an OA repository have more accesses (readers), citations and therefore impact.

*Costs:* There is concern over the hindrance to research caused by the cost of journal subscriptions, whether electronic or paper. These costs run well above the rate of inflation with the

result that libraries with restricted budgets (ie all of them!) are no longer providing many journals needed by researchers.

*Just reward:* There is also concern that in traditional scholarly publishing, most of the work (authoring, reviewing, editing) is done freely by the community and that the publishers make excessive profits from the actual publishing (making available) process. In conventional publishing, the institution subscribes to the publication channel to obtain electronic access or paper copies.

## Types of Open Access

At this stage it is important to distinguish several dimensions of the issue: OA can be delivered in two ways:

- *'green'*: the author can self-archive at the time of submission of the publication (the 'green' route) whether the publication is grey literature (usually internal non-peer-reviewed), a peer-reviewed journal publication, a peer-reviewed conference proceedings paper or a monograph
- *'gold'*: the author or author institution can pay a fee to the publisher at publication time, the publisher thereafter making the material available 'free' at the point of access (the 'gold' route). The two are not, of course, incompatible and can co-exist.

The 'green' route makes publications available freely in parallel with any publication system but is not, itself, publishing. The 'gold' route is one example of electronic publishing. At present it is much more common to have non-OA electronic access to publications in a publisher's database for a subscription fee.

The second dimension to be distinguished is the timing and quality aspect: preprints are pre-peer-review articles, postprints are post-peer-review and post-publication articles while eprints can be either but in electronic form.

A third dimension is white/grey literature. White literature is peer-reviewed, published articles while grey is preprints or internal 'know-how' material. Of course there are usually many interesting relationships between grey and white articles (see Table).

### Barriers to Open Access

*Loss of publisher income:* The major objection to 'green' self-archiving comes from publishers and learned societies (many of which depend on subscriptions to their publications) who fear that 'green' OA threatens their business viability. To date there is no evidence that 'green' archiving harms the business model of publishing. There is evidence that 'green' archiving increases utilisation, citation and impact of a publication. Whilst the major commercial publishers provide additional value-added services that could offset the impact of OA on current business models, the impact on learned societies may require new business models to be developed.

*Copyright:* Copyright agreements between authors and publishers may inhibit the 'green' route. However, to date, between 80 and 90% of publication channels (the variability depends on exactly what is counted) allow 'green' author deposit although some insist on an embargo period before the publication is available for OA. In contrast some publishers of journals – of which 'Nature' is the most well-known – do not demand copyright from the author but merely a licence to publish, leaving copyright with the author or their institution.

### Green Open Access Repositories

There are two kinds of 'green' OA repository:

- *Thematic:* where authors deposit in a (usually) central repository used by the community and maintained by an appropriate institution and where relevant material on a subject area is collected together. The best known example is arXiv
- *Institutional:* where the authors deposit in a repository maintained by their institution thus collecting together in one place the research output of that institution. This has the advantage of responsibility or ownership and some possible management control/encouragement of deposit.

There are available open source systems for 'green' repositories; the best known being ePrints, DSpace, Fedora and ePubs.

### Advantages of Open Access

The major advantage of OA is research impact – the available e-article is likely to have more accesses, citations and impact. However, there are additional advantages:

- *Links:* Electronic availability of a publication (whether 'green' or 'gold') has another advantage; it is possible to crosslink the publication to any research datasets and software used in producing the paper; this improves 'the research process' by permitting other researchers to examine in depth the published work and validate, or contradict, the conclusions.
- *Access:* In the case of non-OA electronic publishing, a researcher has to access separately (with identifier and password provided upon payment of the annual subscription) the databases of publications of each publisher to obtain information. In the case of 'gold' OA publishing a researcher has to access separately the open databases of publications of each publisher to obtain information. In both of these cases the user interface is different from publisher to publisher. In

<b>Green Route</b>	The author can self-archive at the time of submission of the publication whether the publication is grey literature, a peer-reviewed journal publication, a peer-reviewed conference proceedings paper or a monograph
<b>Golden Route</b>	The author or author institution can pay a fee to the publisher at publication time, the publisher thereafter making the material available 'free' at the point of access.
<b>Preprints</b>	Preprints are articles that are pre-peer-review
<b>Postprints</b>	Postprints are articles that are post-peer-review
<b>eprints</b>	eprints can be either preprints or postprints but in electronic form
<b>White Literature</b>	White literature is peer-reviewed, published articles
<b>Grey Literature</b>	Grey literature is preprints or internal 'know-how' material

### Dimensions of Open Access publishing.

the case of 'green' open access the OAI-PMH (Open Access Initiative – Protocol for Metadata Harvesting) facility links OA repositories so that all repositories obeying the protocol can be harvested and their contents are available freely.

### A Word of Warning

Digitally-created articles rely heavily on both the metadata record and the articles themselves being deposited. International metadata standards and protocols must be applied to repositories so that harvesting across repositories can take place. To ensure that research output material is available for future generations, curation and preservation issues must be addressed.

### Speculation: Future

Looking to the future speculatively, it is possible to imagine 'green' OA repositories becoming commonplace and used heavily. At that point, some argue, one could change the business model so that an author deposits in an open access 'green' repository but instead of submitting in parallel to a journal or conference peer-review process, the peer-review is done either by:

- a learned society managing a 'college' of experts and the reviewing process – for a fee paid by the institution of the author or the author;
- allowing annotation by any reader (with digital signature to ensure identification/authentication).

The former peer-review mechanism would maintain learned societies in business, would still cost the institution of the author or the author but would probably be less expensive than publisher subscriptions or 'gold' (author or author institution pays) open access. The latter is much more adventurous and in the spirit of the internet; in a charming way it somehow recaptures the scholarly process of two centuries ago (initial draft, open discussion, revision and publication) in a modern world context. It is this possible future that is feared by commercial publishers.

### Acknowledgements

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#### Please contact:

Keith G. Jeffery, Director IT, CCLRC and ERCIM president  
E-mail: K.G.Jeffery@rl.ac.uk



## Publish or Perish — Self-Archive to Flourish: The Green Route to Open Access

by Stevan Harnad

**Europe is losing almost 50% of the potential return on its research investment until research funders and institutions mandate that all research findings must be made freely accessible to all would-be users, worldwide.**

It is not the number of articles published that reflects the return on Europe's research investment: A piece of research, if it is worth funding and doing at all, must not only be published, but used, applied and built-upon by other researchers, worldwide. This is called 'research impact' and a measure of it is the number of times an article is cited by other articles ('citation impact').

In order to be used and built upon, an article must first be accessed. A published article is accessible only to those researchers who happen to be at institutions that can afford to subscribe to the particular journal in which it was published. There are 24,000 research journals in all today, across all research fields, worldwide, but most institutions can only afford a small fraction of them. In paper days, authors used to supplement this paid access to their articles by mailing free reprints to any would-be users who wrote to request them. The online age has now made it possible for authors to provide limitless free 'eprints' by 'self-archiving' electronic versions of their own final drafts on their own institutional websites for all potential users worldwide who cannot afford the journal version.

The online-age practice of self-archiving has been shown to increase citation impact by a dramatic 50-250%, but so far only 15% of researchers are actually doing it. Yet two recent UK international surveys have found that 95% of authors would self-archive – but only if their research funders or their institutions require them to do so (just as they already require them to 'publish or perish'). The solution is accordingly obvious:

After lengthy deliberations first initiated in 2003 by the UK Parliamentary Select Committee on Science and Technology, Research Councils UK (RCUK) have

proposed to adopt a policy requiring UK researchers to deposit, on their university's website, the final author's draft of any journal article resulting from RCUK-funded research. The purpose of the proposed policy would be to maximise the usage and impact of UK research findings by making them freely accessible on the web ("open access") for any potential users in the UK and worldwide who cannot afford paid access to the published journal version. How would a similar policy maximise the return on Europe's public investment in research?

It is not possible to calculate all the ways in which research generates revenue. A good deal of it is a question of probability and depends on time: Although everyone thinks of an immediate cure for cancer or a cheap, clean source of energy as the kind of result we hope for, most research progresses gradually and indirectly, and the best estimate of the size and direction of its progress is its citation impact, for that reflects the degree of uptake of the research results by other researchers, in their own subsequent research. Citation impact is accordingly rewarded by universities (through salary increases and promotion) as well as by research-funders (through grant funding and renewal); it is also rewarded by libraries (through journal selection and renewal, based on the journal's average citation "impact factor"). Counting citations is a natural extension of the cruder measure of research impact: counting publications themselves ("publish or perish").

If citations are being counted, it is natural to ask how much they are worth.

For the United States in 1986, Diamond estimated the marginal dollar value of one citation as ranging from \$50-\$1300 (US), depending on field and number of citations. (An increase from 0 to 1 cita-

tion is worth more than an increase from 30 to 31; most articles are in the citation range 0-5.) Taking only the most conservative low-end of this range (\$50), updating by about 170% for inflation from 1986-2005 and converting to Euros, this would yield 73 Euro as the marginal value of a citation to its author today. Self-archiving, as noted, increases citations by 50%+, but, as also noted, only 15% of the articles being published are being self-archived today. Readers can calculate for their own respective countries a conservative estimate (50% citation increase from self-archiving at 73 Euro per citation for 85% of their own country's current annual journal article output) of the total annual loss of revenue to their country's researchers for not having done (or delegated) the few extra keystrokes per article it would have taken to self-archive their final drafts.

But this impact loss translates into a far bigger one for their country's tax-paying public, if we reckon it as the loss of potential returns on their annual research investment: If a country invests R billion Euros in its research, this translates into the loss of  $50\% \times 85\% = 42.5\%$  or close to R/2 billion Euros' worth of potential citation impact simply for failing to self-archive it all. It is as if someone bought R billion Euros worth of batteries and lost 42.5% of their potential usage simply for failing to refrigerate them all before use. And that is without even considering the wider loss in revenue from the loss of potential practical usage and applications of each nation's research findings in Europe and worldwide, nor the still more general loss to the progress of human inquiry.

The solution is obvious, and it is the one the RCUK is proposing: to extend research's existing universal 'publish or perish' requirement to 'publish and also self-archive your final draft on your in-

stitutional website'. Over 90% of journals are already 'green' on author self-archiving; two international author surveys report that over 90% of authors will comply; and the actual experience of the five institutions that have so far already adopted such a requirement (CERN, University of Southampton ECS, Queensland University of Technology, University of Minho, University of Zurich) tends to bear this out.

The time for Europe to close its own 50%-250% research impact gap is already well overdue. All of Europe should immediately follow the UK model, adopting the web-age extension of "publish or perish" policy to: "publish and self-archive on the web." This tiny and very natural evolutionary step will not only be of enormous benefit to Europe's researchers, its institutions, its funders, and its funders' funders (ie, the tax-payers), but it will also be to the collective advantage of global research progress and productivity itself, and the object of emulation worldwide.

#### Links:

- Ulrich's periodical directory: <http://www.ulrichsweb.com/>
- Statistics provided by the Association of Research Libraries: <http://fisher.lib.virginia.edu/arl/>
- Self-Archiving FAQ: <http://www.eprints.org/openaccess/self-faq/>
- Institutional Archives Registry: <http://archives.eprints.org/eprints.php?action=browse>
- Comparing the Impact of Open Access vs. Non-OA Articles in the Same Journals, D-Lib Magazine, June 2004: <http://eprints.ecs.soton.ac.uk/10207/01/06harnad.html>
- Swan, A. (2005) Open access self-archiving: An Introduction. Technical Report, JISC, HEFCE: <http://eprints.ecs.soton.ac.uk/11006/>
- Recommendations for UK Open Access Provision Policy: <http://www.ecs.soton.ac.uk/%7Eharnad/Temp/UKSTC.htm>
- UK Research Councils' Position on Access to Research Outputs: <http://www.rcuk.ac.uk/press/20050628openaccess.asp>
- Effect of open access on citation impact: a bibliography of studies: <http://opcit.eprints.org/oacitation-biblio.html>
- Carr, L. and Harnad, S. (2005) Keystroke Economy: A Study of the Time and Effort Involved in Self-Archiving: <http://eprints.ecs.soton.ac.uk/10688/>
- Journal Policies - Summary Statistics So Far: <http://romeo.eprints.org/stats.php>

#### Please contact:

Stevan Harnad, American Scientist Open, Access Forum,  
Department of Electronics and Computer Science, University of Southampton, UK  
E-mail: [harnad@ecs.soton.ac.uk](mailto:harnad@ecs.soton.ac.uk)  
<http://www.ecs.soton.ac.uk/~harnad/>

## The Golden Route to Open Access

by Jan Velterop

**Publishing research results is part and parcel of doing research. Without publishing it, one can just as well not do the research. Publishing is not just an option for a serious scientist, but more or less compulsory, albeit to a degree a 'social compulsion' - it is "the right thing to do". Often enough, though, it is an inescapable requirement for those who want to make a career in science. Without having a good number of publications to your name, you will find it difficult to make promotion, qualify for tenure, obtain funding for further projects, and get the acknowledgement and recognition most scientists crave. The slogan 'publish or perish' will sound familiar.**

Given this, it is quite remarkable that doing research and subsequently publishing the results have been regarded as mostly separate processes, taking place in separate worlds. And it is perhaps even more remarkable that to an overwhelming degree the whole process of publishing has hitherto been financed by contributions (vicariously, via libraries) from readers. I say 'to an overwhelming degree' because it is not quite so that the process is entirely financed by readers, as there is, in some disciplines, a small contribution from authors in the form of page charges. This contribution, how-

ever, defrays a very small proportion of the overall cost of publishing.

'Publishing' is quite a loose and ill-delimited term which in the context of science and scholarship comprises a number of 'ations': registration, certification, dissemination, information, preservation, and compensation. 'Registration' means recording that the research has taken place, by whom, when, where, and the like, and ensures proper acknowledgement and citation. 'Certification' means that it has passed the filter of peer-review and thus conforms to the standards of dili-

gence of the discipline in question. 'Dissemination' speaks for itself and is the element most directly influenced — improved — by open access. 'Information' refers to the actual transfer of data or knowledge contained in a scientific article; from researcher to researcher, but also from researcher to student and on occasion directly to the general public. 'Preservation' means proper archiving and ensuring that the material will be accessible and usable in the future, which is considered quite a challenge for electronic material. And finally 'compensation', which denotes the fact that as a re-

searcher, having published as expected by one's institution and funding body, one can avoid perishing as a scientist (though actually thriving requires a bit more, such as citations to one's articles).

If one looks at these 'ations', it is striking that most are of much more importance to the authors of the material than to prospective readers. Whether a given article is published or not will hardly ever register with readers. There are even voices who say that what readers need most are articles that are rarely ever published: negative results. For the author, however, publishing research results is really part of completing the research process and of utmost importance, hence the adage 'publish or perish' and not 'read or rot'.

As said, open access to research articles does potentially enhance many of the things that are important to authors: dissemination, and with it visibility, the chance of being cited, information and the chance of influencing ideas, and even preservation because wide distribution of the material provides some 'safety in numbers'.

However, open access means that the traditional way of financing publishing

needs to be reconsidered. After all, when articles are openly and freely available, the incentive for the reader (vicariously, the library) to pay for subscriptions or licences is materially diminished. Only financing the system by contributions from authors (vicariously, from institutions or funding bodies), who have a very strong incentive to have their articles published, makes open access publishing economically feasible and robust. This has come to be known as the Golden Route to open access. It makes sense if one considers that in the end it is neither readers nor authors who pay for the system anyway, but academic institutions and funders, either via subscriptions — having no open access — or via article publishing charges, having open access and all its benefits.

Unfortunately, making the transition is fiendishly difficult. Most publishers have therefore, hitherto, stayed away from the Gold Route to open access, and a few, very few, new ones have fully embraced the model and are trying to build their entire business on it. None of those have so far been able to make it work economically, perhaps demonstrating the formidable difficulties and challenges a transition to open access presents. The

goal of open access is worth overcoming those challenges, though. In order to help make the transition, at Springer we have decided to leave the choice to authors (and their institutions and funders). They can, once their article has been accepted for publication after peer review, opt to have it published in the traditional way, and disseminated via subscriptions, or opt to have it published with immediate and full open access. The scheme called Springer Open Choice, applies to all the 1300 or so journals that the company publishes, and it is hoped that it provides an opportunity to make a smooth transition from traditional publishing to Gold Open Access publishing, at the pace that the scientific community is comfortable with, and that it will be followed by other publishers. A few of those other established publishers have recently instituted a similar choice model for a small number of their journals, perhaps indicating that the idea may be catching on.

**Link:**

<http://www.springer.com/openchoice>

**Please contact:**

Jan Velterop,  
Director of Open Access, Springer  
E-mail: [Jan.Velterop@springer.com](mailto:Jan.Velterop@springer.com)

## ERCIM Statement on Open Access

**ERCIM researchers have an interest in Open Access both as producers and consumers of research publications, and as developers of technology to enable and sustain open access.**

Recognising the inability of research libraries to meet the costs of sustaining their collections, and participating actively in the development of appropriate technology, ERCIM has followed with interest the developments in Open Access from the Budapest Declaration through the Bethesda Declaration to the Berlin Declaration and events since. ERCIM member organisations have been involved in dialogue with national libraries, research funding agencies, commercial publishers, learned societies and government departments. ERCIM supports the following principles:

- research that is funded by the public via government agencies or charities should be available freely, electronically at the point of use
- other research should be made equally available subject only to confidentiality required by commercial, military, security or personal medical constraints
- quality assurance of research publications must be continued through rigorous peer review
- associated with research publications, research datasets and software should be equally openly available

- the provision of open access should be made as cost-effective as possible
  - the provision of open access carries also the responsibility for curation of the digital material including cataloguing, archiving, reproducing, safekeeping and media migration.
- ERCIM has for many years made available digitally its publications and other materials. ERCIM pioneered a pilot project demonstrating homogeneous access to heterogeneous technical reports. ERCIM has many years experience in the technology through the DELOS projects and Network of Excellence (<http://www.delos.info>), and is at the leading edge integrating appropriate open access technology with GRIDs via the DILIGENT project (<http://www.diligentproject.org>). Individual ERCIM organisations have researched many aspects of the technology required for open access.

It is now agreed that the member organisations of ERCIM which do not already have an open access policy will adopt these principles and implement them.

# Managing Licenses in an Open Access Community

by Renato Iannella

**A new project from National ICT Australia (NICTA) and Queensland University of Technology (QUT), called 'Open Access to Knowledge (OAK), aims to address the emerging needs of the open access community in licensing content.**

In particular, OAK will be developing a set of legal requirements and generic licenses that can be used to negotiate and transact (ie share) digital content in an online environment. Technically, the OAK project will develop robust Rights Expression Language (REL) models and Profiles of the machine-readable Open Digital Rights Language (ODRL). OAK will implement technological mechanisms to improve open access and management through the application of these license protocols and services to existing digital repositories.

The Creative Commons (CC) has provided worldwide interest in simple licensing of content for the open access communities. The range of CC license templates have addressed the legal and community awareness needs for content licensing. The mapping of the standard licenses to other countries legal regimes has ensured the international impact of CC. However, there are still some legal and technical issues that remain a challenge and these will be investigated in the OAK Project.

Some of the legal issues are compounded by the lack of technical solutions. For example, the need to keep the licenses attached or associated with the content at all times is difficult to implement generically across all media types. And the failure of this at any point in the distribution of the content will breach the license conditions, and may result in licensed content being re-distributed without proper knowledge of the license conditions.

The CC REL is a compact rendering of the semantics of the legal licenses. In most cases the REL captures the broad license conditions, such as the right to produce derivatives, or prohibits commercial usage. However, in some cases, the REL does not capture these seman-

tics. For example, in the CC Sampling licenses the legal code is clear that you cannot use the work for advertising but there is no corresponding constraint semantics in the CC REL.

One of the major technical hurdles for the CC licenses is the lack of extensibility of its machine-readable REL. For example, a recent report from the UK Common Information Environment (CIE) on the use of Creative Commons in the public and education sectors raised a number of areas where the CC licenses lacked support, including:

- geographic restrictions
- sector restrictions
- third party material (including limited duration)
- no endorsement clause.

In general there are no mechanisms for CC licenses to be tailored to specific needs of some communities, which could impact on the uptake and broader use of CC style licenses. The ODRL Initiative and the Creative Commons have jointly developed a Profile of the CC REL semantics that have been mapped into the more expressive ODRL REL. This Profile does enable greater extensibility and provides semantic structures to extend the reach of the template licenses.

The OAK Project will build on the emerging new intellectual property rights model being developed for ODRL Version 2.0 that provides new features (such as Duties and Prohibitions) and supports a wider range of License types. Another objective of this project will be to investigate software solutions to support the ODRL Profiles developed for open content repositories. These will include protocols to support negotiation of licenses between parties.

Most license management systems today are focussed on the distribution of commercial and consumer-oriented content, such as music to mobile phones. The motive of the OAK project is to investigate the legal, semantic, and technical issues of licensing content in the creative industry communities. That is, communities that support a high level of sharing (eg research, science, and education) without a strict requirement for enforcement of content usage, but still requiring intellectual property rights to be maintained, honored, and managed. This project will be of immediate benefit to these communities in that it will increase the ability to access a vast array of content and research material. In an environment where access to knowledge is increasingly important to quality of life and career advancement this will provide an important resource to the broader community of knowledge consumers.

#### Links:

ODRL: <http://odrl.net>

CC: <http://creativecommons.org>

CIE: <http://www.common-info.org.uk/>

#### Please contact:

Renato Iannella, Program Leader

National ICT Australia (NICTA)

Tel: +61 7 3000 0484

E: [renato@nicta.com.au](mailto:renato@nicta.com.au)

<http://nicta.com.au>



# W3C at the Forefront of Open Access

by Rigo Wenning

**The Web can be seen as one of the preconditions of today's discussion about Open Access. The World Wide Web Consortium (W3C), including its Members, is very conscious about this role of the Web. To show the example, W3C — from the first days — gave full access to the W3C Recommendations and Working Drafts and many other information on W3C's Web-site using Web technologies.**

All W3C Recommendations and normative documents are published under a very liberal license, the W3C document license. It allows to produce all kinds of innovative re-use of the content therein under the condition that the initial Recommendation and its attribution to W3C are not altered. The limitation on the capability to change is due to the normative character of the W3C Recommendations as they represent a consensus of the community. The prohibition to change and create derivatives of the W3C Recommendation protects this consensus. W3C additionally has a liberal software license that allows the W3C open source code to be altered, contributed and taken up in either open source or commercial software.

## Patent Policy

In the early years of W3C's work on Web standards, innovation arose out of a combination of community-wide collaboration on open standards and fierce competition in implementation of those standards. Patents were not initially identified as a barrier to innovation or interoperability because no one was aware of any patent claims asserted to block standards-based interoperability. However, as the Web became more commercially prominent and the number of software and business process patents increased, some patent holders sought to require license payments as a condition of implementing Web standards. In some cases, these patent holders had also participated in the development of those standards. Based on its experience, the W3C community came to the conclusion that it is essential to have a clear patent policy governing standards development. The policy W3C has adopted was designed to assure the continuation of the fundamental dynamics of innovation and interoperability that made the Web successful.

After 3 years of lengthy and controversial discussions, in 2004 W3C adopted its Patent Policy, a landmark innovation in the area of standardization. While most Specification Developing Organizations (SDO's) have adopted a RAND-scheme (reasonable and non-discriminatory terms), W3C was the first SDO to adopt a regime of royalty free and non-discriminatory licensing terms for every patent essential to the implementation of a W3C Recommendation. This was a major step to help W3C Recommendations to get the most widespread use and recognition. While the new innovative Patent Policy created several issues in business procedures for W3C as well as for its Members, today we already see the model being copied by other SDOs and numerous discussions sparking up elsewhere.

## Accountability to the Public

The W3C is also conscious that not every individual can become a Member of W3C to contribute. Therefore W3C has a very open process to accommodate views from the public at large. Those contributions and critics have to be taken into account by W3C Working Groups. The Working Groups have to respond to comments and motivate their decision of either accommodate the suggestion or not. The simplicity of feedback to the Working Groups via email is contributing greatly to the reach of W3C Technologies. Those comments and the responses are publicly archived for accountability and for information. Today, W3C Technologies can be used in all kinds of languages, written vertically or from right to left, in Chinese or Arabic. This aim to include every community makes the scale of the Web truly global.

### Please contact:

Rigo Wenning, W3C  
E-mail: [rigo.wenning@w3.org](mailto:rigo.wenning@w3.org)

## Links

### Background Documents on OA

- Self-archiving FAQ:  
<http://www.eprints.org/self-faq/>
- Bibliography of OA Advantage:  
<http://opcit.eprints.org/oacitation-biblio.html>
- American Scientist Open Access Forum:  
<http://amsci-forum.amsci.org/archives/American-Scientist-Open-Access-Forum.html>

### Policy

- Budapest:  
<http://www.soros.org/openaccess/read.shtml>
- Bethesda:  
<http://www.earlham.edu/~peters/fos/bethesda.htm>
- Berlin Declaration:  
<http://www.zim.mpg.de/openaccess-berlin/signatories.html>
- OECD:  
[http://www.oecd.org/document/15/0,2340,en\\_2649\\_201185\\_25998799\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/15/0,2340,en_2649_201185_25998799_1_1_1_1,00.html)
- UK House of Commons Science and Technology Select Committee:  
<http://www.publications.parliament.uk/pa/cm200304/cmselect/cmsctech/399/3990>
- RCUK:  
<http://www.rcuk.ac.uk/access/statement.pdf>

### Policies, Registries and Directories

- Overview:  
<http://www.openarchives.org>
- Institutional Archives Registry:  
<http://archives.eprints.org/eprints.php>
- Institutional Self-Archiving Policy Registry  
<http://www.eprints.org/signup/fulllist.php>
- Journal Self-Archiving Policy Directory <http://romeo.eprints.org/>
- 'Gold' open-access publication channels: <http://www.doaj.org/>
- Self-archive repositories:  
<http://www.eprints.org/self-faq/>  
<http://archives.eprints.org/>  
<http://openaccess.eprints.org/>

# Cream of Science

by Wouter Mettrop

## JISC surveys of international author Open Access

- Swan, A. and Brown, S. (2004) ISC/OSI JOURNAL AUTHORS SURVEY Report. Technical Report, JISC, HEFCE:  
<http://eprints.ecs.soton.ac.uk/11002/>
- Swan, A. and Brown, S. (2005), Open access self-archiving: An author study. Technical Report, External Collaborators, JISC, HEFCE:  
<http://eprints.ecs.soton.ac.uk/10999/>
- Swan, A., Needham, P., Proberts, S., Muir, A., Oppenheim, C., O'Brien, A., Hardy, R. and Rowland, F. (2005), Delivery, Management and Access Model for E-prints and Open Access, Journals within Further and Higher Education. Technical Report, JISC, HEFCE:  
<http://eprints.ecs.soton.ac.uk/11001/>

## Copyright status of publishers

- <http://romeo.eprints.org/stats.php>

## OA citation impact

- <http://opcit.eprints.org/oacitation-biblio.html>
- [http://citebase.eprints.org/isi\\_study/](http://citebase.eprints.org/isi_study/)

## Effect of OA on Journal Subscriptions

- Swan, A. and Brown, S (2005) Open access self-archiving: an author study.  
[http://www.jisc.ac.uk/uploaded\\_documents/Open%20Access%20Self%20Archiving-an%20author%20study.pdf](http://www.jisc.ac.uk/uploaded_documents/Open%20Access%20Self%20Archiving-an%20author%20study.pdf)

## Repositories / Systems

- arXiv: <http://arxiv.org/>
- ePubs: <http://epubs.cclrc.ac.uk/>
- GNU eprints software:  
<http://www.eprints.org/>
- DSpace: <http://www.dspace.org/>
- Fedora: <http://www.fedora.info/>
- Citebase: <http://citebase.eprints.org/>

**In the Netherlands, a national project has started that aims to make available the scientific output of all Dutch scientific organizations according to the Open Archives Initiative protocol.**

On 10th May 2005 the president of the Netherlands Academy of Arts and Sciences (KNAW) Prof. dr. Frits van Oostrom launched the website [www.keurderwetenschap.nl](http://www.keurderwetenschap.nl). It was the result of months of very hard work for the project 'Keur der Wetenschap'



**Prof. Dr. Frits van Oostrom launches Cream of Science (Photo courtesy of Theo Koeten Photography).**

(Cream of Science) at all Dutch university libraries, KNAW and also at CWI. They were each asked to put the complete scientific output of about ten active scientists in a repository. This project is part of the national project DARE (Digital Academic Repositories). DARE aims at stimulating so called Institutional Repositories (IR) in the Netherlands. These IRs aim to make available the scientific output of all Dutch scientific organizations both digitally and according to the international OAI - Open Archives Initiative - protocol.

Copyright was an important issue for many participating libraries and authors. Is it proper to publicly present publications without the author's permission? DARE investigated this matter and it turned out that all material dated before 1998 can be admitted to repositories

without legal restrictions. Research also showed that authors often do not know that signing the author-publisher agreement means that they give away their copyright to a commercial publisher. DARE partners dealt differently with publication dated from 1998. Some only recorded the metadata from publications of that period whereas others recorded all publications, often at request of the scientists.

On behalf of NWO (Netherlands Organisation for Scientific Research) the CWI Library takes part in DARE. It will also host the output of the other NWO institutes, although each institute will be responsible for their own input. The CWI-IR can be found through the Keur website or at [www.darenet.nl](http://www.darenet.nl), where also some CWI reports of the past years can be found. In the near future an interface will be installed on CWI-IR, which can be searched separately. Gradually the publications of all past and present CWI researchers will be put in the repository.

CWI emphasizes that participation in Keur der Wetenschap is very useful as a start for an Institutional Repository. Eventually the importance of an IR according to the OAI protocol is to be found in the possibility of subject-based 'harvesting' by international service providers.

### Please contact:

Wouter Mettrop, CWI  
Tel: +31 (20) 5924042  
E-mail: [Wouter.Mettrop@cw.nl](mailto:Wouter.Mettrop@cw.nl)