

Moving Towards Open Access: A JISC conference for funders, authors, publishers, and librarians, 27-28 September 2006

Revised, 3 November 2006

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Executive Summary

There are many stakeholders with interests in open access (OA) – funders, authors, publishers and librarians. JISC hosted this conference to bring together leading representatives of the stakeholder groups to share new developments, discuss the strategic issues raised, and inform future strategy. JISC regards consultation with other stakeholders as essential in formulating its own policies regarding future developments in scholarly communication.

Over the two days of the conference, presentations were given from each stakeholder perspective, and keynote speakers gave insights from an international perspective. On day two, delegates met in discussion groups to debate a range of stakeholder issues and propose practical initiatives to move things forward. A panel session at the end of the conference provided a forum to discuss some of the key themes and initiatives that emerged from the discussion groups. This paper summarises the presentations and the key points from the discussion groups and panel session. The overheads for each presentation can be found on the conference page on the JISC web site (http://www.jisc.ac.uk/events/2006/09/event_oaconf_0906.aspx).

The conference demonstrated that open access has clear benefits for researchers, their institutions, and the community. Though the various stakeholders may have different views about how to move forward, focusing on the principles is important – the outputs of funded research should be freely and readily available to the community. There are a number of practical issues to address, but this can be done in a spirit of openness and collaboration.

The keynote speakers made a number of key points that became recurring themes for the conference. Dr Robert Aymar of CERN stressed that the time is right to move forward. CERN's plans for moving particle physics journals to OA illustrates the importance of developing sustainable business models, managing the transition, involving all stakeholders, and preserving the essence of the publisher and library roles. Dr Johannes Fournier of DFG reinforced the importance of sustainable models and collaboration, including collaboration with the scholarly societies. He also noted the value of models that introduce young researchers to the principles of OA early in their careers. Professor John Houghton of Victoria University in Melbourne made the important observation that the research environment is the driver for change in scholarly communication and stimulates the need for new business models. His research indicates that there are strong economic arguments for open access, and that the financial impacts of increasing access to publicly funded research are likely to be substantial.

Throughout the conference there were also a number of recurring issues. One focused on which was the “best” way to achieve open access. There are two routes – the “green road” of self-archiving and the “gold road” of OA publishing. The consensus seemed to be that they are complementary, and one isn't “better” than the other. However, the green road is more expedient in the short term. Another issue was disciplinary differences – what works in one discipline may not work in another.

There is evidence that OA “works” in areas like biology and physics. More work is needed to understand disciplinary differences and how OA will work in areas like the humanities and social sciences.

Much was also learned about OA from the stakeholder perspective. Some of the important messages from the presentations and discussion groups are listed below.

Funders

Many funding agencies are taking a strong position on OA, and the Wellcome Trust has provided an implementation model that other agencies could follow. Funding agencies need clear and consistent policies on OA. In developing these policies, it’s important to involve publishers, as they are part of the solution.

Publishers

Many publishers are experimenting with OA. Both publishers and other stakeholders will learn much from these experiments about how to implement OA more effectively. From their perspective, publishers must cover their costs, and new business models must be sustainable over time. It’s likely that there will be a transition to many OA models rather than one. As we consider new models, it’s important to consider the cost-benefit as well as the costs.

Peer review was a recurring issue. There seemed to be consensus that peer review is important, and publishers will continue to play a key role. Peer review is not perfect, and there may be opportunities to improve the processes or experiment with new approaches. However, OA and peer review are separate issues, and OA should not depend on changing peer review. Another recurring issue was copyright. This is a complex area where more flexibility is needed, more consistent publisher policies, and policies that allow self-archiving.

Authors

It’s important for authors to buy into OA. They need to understand the benefits, so communicating them more effectively will be important, and perhaps also enlisting the support of high-profile academics. From their perspective, authors need clear and consistent policies from funding agencies, their institution, and publishers on OA, so they know what is expected of them. As OA gains their support, it should become an integral part of the research process.

There are disciplinary differences, e.g. in peer review, the publication profile, shelf life of publications, use of article versions. These may affect the uptake of OA. More experience is needed in the humanities and social sciences, and perhaps more encouragement and support. Tomorrow’s authors and readers will have different expectations from today’s. It’s therefore important to understand how research practices are changing and how this is influencing scholarly communication. It’s also important to educate students about OA so they learn about the benefits and issues early in their careers.

Institutions and Librarians

OA will have implications for institutions and their libraries. Institutions will need to be able to support both routes to OA. Most are developing IRs and will need clear policies on self-archiving and to “make it easy” for authors to self-archive their articles. Institutions will also need mechanisms to account for the funding to support OA publication.

There are also implications for libraries. If OA becomes widespread, there will be less library-based activity at institutional level and more information management at a network or national level. The library role is therefore likely to become more closely associated with IRs. The librarian role may also evolve and become more integrated with teaching and research.

1. Conference Welcome

Malcolm Read, Executive Secretary, JISC

Malcolm welcomed delegates to the conference and made a few introductory remarks. When thinking about OA, it's important to focus on the high-level principles, e.g. the outputs of funded research should be freely and readily available to the community. OA is a broad area, and there are many practical issues to sort out, like sustainable business models. But in doing so, it's important not to lose sight of the principles.

He mentioned some of the useful work funded by JISC that's relevant to OA:

- **Scholarly communication** – JISC's Scholarly Communications Group has been active for five years and commissioned a number of important studies (http://www.jisc.ac.uk/aboutus/committees/working_groups/scholarly_comms.aspx).
- **Copyright** – JISC has been active in copyright, working with the Zwolle Group and developing the SHERPA-RoMEO database of publisher policies on copyright and self-archiving (<http://www.sherpa.ac.uk/romeo.php>).
- **Publishers** – JISC has funded publisher pilots to facilitate the transition to OA (http://www.jisc.ac.uk/news/stories/2006/04/oa_report.aspx).
- **Digital repositories** – Initiatives include the Digital Repositories programme (http://www.jisc.ac.uk/whatwedo/programmes/programme_digital_repositories.aspx), Repositories and Preservation programme (http://www.jisc.ac.uk/whatwedo/programmes/programme_rep_pres.aspx), Focus on Access to Institutional Repositories (FAIR) programme (http://www.jisc.ac.uk/whatwedo/programmes/programme_fair.aspx), the Exchange for Learning (X4L) programme (http://www.jisc.ac.uk/whatwedo/programmes/programme_x4l.aspx), and the JORUM repository service (<http://www.jorum.ac.uk/>).

Finally, he noted that OA is about more than academic research and journals. It's also relevant to e-learning.

2. Keynote Presentations

From Preprints to Open Access Journals: A practical approach for particle physics, Robert Aymar, Director-General, CERN

Robert described CERN's plans to develop a new OA model for particle physics journals, a consortium-funded sponsoring model. CERN has always been committed to making the results of experimental research freely available and have made preprints freely available for 40 years. They wanted to do something practical about moving journals to OA, to facilitate the transition.

Robert gave some background to their approach. He reviewed the arguments in favour of OA, e.g. journal prices are rising at a greater rate than the costs, copyright transfer is a barrier, and publicly funded research should be available to all. The present publishing model has disadvantages, but there's no need to throw this away and start afresh. Funding agencies, researchers, publishers, and libraries all have key roles. Publishers play a key role in peer review, and libraries in ensuring long-term access. These roles should continue in any new model.

There are two routes to OA – the “green road” of self-archiving, and the “gold road” of open access publishing. The green road is an immediate route to OA, but lacks peer review and can result in version problems. The golden road involves transition barriers, but ensures quality (peer review). They reasoned that the golden road was better in the long term, as this would be a way to address (rather than avoid) problems with the present system while retaining (or reinventing) the traditional roles of publishers and libraries.

They established a Task Force to consider sustainable business models for OA publishing and included authors, funding agencies, and publishers in particle physics. They started by setting some principles and constraints on an acceptable model, e.g. access for all, competition among journals,

authors retain copyright, and it must be affordable through eventual cost reductions. They then surveyed publishers to assess their readiness and the likely costs. Most publishers seemed ready to explore a shift towards OA publishing. The Task Force published its report in June 2006 (http://library.cern.ch/OATaskForce_public.pdf). They concluded that sponsoring OA through a consortium was the most promising business model, and proposed setting up a Sponsoring Consortium for OA Publishing in Particle Physics (SCOAP3).

SCOAP3 will manage the transition to OA in particle physics. The transition will start in 2007, to coincide with launch of CERN's Large Hadron Collider (LHC), a new particle accelerator. They estimate a transition of three years and an annual budget of €6M per year. This will allow time for authors, publishers, and funding agencies to adapt, and for new publishers to join the consortium. During the transition, journals would move from a subscription to a sponsorship model. The consortium would sign contracts with the publishers, committing them to control costs and reduce subscription prices as OA gains in popularity (no paying twice). However, this model should give them some safety to protect their business. The funding agencies participating in SCOAP3 are holding a conference at CERN on 3 November to agree on the principles of the business plan, and publishers will soon be invited to bid.

After the transition period, SCOAP3 could be gradually phased out. The new model would be based on author fees paid from research budgets. In the end, it should be cost-neutral for funding agencies – the funding originally allocated to libraries to buy journals would be shifted to research budgets and fund author fees. All relevant journals in the field would convert to OA, but there should be room for new journals. Particle physics is ready for the transition to OA, it should be a win-win situation for all stakeholders. The transition model could be applied in other areas of science.

Exploring the Economic Impacts of Open Access: A research perspective, John Houghton, Professor and Director of the Information Technologies and the Information Economy Program, Centre for Strategic Economic Studies (CSES), Victoria University, Melbourne

John presented some interesting research on the economic impacts of open access. He started by showing a model of how scholarly communication has evolved. ICT enables and changes research practices, demanding new scholarly communication capabilities and new publishing business models, like OA.

The model led them to pose a policy question – are there new opportunities and new models for scholarly communication that could enhance the dissemination of research findings and, thereby, increase returns to public investment in R&D? They took a policy-oriented approach for researching the impact of OA to get some evidence that could underpin new models.

They started by conducting literature reviews to assess the costs and likely benefits of scholarly communication. They estimate that the costs for HE in Australia at \$3.6B per year (2004), including costs for the research, publishing, and research infrastructure. The communities most likely to benefit from enhanced access are the research community, industry/government, and the wider community. They developed an impacts framework showing how each audience could benefit, and there were potentially measurable benefits for each audience.

They then developed a model to estimate the impact of enhanced access. This is complex stuff, but basically assesses how introducing variables for access and efficiency could affect the rate of return on R&D. This is work in progress, but John gave some statistics to illustrate the approach:

- With gross expenditure on R&D at \$12B per year and a 50% return to R&D, a 5% increase in access and efficiency would be worth \$628M per year.
- With higher education R&D expenditure at \$3.4B and a 25% return to R&D, a 5% increase in access and efficiency would be worth \$88M per year.
- With research council administered competitive grants funding at \$830M and a 25% return to R&D, a 5% increase in access and efficiency would be worth \$21M per year.

They also calculated benefit/cost ratios by focusing on the costs that would change. Again, this is work in progress, but the important point is that the benefit/cost ratios are high (vs. 2 for a motorway):

- Enhanced access to higher education research, with impacts at \$88M per year, would realise benefits of around \$4B (a benefit/cost ratio of 30).
- Enhanced access to research council competitive grants funded research, with impacts at \$21M per year, would realise benefits of around \$925M (a benefit/cost ratio of 7.2).

John then mentioned some future plans. In March 2006, SPARC hosted a roundtable in New York to discuss how best to research the impacts of OA, and plan a research programme to identify and estimate those impacts. Since then the participants have been sketching out a programme. A model showed the approach they are taking – a bottom up approach to scope the system, a top-down approach to establish an impacts framework, and the core of the research in between (measuring impact, business models, etc).

He feels there are new opportunities to increase returns to R&D by increasing access to it, e.g. OA. Preliminary work shows that the impacts of enhanced access to research findings are likely to be substantial, so it is worthy of serious attention. It is a complex and challenging area, with no easy answers to the questions about approaches and evidence. From a research perspective, it makes sense to create a framework and focal point for activities that helps put the pieces in place and build a clearer picture.

Open Access, Transition Models, and Scholarly Communication in Germany, Johannes Fournier, Programme Officer, Deutsche Forschungsgemeinschaft

Johannes characterised OA in Germany as an area with many players but few coordinated activities. He started by introducing the players:

- **Research organisations** – An alliance of six research organisations signed the Berlin Declaration and are all active in promoting OA. Each tends to focus on its own activities like organising conferences and funding projects to move things forward. From his perspective, a better division of labour based on expertise is needed.
- **Universities and libraries** – The librarians are the driving force behind OA in universities, but tend to focus on electronic theses and conference proceedings as a route to OA rather than peer-reviewed journals. An informal survey he conducted suggests that few have OA policies, most promote OA via their web sites (rather than engaging with academics personally), and most aren't interested in the issue of author fees. Each university seems to be reinventing the wheel, and more knowledge transfer would be useful.
- **Academics** – Few academics actively promote OA. They are resistant to author fees, but will do little to change things. The academics that do support OA tend to attend electronic publishing conferences. This gives the impression that “failed academics” promote OA, i.e. they haven't been successful in their academic discipline so are aiming for success in a technical area. It's important to engage academics and bring OA to the key research conferences; this could be done through the scientific societies.
- **Publishers** – The profile of publishers in Germany is different from the UK with many small/medium publishers particularly in the humanities and social sciences. Relations with publishers are complicated by a legal dispute over copyright.

Johannes then described three models for working with organisations with implications for OA and scholarly communication.

Partnering with Societies – German Medical Science

German Medical Science (GMS) is the electronic interdisciplinary portal of the Association of the Scientific Medical Societies (AWMF) in Germany, covering 151 societies. GMS started in 2003 as a DFG-funded project and, with the support of the AWMF, became a family of 12 open access medical journals. The work in publishing the journals is shared by the partners – the medical societies of AWMF (peer review), the German National Library of Medicine (editorial work), and DIMDI (technical implementation and archiving).

The reason for mentioning GMS is that DFG is funding a project to help them establish a sustainable business model that relies on the medical associations. This is a new business model where the community pays. Briefly, the medical societies pay for use of the publication platform. As the

societies are funded by membership fees, the publishing costs are carried by the primary users, whether authors or readers. Perhaps this business model that's suited to medical research could be applied to other disciplines with a different structure of societies and associations.

Partnering with Institutions – DissOnline

DissOnline started out as a DGF-funded project with the German scientific societies and provides access to 37,000 electronic theses from 80 German universities. It's relevant to OA because it provides an excellent model for the development of repositories. A key reason for its success was that the roles of the players were clearly defined. There's a clear legal and organisational framework, and standardised procedures for handling e-theses. But perhaps more importantly, it introduces young researchers to the principles of OA at an early stage in their careers, e.g. how to retain copyright without affecting the commercial interests of publishers.

Partnering with Publishers – National Licences

In 2004-05, DFG provided €27M to acquire national licences for databases and journal backfiles. This isn't OA per se, but national licensing will be an important part of the future in scholarly communications. In principle we could also think about multi-national licensing, perhaps along the lines of a consortium model as mentioned by CERN.

He concluded by noting that a key funding priority of DFG is to build network of repositories. These will be closely interconnected with the European DRIVER network and accessible using a range of search tools. More broadly, engaging the community on OA will be important, especially researchers and publishers, and sharing knowledge and expertise, so that what we build is sustainable.

Discussion Group 6 – How can JISC facilitate developments in scholarly communication? Fred Friend (facilitator) and Nike Holmes (note taker)

- **Relations with societies** – JISC should build stronger relationships with the societies to engage them on OA so there's a shared understanding of the principles and a dialogue on their concerns and issues. This could be done jointly with the research councils.
- **Disciplinary differences** – A recurring theme at the conference was disciplinary differences, and that what works in one discipline may not work in another. JISC has already done a study on disciplinary differences. Building on this, JISC could identify the *specific* differences that are likely to influence the take-up of OA.
- **Humanities and social sciences** – Scientists have shown the greatest interest in OA, and JISC has focused on developments in the sciences. JISC may want to focus more on the humanities and social sciences, and a few suggestions were made about possible studies, e.g. collect data on what humanities and social science OA content is available in IRs, the use of different article versions.
- **Business models** – Many new business models are being explored. It would be useful for JISC to monitor these models, find out how they work out in practice, and see if comparisons can be made, perhaps jointly with ALPSP.
- **Quality and IRs** – Some participants at the conference seemed to view IRs as a “dumping ground”, i.e. not all the content is peer reviewed. JISC could do a study on current practice, find out the extent to which non-peer reviewed material is deposited, and explore whether it would be useful to mark peer-reviewed content as such.
- **Costs of moving to “gold” OA** – JISC and publishers have been discussing how universities can set up central funding for authors, incorporate this into their administration systems, and build author funding into their full economic costs. It would be useful for JISC to fund a study whereby each university would look at their profile over the last 5 years (i.e. number of publications per department per communication channel) to work out what the costs would be to move to “gold” OA.
- **Copyright** – JISC plans to issue model clauses to institutions for researchers to use when negotiating copyright transfer with publishers. JISC could do a study to monitor how effective this was and whether authors subsequently felt they were in a better position to negotiate on copyright.

3. Funding Perspective

Open Access and the Wellcome Trust, Robert Terry, Senior Policy Adviser, Wellcome Trust

Wellcome is one of the world's largest medical research charities with a budget of £480M in 2004-05. OA should be important to funding agencies because funding the research is only part of the job. A fundamental part of their mission is to ensure the widest possible dissemination and unrestricted access to the research. OA is about improving access to peer reviewed research literature, improving use of it, and therefore improving research. It's not about reforming the publishing market, though this is a side benefit.

He briefly outlined Wellcome's OA policy:

- From 1 October 1 2006, it is a condition of Trust funding that a copy of any original research paper published in a peer-reviewed journal must be deposited into PubMed Central (or UKPMC from 1 January 2007) within 6 months of publication.
- The Trust provides additional funding to cover the costs of choosing an OA option.
- Wellcome has worked closely with the major publishers, and by 1 October over 90% of the journals used by Trust funded authors will have an OA option. These journal policies will be covered in the SHERPA-RoMEO database.

Wellcome has worked hard to ensure that authors have OA options. Authors should now use them. In terms of costs, he estimates it will cost 1-2% of the research budget (£1,000 per article works out to 1%). However, this is a small percent to do something really useful.

Developing UKPMC is part of the vision – a PubMed Central portal in the UK that will create a stable, permanent digital archive of peer-reviewed biomedical research publications that is accessible for free via the Internet. They are working closely with other funding agencies on UKPMC, and JISC has provided some funding towards UKPMC. It will be developed jointly by the British Library, University of Manchester, and EMBL-EBI, and will go live in January 2007. They've taken the central repository approach (instead of IRs) so the content is all in one place. This has benefits in terms of visibility and long-term preservation. It also means you can do more with the articles, and he gave some examples of how UKPMC could add value.

He concluded by making some recommendations to other funding agencies based on Wellcome's experience:

- Develop a clear policy to mandate researchers to deposit their articles
- Develop a clear policy to provide the funding for OA publishing – make this part of the research costs
- Support and/or create repositories, provide clear advice to researchers, and provide it again
- Talk to publishers – this is key
- Explore opportunities for integration of OA data.

Open Access Scotland: A View from North of the Border, Jeff Haywood, Deputy Head, Information Services, University of Edinburgh

Jeff described an initiative in Scotland to introduce OA on a national basis. He described the events leading up to their Declaration on OA and what has happened since then. In many ways Scotland was ready for OA – the cultural climate was right, the government had set an agenda, and the universities were interested. With a small community of HEIs that had a track record of working collaboratively and “punching above their weight”, it was possible to do something meaningful on a national scale.

The Open Access Scotland Declaration was launched in October 2004 and formed the basis of a national information strategy. It stated that “the interests of Scotland will be best served by the rapid adoption of OA to scientific and research literature”, and committed signatories to take action. For funding agencies and institutions, this meant:

Research Funders

- Require as a condition of grant that resulting publications are available on OA, either by self-archiving or through publication in an OA journal
- Allocate funds for fees for publication within research grants
- Encourage publishers to offer OA publishing streams with fair pricing.

Universities/Research Institutions

- Set up IRs and/or liaise with other organisations to establish a joint repository
- Encourage, and where practical mandate, researchers to deposit copies of their articles in an IR
- Encourage, and where practical mandate, the deposit of PhD theses in an IR
- Review intellectual property policies, to ensure that researchers have the right and duty to provide an OA version of their research.

Since then, almost all the HEIs have signed up to the Declaration. He showed examples of the IRs they are developing. However, a key principle is to work together for a joined-up approach to OA. The JISC-funded IRIScotland project will address this, developing guidelines for Scottish institutions and a framework for implementing a regional distributed repository infrastructure. There are still challenges to face, e.g. populating the repositories, resolving the central/subject vs. institutional repository issue, making it easy, and of course funding.

Discussion Group 1 – What more can research funders do to improve the dissemination of publicly-funded research? Stuart Dempster (facilitator), Sara Hassen (note taker)

A key theme of the discussion group was that it's important for all research funders to buy into OA. Where they haven't yet, initiatives could be taken to get them on board, e.g.

- **Terminology** – Engage with funders in language they understand. For example, some agencies may think in terms of their “public engagement strategy” instead of “open access”.
- **Benefits** – Similarly, from our point of view, the key point is improving dissemination of publicly-funded research. They may be more interested in the side issues, e.g. assessment, attribution, and the potential economic benefits.
- **Models** – The Wellcome Trust has developed a good model for implementing OA. It could be useful to capture the model so other funders can learn from their experience.

Other work will also be needed to ensure that OA works in a cohesive way across funders and other stakeholders:

- **Institutional processes** – Ensure there is a cohesive framework for administering the funding for OA at institutional level. This is potentially an area where stakeholders like JISC could help
- **Repository development** – Ensure that emerging repository models are cohesive and cater for disciplinary differences
- **Horses for courses** – Build on current roles and take advantage of what people do well, e.g. publishers and librarians.

4. Publisher Perspective

The Publishers' Perspective: Overview, Kate Worlock, Director, Electronic Publishing Services Ltd

Kate introduced the session, outlining some of the opportunities and challenges that OA poses for publishers. OA is an opportunity for publishers to develop value-added services, and if OA articles are more widely read, OA journals could attract the best authors away from traditional journals. Peer review will continue to be important, and perhaps more important in an OA world. The key challenge publishers face is economic viability – OA business models must be sustainable. Repositories may pose greater challenges than OA journals, unless access is embargoed. We also have to consider that tomorrow's users will have different expectations from today's. The bottom line is that if OA

works, publishers will adopt it. Publishers are experimenting with OA, but its viability hasn't yet been proven.

Experimenting with OA: A publisher's perspective, Martin Richardson, Managing Director, Oxford Journals, Oxford University Press

OUP is experimenting with OA to discover whether OA models can achieve wider, more cost effective dissemination than subscription-based models. But in order to be widely adopted, OA models will also need to be financially viable and supported by authors. They are therefore collecting data on author response to OA, the effect of OA on usage, and financial sustainability. This involves studying three case studies or models for OA:

- **Full OA** – *Nucleic Acids Research (NAR)* – Author are charged \$1,900 per article (or \$950 where their institution has an institutional membership)
- **Optional OA** – 48 Oxford Open journals have an OA option. Authors are charged \$1,500/\$2,800 depending on whether their institution subscribes, and subscription charges will be adjusted depending on the proportion of OA content published.
- **Institutional repositories** – OUP deposits metadata for the OA articles of OU authors in the Oxford Eprints repository.

In June, OUP held a conference to present the first results of their experiments (report at <http://www.oxfordjournals.org/oxfordopen/>). Martin summarised some of these results briefly.

Do authors want OA?

- **Optional OA model** – Not surprisingly, OUP found that this varies per discipline. Uptake of Oxford Open was modest – greatest in the life sciences (11%), with a maximum of 20% (*Bioinformatics*). It's not clear what will happen when funders mandate OA – *Bioinformatics* authors were not in favour of mandatory OA and preferred the subscription model.
- **Full OA model** – For *NAR*, conversion to OA doesn't seem to have affected the quality of articles submitted as reflected in the acceptance rate or impact factor. But authors only ranked OA fourth on their list of priorities, and most said they would have published in *NAR* if it wasn't OA.
- **IR model** – The *NAR* survey indicates that authors prefer to archive the final published article on their personal web page. However, results for 2006 indicate a shift towards archiving in IRs compared to 2005.

Does OA increase usage? Overall, OA does seem to increase usage, but careful analysis is needed for each journal – to separate any increase in usage due to OA from trends in place for that journal before it was introduced.

Is OA financially viable? The jury is still out and more analysis will be needed. In the case of *NAR*, institutional memberships are replacing institutional subscriptions, but the net effect is that revenue is down. Individuals cancelling their personal subscriptions is a factor. OUP will be doing more research to analyse the impact of OA, including citation analysis, cost-benefit of OA (to the publisher), and benefits to researchers.

Open Access: How can we get there from here? Martin Blume, Editor-in-Chief, American Physical Society

There are many definitions of OA, and by many of them APS journals are already OA. APS does ask authors for copyright, but in return allows authors to post their own version in non-commercial archives, and post the APS version on the author's or institution's web site. For this presentation, Martin defined OA as "full availability without barriers on the publisher's web site". APS considers this to be a desirable goal – a worldwide library of physics journals seamlessly linked and available without barriers. But significant costs are involved, and the key question is how to recover them on a sustainable basis.

APS has two small OA journals – *Physical Review Special Topics: Accelerators and Beams* and *Physical Review Special Topics: Physics Education Research*. *PRST-AB* is funded by sponsorship, and *PRST-PER* by author or institutional charges. Both make a loss, but APS can cover them by revenue from the larger journals.

So the problem APS faces is how to convert their *large* journals to OA. Size does matter! They looked into this in connection with the CERN task force exploring OA for particle physics (see Robert Aymar's presentation). The costs would be large – they estimated it would take \$3.5 to convert *Physical Review D* to OA. The risks were also large – they needed to stay solvent while transitioning to OA, sustaining OA, and reversing if OA didn't work out. Reversing is the greatest risk, as this amounts to selling a "new" journal to libraries again, and it would take time to build up revenue to pre-OA levels.

They concluded that the risks were too great for an immediate transition to OA. But they still wanted to find a route. PBS, the public broadcasting network for TV/radio in the US was an inspiration – during pledge week anyone can phone in a donation to help fund the network. What APS came up with was Free to Read:

- Anyone can pay for an article in *Physical Review* or *Physical Review Letters* to become OA – not just the author, but CERN, funding agencies, institutions, readers, grandparents, etc.
- Author fees are \$975 for PR and \$1,300 for PRL (about half the full cost per article).
- This applies to any article back to 1893, not just recent ones.
- APS uses the revenue to lower subscription prices (for small institutions) and offset their risk. As the number of FRT articles increases and subscriptions are lost, they would increase the charges.
- If the model is successful, they would gradually transition to full OA.

FTR is new and the jury is still out. The number of FTR articles is increasing, but APS continues to lose subscriptions. Currently they're covering their costs. As Martin put it, "publishing is not a theoretical science, but an experimental art, so there's no substitute for doing the experiment". APS won't embrace OA beyond what they are doing now, but will continue to make their journals as widely available as possible.

Discussion Group 2 – How can scholarly publishing develop to meet the challenges and opportunities in the internet age? Rachel Bruce (facilitator), Helen Hockx-Yu (note taker)

- **Peer review** – There was much discussion on peer review. As scholarly communication evolves, there's room to examine new models like social/community peer review via the internet, and publishers could explore how to develop communities to support this. There is a need for experiments and research to compare different approaches, and this idea was tested further in the panel session.
- **Value-added services** – There's potential for publishers to develop value added services for readers, e.g. aggregating content, linking and searching, kite-marking or badging content, and adding metadata to enable discovery and use. They can also develop value-added services for authors as well, e.g. authoring tools for easy content creation.
- **Research environments** – Perhaps a broader point was that research environments are changing and this influences scholarly communication, e.g. blogs, more informal communication, and the use of virtual research and learning environments. Students and researchers are coming on stream with very different expectations. Publishers need to understand the new research environment and think about how to work within that space. That's the starting point for thinking about how the role of the publisher needs to evolve and the basis for developing value-added services.
- **Copyright** – Copyright is a difficult area. Some publishers feel that copyright is essential for developing value-added services. Copyright law is inflexible, and arguments about who needs to "own" copyright may be unproductive. What is needed is a better understanding of the copyright models that can support the development of value added services, for example a licence to add value. Representatives of publishers and the academic community agreed that more flexibility on copyright and solutions for orphan works were issues they jointly wanted resolved.
- **Disciplinary differences** – This was a common theme across the discussion groups. We know OA works in physics, but will it work in other disciplines? Will it drive journals out of business? Some weaker journals are already showing signs of slow down.

- **Quality assurance of content in IRs** – This was a major concern. Users need to know the quality of the content, and there needs to be good metadata in order to retrieve it. “Quality” needs to be defined and made explicit. Peer review is one measure, and peer reviewed content should be badged as such. However, other measures could be considered. Making quality explicit has implications for institutional processes, but could also have implications for publishers. Research could be done to explore the possible role of publishers in the development of IRs, so they become an integral part of the scholarly communications process.
- **Research behaviour** – To develop publishing and models for scholarly communication we need an in-depth understanding of research behaviour. Publishers currently undertake detailed market research, and there is some good research generated in the academic community. However, there was the suggestion that an international study in this area should be explored to inform what model scholarly communication and publishing should take.
- **Joint working group on IR development** – There seemed to be general support for a joint working group on IRs, perhaps building on the PALS collaboration between institutions and publishers. Such a working group might explore issues like the role of publishers in repository development and business models, and do much to alleviate publishers’ concerns and fears.

Discussion Group 3 – Do quality mechanisms and indicators in journal publishing (e.g. peer review, impact factors) need to change? Lorraine Estelle (facilitator), Philip Pothen (note taker)

Peer Review

- Peer review is important and well established. There’s a general sense that “no one wants to mess with peer review”. However, it’s not perfect and may need refining here and there.
- Peer review is a measure of quality, but may be handled differently by different publishers and/or journals. More transparency is needed to ensure confidence and legitimacy, e.g. make the process more explicit, indicate acceptance rates.
- As well as transparency about the process, there may also be room to improve the process, e.g. certification of reviewers, reviewing the reviewers, standard procedures for conflicts of interest. But transparency and consistency may cost money, and we have to decide how to spend it.
- Peer review hasn’t “broken down”, but may be “under strain”. For example, there are an increasing number of submissions from China which rewards publication in Western journals. This puts a strain on resources. A more general point is that refereeing and reviewing isn’t rewarded.

Indicators

The main indicators we have are citations and impact factor:

- **Impact factor** – The problem with impact factors is that they work at journal level. Quality works at article level, and it’s the article that’s peer reviewed. We need more analysis of quality at article level.
- **Citations** – Authors value citations, but they’re an imperfect indicator of quality. For example, authors choose what publications they cite and tend to cite work in their own country. Therefore US articles tend to get more citations than European articles.
- **New indicators** – Is there room for a new indicator, e.g. a dissemination factor that reflects usage of articles (vs. citations)?

General Points

- Disciplinary differences are a recurring theme. For example, practices for peer review and citations may vary depending on the discipline.
- We need to think more about who the quality mechanisms and indicators are for. Are they just for authors or for readers as well?

5. Author Perspective

An Author is an Animal with Two Ends, Malcolm Heath, Professor of Greek Language and Literature, University of Leeds

Malcolm spoke about OA from his perspective as a professor in the area of classics. Authors consume the literature, use it to inform their own research, and in the end publish their own articles. In his view, publishers tend to focus on the publishing interface with authors (the output end). To answer the question “Do authors want open access?” we have to understand authors as *authors* (the input end) and the impact that OA will have from their perspective. He doesn’t feel that publishers really understand authors as authors, and used quotes from some recent ALPSP studies to illustrate his points.

Publishing is a bargain – authors trade their work for benefits; they don’t give it away. We need to revisit the bargain and see what publishers offer authors in return for control over access to their work. Publishers used to be indispensable from a technical point of view, but this is no longer true. Publishers provide quality control – peer review is important, but the quality is related to the article the author creates. Publishers do add value, but there is not much difference between the raw content the author creates and the finished published article. As an academic in classics, he’s happy with a version of the article that’s “good enough”, though he will cite the published version.

He therefore questioned what publishers are selling. If it’s added value, this may not be enough. It’s the content of the article, not the wrapper, that’s important. Adding value to an article is pointless if the article isn’t accessible – inaccessible content has no value. Publishers shouldn’t force authors to choose. Obviously there will be disciplinary differences, but from his perspective in classics, a version that’s “good enough” is better than none.

Open Archives from an Engineering Author’s Perspective, Joe McGeehan, Director, Centre for Communications Research, University of Bristol

Joe spoke about IRs based on his experience with ROSE, the Bristol University Repository of Scholarly Eprints. He started by explaining how ROSE was developed, and a graph showed how the content had increased as academics found out about it. He noted how technology is changing how academics work and scholarly communication. The publisher’s role is still central, providing functions like peer review. Benchmarking is also important, e.g. the RAE.

He listed some of the benefits of open archiving:

- It maximises access to publicly funded research – the funding bodies are strongly committed to this.
- It publicises academic work to a wider audience.
- It can make a range of research documents available – not just journal articles, but lectures, presentations, grant outputs, etc.
- The material is freely accessible to all without the need for costly licences.
- Indexing by Internet search engines raises the profile of the author and his/her institution worldwide.
- Research outputs are available almost instantly.
- It provides safe and reliable long-term storage and access.

The benefits of open archiving are clear, but there are still some open issues to address. For example, the UK Engineering Council has only said they are “strongly committed” to the RCUK position statement; they could go further. Publisher policies on archiving are inconsistent, and it’s difficult to populate an archive with historic papers where the publisher doesn’t allow the copyright version to be archived. It’s also time consuming to populate the archive in the initial stages, but this is outweighed by the long-term benefits.

He concluded by saying that open archives are the way to maximise publicity on research outputs in the digital age. They should therefore be promoted and developed by the whole community. Pressure should be placed on publishers to permit archiving, though he noted he was encouraged by what he’d heard at the conference.

Discussion Group 4 – What do authors need to take full advantage of new opportunities to disseminate research? Catherine Grout (facilitator), Avalon McAllister (note taker)

The discussion group arrived at some broad conclusions which are supported by the recommendations below.

Conclusions

- Authors need to understand the benefits of OA. Increased visibility of their research is the key benefit, and others will vary depending on the discipline.
- Depositing research information in institutional repositories should be an integral part of the research process.

Recommendations

- **Funding agency mandates** – Funding agencies should mandate that authors deposit their work in IRs.
- **Funding** – Funding should be provided to allow authors to publish in OA journals.
- **Institutional policies** – Authors need to understand what their institution requires. Institutions need clear policies about archiving and clear procedures for depositing content. They should also consider requiring students to deposit their theses.
- **Content** – IRs need not be limited to full text articles. The raw data is important as well.
- **Make it easy** – Institutions need to make it as easy as possible for authors to deposit. Make it easy technically, e.g. drag and drop of tick box, but also provide help and support mechanism.
- **Education** – Educate students sooner about the issues, e.g. why it's important, how to deposit, and copyright issues
- **Publisher policies and practices** – Authors need more clarity on publishers' archiving policies. More work is needed with publishers and learned societies and their umbrella organisations. For example, consider publishers depositing articles in IRs, or IRs harvesting from publisher sites.

6. Librarian Perspective

The Librarian's Perspective: Open access and librarians, Stephen Pinfield, Deputy Chief Information Officer, University of Nottingham

Stephen considered how OA would change information provision and how this would change the future role of the library. OA is likely to improve information provision, bringing benefits to the research community and society. Researchers tend to "narrowcast" their results to a small group of their peers. OA will enable deeper narrowcasting as well as "broadcasting" to a wider audience. This means the research will have more impact, and more useful things can be done with it. Impact is about more than just citations, and more research will be needed to measure it, including the social and economic impacts. OA has potential to correct a dysfunctional market.

He then analysed how the role of an academic library would change in moving from print-based content, to electronic content, to open access. In moving from print to electronic, most of the traditional library roles would remain (or be reinvented) at institutional level, e.g. selection of content, procurement, classification, access, and user support. However, when moving to OA, more information management can be done at a network or national level, and less needs to be done locally. Widespread OA means that there will be efficiencies at institutional level, but also the potential for libraries to take on new roles.

Institutional libraries will continue to have an important role in:

- Managing purchased/licensed content
- Managing institutional digital assets
- Supporting the use of content in teaching and research.

They will also take on new roles. For example, the library is the natural part of the institution to run the IR. The library is also well placed to work with the institution on OA policy issues, e.g. policies for self-archiving and institutional arrangements for funding OA charges. Preservation will also be an important area.

Discussion Group 5 – What should the role of libraries be in the internet age? Amber Thomas (facilitator), Jo Poole (note taker)

The group considered the role of both libraries and librarians.

- **Role of the library** – There was a debate about whether redefining the role of the library was more about cost cutting than genuinely refocusing the work. There were many different views. Perhaps it's more constructive to focus on the role of the librarian and how this could/should change.
- **Integration with teaching and research** – The librarian role needs to become more integrated with teaching and research, a “cog in the wheel”. They need to understand more about the teaching and research processes and engage with academics at their level. More debate is needed with academics about the information literacy that students will need, and the tools and services they actually want and will use.
- **Credibility** – In order to influence academics on issues like OA, librarians need to increase their credibility. They need to “come out from behind the counter” and increase their confidence. But libraries need to work with the staff they have, and not all librarians will have the confidence to embrace new roles.
- **Branding** – Over the years, librarians have become invisible. They should do more publicity and increase the branding on their services. If the institution is more aware of librarians and their services, they may be less likely to cut the library budget when under pressure to cut costs.
- **Possible new roles** – The librarian role will continue to focus on access but may take on new dimensions. Several areas were discussed, e.g. digital rights, reviewing resources, and developing skills in citation analysis to demonstrate the benefits of OA. Possibly metadata is another area, but arguably academics should generate this as part of the research process.
- **Follett 2** – Librarians need a strong advocate at Pro-Vice-Chancellor level. PVCs need to understand OA and the potential impact on libraries. Perhaps JISC could help by producing a high level report, a successor to the Follett Report.

7. Panel Session

On day two, participants met in discussion groups to discuss the plenary presentations and develop ideas for taking issues forward in a practical way. There were discussion groups on six topics, each meeting in two sessions (so each delegate could discuss two topics). A summary of the key points from each discussion group is included above. A selection of the issues raised in the discussion groups was then discussed at the final panel session.

The panel session was chaired by Fred Friend, and panel members included Martin Blume, Tom Graham, Malcolm Heath, Keith Jeffrey, Martin Richardson, Stephen Pinfield, Robert Terry, and Kate Worlock.

Maintaining quality as publishing models change

Fred noted that quality assurance had been discussed by several of the groups. Various points were made, e.g. the present system of peer review is under strain, it could be useful to experiment with other methods (e.g. community review), there are disciplinary differences, etc. He asked the panel if the present system was working or needed to change.

The discussion focused on peer review. There seemed to be a consensus to keep peer review separate from OA. It may or may not need to change, but that isn't an OA issue. The following points were made:

- **Peer review is under strain** – MB said one reason for this is that the number of articles submitted to Western journals has increased since the end of the cold war. People publish everywhere, and there aren't enough referees.

- **Community or open peer review** – There wasn't much support for open peer review. MR said that openness in peer review could be useful in some areas but too much could be counter-productive, dilute it. Fytton Rowland commented that it's labour intensive. Sally Morris said the (ALPSP) societies don't support it. KW noted that Nature is already doing an experiment, so perhaps we can learn from that.
- **Peer review is separate** – SP made this point strongly. Peer review is here, it's important, and it works. It would be a great mistake to link OA to changing peer review. They are entirely separate. There was strong support from the floor.

Funding mechanisms for the payment of open access publication charges

Fred said universities will need to give authors guidance on where to obtain funding for OA publication charges. Do we therefore need to calculate the cost to various organisations of providing such charges?

There were mixed views on this. KJ suggested a study of each university calculating publications x departments x communication channels. He had done this for CCLRC, and the "results were frightening". MR commented that some calculations might be useful, but perhaps consider cost/benefit as well as costs. Several commented that costs have been calculated elsewhere (e.g. Dartmouth, Cornell), so perhaps existing data could be considered before investing in a study. Charles Oppenheim felt it would be a pointless exercise, as it assumes that all OA will be via the "gold" road of publishing in OA journals.

Understanding the point of view of learned societies

Fred said there was a sense that the learned societies felt they weren't being listened to. They fear that OA will be damaging. JISC tends to talk to a few large societies. Should JISC talk to societies more and talk to more societies?

Overall, the views of the panel and the floor were positive. JISC should engage with societies and more effectively. It didn't seem to be a contentious issue. There could be benefits on both sides from more communication.

One delegate said that some societies had a lot to lose from OA. If members get the society's journal free as part of the membership, it's a reason to join. The society may be able to cover the costs of OA, but making the journal free to all may mean they lose membership fees.

Sally Morris commented that ALPSP has over 100 society members, and informal research on their list indicates there hasn't been much demand for OA. Fred said JISC would still like to work with ALPSP to improve communication with societies. It's more than asking societies if they want OA yes or no; JISC would like a quality dialogue on a range of issues.

The needs of humanities and social science researchers

Fred noted that disciplinary differences had been mentioned throughout the conference. Researchers in the humanities and social sciences have different needs from those in the sciences. They also seem to prefer the green road of self-archiving to the gold road of publishing in OA journals. Should we be trying to engage them about OA journals?

During the discussion three separate but interrelated issues emerged – do they prefer self-archiving, why, and what should be done. MR commented that there wasn't much interest in OA generally in the humanities and social sciences, in either self-archiving or OA journals. If they do prefer self-archiving to OA journals, there could be a number of reasons. The following were mentioned in the discussion:

- Lack of understanding, but this could also apply to publishing in OA journals
- Expediency – It's easier and quicker, and they don't have to do anything new
- Disciplinary differences – Their publications have a longer shelf life so embargoes matter less; their publication profile is different, e.g. monographs are more important.

This could explain why they prefer self-archiving to OA journals, but it's not clear that they do. Perhaps they need a better understanding of OA generally and the benefits. RT also commented that it's OA we're aiming for, and Wellcome doesn't make a distinction.

8. Conference Close

Malcolm Read made some concluding remarks to close the conference. He started by returning to a point he had made at the start of the conference. We need more information about the processes and mechanisms associated with OA, how to do it well. But we need to keep in mind that principles and processes are different, and it's the principles that are more important. He made a few comments about the conference from JISC's perspective:

- JISC is backing both OA publishing and IRs
- JISC plans to do more research studies to get data/information to inform the debate
- JISC will put a strong focus on working with the learned societies
- JISC won't dictate what policies institutions should have on OA; that's up to them (but it is interesting that most are building IRs before they have policies)
- JISC will do some collecting together of knowledge and experience on OA; there's a lot out there.