

## Berlin 7: Open Access reaching diverse communities, Paris 2-4 December 2009

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The international meeting, Berlin 7: Open Access reaching diverse communities [1] took place from December 2<sup>nd</sup> to 4<sup>th</sup>, 2009 in Paris. This seventh follow up of the [2003 Berlin conference](#) highlighted the different pathways to Open Access that research communities are taking. The conference was conducted primarily in a round-table style and addressed all of the most debated issues in the Open Access area. The aim of this report is to offer a synthesis of the different topics and perspectives.

### “What if” anything would be Open Access?

The first round-table introduced the current U.S. pragmatic approach, where Open Access stands for “*immediately available*” and where the large amount of public funds allocated for research claims to be achieving publicly shared results. With the difference between Public Access and Open Access being clear, Avice Meehan (Howard Hughes Medical Institute, USA) underlined both the need for mandates, and the need for incentives to make those mandates effective. A connection with the research evaluation process was recommended, in order to reward Open Access choices. Howard Hughes Medical Institute adopted a 360 degree policy, providing both Green Open Access by archiving in PubMedCentral, and Gold Open Access by establishing a central fund to pay article processing charges when requested. The researchers’ attitudes towards Open Access is another key aspect to be taken into account. Researchers can be found at both end of the spectrum, from enthusiastic supporters to non-compliant.

The importance of having early adopters to set a positive tone and a proactive climate was stressed by Heather Joseph (SPARC). She emphasized the political significance of Open Access in the U.S. The Obama administration has clearly stated its commitment to openness and transparency, and to exploiting the new technologies in order to maximize the ROI in several fields. Also under debate is the proposed extension of the NIH Public Access Policy to other 11 Federal agencies, which could positively influence decisions being made by faculties and funding agencies. Joseph highlighted how Open Access doesn’t deal only with mere “access”, but with all of the potentialities offered by an Open Access environment. In a “what if” scenario, the question is: what could we actually do if all the scholarly production were Open? What can we do right now with Open texts and Open data, which we weren’t allowed to do – or we weren’t used to doing – in the traditional scholarly communication system? Open Access offers many opportunities for establishing a deeper integration between data, texts and retrieval tools that we are just now beginning to explore and realize. This is the main point to stress in further arguments: the real advantage of an Open Access scenario lies in the unexplored techniques which unlock easier and more effective paths for researchers, fostering the progress of science.

In the next session, David Lipman (NCBI, National Centre for Biotechnology Information, USA) offered an example of a success achieved by this trend, illustrating some enhanced features offered in PubMed and PubMedCentral. Based on text mining and sensors techniques operating on open data and texts, new value-added services have been implemented, such as a direct connection with free genetic databases when a genetic term is involved: a more integrated research environment contributes to speeding up the sharing and acquiring of knowledge.

In the same vein, Jan Velterop (Concept Web Alliance, NL) presented a report about innovative and fascinating applications of the Semantic Web that will open up results of research, creating what he

calls “nanopublications”: triplets of concepts and relations that immediately identify the content of a scientific record.

Having Stuart Shieber (Harvard Office for Scholarly Communication, USA) attend this conference was essential to the Open Access debate. He set and promoted Harvard’s policy, which by general consensus has been an important catalyst for furthering Open Access support by prestigious universities. He looked back at the crisis of the current scholarly communication system which the Open Access movement arose from, and pointed out a possible path for the future, presenting [COPE](#), Compact for Open access Publishing Equity, aimed at setting a Compact to cover the article processing fees in Open Access Gold journals. The rationale behind the project is that, in the digital environment, dissemination becomes easier when scholarly communication goes through non-traditional channels that the community isn’t used to. Universities subsidize the costs of subscription journals by subscribing to them. Universities and funding agencies can provide equitable support for the processing-fee business model for open-access journals — to place the subscription-fee and processing-fee models on a more level playing field — by subsidizing article processing charges as well. COPE supports equity of the business models by committing each university to “the timely establishment of durable mechanisms for underwriting reasonable publication charges for articles written by its faculty and published in fee-based open-access journals and for which other institutions would not be expected to provide funds”. Some of the most prestigious Universities (Harvard, MIT, Berkeley, and others) have already [joined](#) the Compact.

Despite criticism [2] offered by Stevan Harnad, who sees self-archiving mandates at no expense as the first priority, and providing funding for Gold Open Access as the second, COPE might tend to restore balance to the inelastic scholarly communication market. Shieber also highlighted the main risks of this new deal in scientific communication and its alternative channels of publication, i.e., the hyperinflation of article processing fees and the risk of replicating the dysfunctions and the twisted logic of the current system. Possible corrective measures are to emphasize the economic sustainability and to share responsibilities among researchers, funders and publishers.

The essential role of the funding agencies and academic institutions, the need for an open and truthful dialogue with publishers, and ensuring that the co-existence of both the Toll Access and Open Access models during this time of transition results in a fruitful competition and a balanced market, were underscored by many voices during the three-day debate. Robert Kiley (Wellcome Trust, UK) also challenged the commonly adopted definition “author pays” under which all the Open Access business models are labelled as misleading, as actually few authors pay, but their institutions or funding agencies do.

### **Economic sustainability, costs and benefits, and return on investment**

Economic sustainability and viability in the long term are crucial and critical to achieving Open Access. That’s why several sessions of the meeting were dedicated to the economic stakes. On sustainability lay the foundations of the development of any new model of scholarly communication.

John Houghton (Victoria University, Australia) talked about his well known survey conducted on behalf of JISC, [Economic implications of alternative publishing models](#), that dealt with the identification of a scholarly communication chain, the map of the core activities, and the allocation of costs, in order to quantify potential benefits in an Open Access scenario in the UK reality.

The survey was heavily criticized by Steven Hall (STM publishers consultant), who objected to the conceptual and economical basis of the work’s framework, naming it “assumption”. In part, he

repeated remarks made by commercial publishers to the survey in the past year, to which Houghton had previously replied [3], but he also made comments about the methodology, e.g., on the adoption of non-coherent cost values, on the comparison between subscription costs and article processing fees, and on the misleading confusion between mere electronic versions and Open Access. As to the alleged increased number of citations and downloads offered by Open Access, which matter in term of return on investments, Hall quoted only four studies with neutral results, ignoring all the favorable evidence.

Houghton, in his response, emphasized that the real value of the work is having established a global schema to calculate costs and benefits. The model is online, [4] so anybody can input different data. Alma Swan (Key Perspectives, UK) showed in a workshop how to modify or to put in new variables. She carried out a survey with data from four British Universities of different sizes, ages, and research/teaching attitudes.) As to the alleged lack of cooperation with publishers in quantifying the costs involved in their activities, Houghton replied that they were asked for, but only one answered.

It will be a long road to travel, but many, many spoke up during the conference in support of fair debate among all of the stakeholders, with the common aim of maximizing the dissemination of research output.

Caroline Sutton stated that the preliminary step is to decide which model of scholarly communication we aspire to, and that there are costs and benefits on both sides that are dependent on the model chosen, as well as related to each other.

Regarding ROI, Alma Swan focused on the triad ‘research-knowledge-innovation’. Though the first two are the responsibilities of Faculties, the latter is performed outside the Academy, in the private sector. Therefore, research outputs ought to be freely available. On the contrary, a Eurostat survey states that PMIs have access to only the 3% of the scientific production. The remaining 97% is still closed behind the barriers of the traditional subscription based journals. When an Open Access logic has been assumed, facts and figures are different: the evidence at the [Queensland University of Technology](#) in Australia is that incomes for research external contracts are quite doubled after the adoption of the Open Access mandate, as result of the enhanced visibility. In her test with the Houghton model Swan invited to consider not only cash savings, but also non-cash benefits such as the mentioned increased connections with the production cycle which bring benefits and progress for the whole society.

### **Infrastructures and projects: the European perspective...**

Peteris Zilgalvis (European Commission, DG Research) marked out the normative framework in which the European Union plays the double role of legislative institution and research funding agency, starting from the [Lisbon Treaty](#), [ERA 2000](#), [I2010](#) and coming to the [Seventh Framework Program](#) which at II.16.4 of Model Grant Agreement permits 100% reimbursement for “other activities” including Open Access publication. The firm commitment to Open Access is demonstrated also by the [Open Access Pilot](#) Program within the same 7FP. Open Access is an unprecedented possibility and it is supposed to be an effective tool aimed at maximising socio-economic impact of R&D investment. Open Access was a central topic both in the CREST questionnaire launched last December 2008 and in the recent [ERA 2009 Conference](#) on strengthening research in Europe.

Kostas Glinos (European Commission, DG Information Society and Media) presented the ICT

Infrastructures for Science ([COM 2009 108](#)), which embraces the e-science paradigm and recognizes the strategic role of e-infrastructure as a crucial asset underpinning European research and innovation policies. The Internet age allows and foster a fruitful continuum of information, data, observations. But the “data tsunami” brings also critical issues such as long term preservation, metadata curation, sources integration, quality control. EU confirmed its commitment to set a viable infrastructure to deal with all these concerns.

On this path, there are many ongoing projects funded by the EU:

- [SOAP – Study of Open Access Publishing](#), presented by Ralf Schimmer (Max Planck Gesellschaft, D), focused on Open Access Gold Road, aimed at analyzing and describing the current business models and at investigating the researchers’ attitude,
- [PEER - Publishing and the Ecology of European Research](#), presented by Chris Armbruster (Max Planck Gesellschaft, D), focused on Open Access Green Road, aimed at studying the effects of a massive selfarchiving. It is being carried out in collaboration with the major STM publishers;
- [Open AIRE](#) – Open Access Infrastructure for Research in Europe, presented by Eloy Rodrigues (Univ. Do Minho, P): started in December, 2009, the project is aimed both at creating an infrastructure to support selfarchiving and deposit of 7FP funded research outputs, and at exploring requirements, practices, incentives, workflows, data models, technologies to deposit, access and reuse raw data.
- [ELIXIR](#) – European Life Sciences Infrastructure for Biological Information, presented by Peter Stoehr (European Bioinformatics Institute) aimed at developing a sustainable open infrastructure for the management and integration of biological information in Europe.

A European range will have also the creation of EuropePubMedCentral, sustained by UK Wellcome Trust in collaboration with the US National Centre for Biotechnology Information (NCBI). It ought to be the European version of PubMedCentral, compliant with the more and more Open Access mandates of European funding bodies. In the dedicated workshop, Robert Kiley (Wellcome Trust, UK) presented the new features and value-added services which would make EuropePubMedCentral actually one of the first desirable “overlay services”. Some critical points also arose, such as the embargo period requested by publishers and the relation between institutional and subject-based repositories.

### **... and that of the emerging economies**

Speakers coming from the Emerging Economies countries, although firm supporters of the Open Access paradigm, warned against a potential “economic divide” arising between well-funded researchers and researchers whose countries allocate few resources in R&D. Couldn’t they pay the article processing fees in Gold Open Access, they would have been guaranteed by Open Access only as readers but not as creators of content.

Ellen Tise (IFLA – International Federation of Libraries Associations) stated as incoming President her strong commitment to Open Access. She also claimed for the local government to engage in closing the gap of the existing “digital divide” which yet disadvantages countries without infrastructures. Libraries too are expected to give a stronger support to Open Access in reallocating their funds toward Gold Open Access and in sustaining researchers in selfarchiving.

Abel Caine (UNESCO) reminded the ethical side of the Open Access and its connection with the Universal Declaration of the Human Rights and the UNESCO mission of development and peace. To achieve a wider dissemination of information and knowledge, UNESCO is implementing an *Open Suite Strategy*, with top-down actions at a governmental level and bottom-up projects in learning resources sharing ([OER](#), Open Educational Resources), free software (FOSS), Open

Access. [Open Training](#) platform is a hub of more than 3,000 free educational material clustered by discipline.

Paulo Cezar Carvalho (IMPA, Brazil) presented the effective [Continuing Education Programm](#) for Mathematical teachers lifelong learning and underlined the difficulties of Latin Americans scientists in taking part of the global process of knowledge creation.

### **Works in progress and good practices**

On the **institutional** side, both National Governments and single Universities or funding bodies are involved in fostering a way to Open Access.

Joahannes Fournier (Deutsche Forschungsgemeinschaft, D) spoke about the National German fund established in order to support researchers in covering the article processing fees when requested in Gold Open Access. Among the possible approaches are a direct agreement between a publisher and a institution (e.g. that signed between Max Planck and PLoS) with a transparent workflow for the researcher, a direct support to the single researcher, an indirect one to academic or research bodies to set up a central fund.

Kurt de Belder (Leiden University, NL) went over the steps which led to the Dutch national agreement with Springer, under which all Dutch authors can access the Open Choice option for free, being the fee paid at national level. It was actually a win-win situation, because the publisher saw a significant increase in submissions, in downloads and citations, and the authors became more and more aware of the real advantages of Open Access in terms of dissemination of their outputs.

Robert Kiley (Wellcome Trust) presented the measures adopted by a funding agency to improve the compliance rate (about 43%) to its Open Access policy: a simplified administrative workflow, a clearer statement in the grant application form, and a new useful “My Impact Report” based on Web of Science and Scopus citations data. For the future he wishes a better communication, a better monitoring and sanctioning system, and the establishment of dedicated budgets to meet Open Access costs. From the publishers’ side, he claims for clarifying and standardizing copyright policies and permissions, and for making explicit the relationship between subscription costs and uptake of Open Access option.

Bernard Rentier (Univ. of Liege, B) presented in teleconference the huge increase in submission in the Institutional Repository (25.000 items in few months), fostered by the incentives represented by the IR becoming the only official catalogue of publication to be considered in research evaluation and fund allocation.

William Nixon (Glasgow University, UK) examined what a University can do (and his University did) to increase the compliance with the Open Access mandate, focusing on practical aspects such as clearer grant application forms embedded in the researchers’ workflow.

Wolfram Horstmann (Bielefeld University, D) showed the policy of his institution both toward selfarchiving and Gold Open Access publication with the creation of a central budget to cover article processing charges, underlining the largest freedom accorded to researchers. This is another win-win experience, as it raised awareness of the different possible options actually promoting a positive shift towards Open Access attitudes.

On the single scientific communities side, each research area has its own path to Open Access. It is to be noticed that all these applications, projects and services work because data and text are freely available on the Web.

**Physics:** it's the scientific field in which no mandate and no debate is needed: researchers have a diffuse pre-print culture via arXiv. There are some interesting works in progress:

- [SCOAP 3](#), Sponsoring Consortium for Open Access Publishing in Particle Physics, the project aimed at the conversion to Open Access of the whole scientific production in Particle Physics, reached the 65% of the total budget (10M €) pledged by libraries, consortia and funders worldwide. Jens Vigen (CERN, CH) added more sensitive data: High Energy Physics publications are available at 97% rate via arXiv; less than the 10% of the researchers read the papers via the publishers' website, and the citation advantage rate is five times higher for selfarchived papers. As the recent study by [Gentil-Beccot - Mele](#) shows, the citation peak for selfarchived papers is six months before the official publication in a journal;
- INSPIRE, a joint project to access in a single hub all the SPIRES and arXiv material, where Open access is "crucial" for the progress of e-science (as stated by Jens Vigen, CERN, in his presentation);
- [New Journal of Physics](#), born in 1988, was the first Open Access journal whose coverage extends across the whole of physics. Eberhard Bodenschatz (Max Planck Institute for Dynamics and Self-Organization, D) showed how since 2001 NJP has grown by a factor of 35 in submissions, with a rejection rate of 75%. It ranks third in its category by Impact Factor. These are the results of the huge investments towards quality, so as more and more researchers and institutions are choosing to pay to publish with NJP.

**Astronomy:**

- [Euro VO](#), the European Virtual Observatory, is one of the hubs of the distributed network of data and observations shared by the astronomical scientific community. Crucial points are interoperability, which implies a standardization of data and descriptions, and quality assurance, in which astronomers are confident, as showed Françoise Genova (CNRS, F).

**Social Sciences and Humanities:**

- [ECHO](#), European Cultural Heritage Online, edited by the History of Science section of the Max Planck Gesellschaft, is a brilliant evidence of the kind and quality of value-added services the Web can provide if data and digital collections are free. Researchers are provided not only high resolution images or digitized texts, but also online tools which shape a sort of "virtual knowledge space". Urs Schoepflin e Simone Rieger (Max Planck Gesellschaft, D) invited all the scientific institutions to share their digitized materials adding their collections to the ECHO website.
- [DARIAH](#), Digital Research Infrastructure for Arts and Humanities, presented by Hejko Tjalsma (DANS, NL) and Andreas Gros (Max Planck Gesellschaft, D) is a project aimed at facilitating the use of digital humanities and cultural heritage information. Sharing of expertise, tools, and ICT methods for creation, curation, preservation, access and dissemination are the main topics, but the final goal is implementing the adoption of Open Access logic and paradigms in the Humanities, by creating an effective infrastructure, harmonizing the rights of access to the digitized material, developing connections between data and text and services.

**References**

[1] See the [Program](#), [Slides](#), and [photos](#) from the Berlin 7: Open Access reaching diverse communities meeting, December 2<sup>nd</sup> to 4<sup>th</sup>, 2009, Paris, France.

[2] JISC Response to: Some comments prepared jointly by The Publishers Association, the Association of Learned and Professional Society Publishers and the International Association of

STM Publishers on the report “*Economic Implications of Alternative Scholarly Publishing Models: Exploring the costs and benefits*” by Houghton et al. & Oppenheim et al., commissioned by JISC (published January 2009).

[ <http://www.jisc.ac.uk/media/documents/publications/responseoneiaspmreport.pdf> ]

[3] Stevan Harnad, “The Added Value of Providing Free Access to Paid-Up Content” in Open Access Archivangelism, September 2009. [[http://openaccess.eprints.org/index.php?serendipity\[action\]=search&serendipity\[searchTerm\]=cope&serendipity\[searchButton\]=%3E](http://openaccess.eprints.org/index.php?serendipity[action]=search&serendipity[searchTerm]=cope&serendipity[searchButton]=%3E)]

[4] *Economic Implications of Alternative Scholarly Publishing Models (EI-ASPM)*, Centre for Strategic Economic Studies, Victoria University. [<http://www.cfses.com/EI-ASPM/>]