

APE – Academic Publishing in Europe: Researchers, Librarians and Publishers*

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1. Welcome and opening addresses

Dr. Karl-Peter Winters (German Association of Publishers and Booksellers, Frankfurt, Germany) opened the Fifth International Conference on Academic Publishing in Europe (APE 2010) “Researchers, Librarians and Publishers”. Dr. Winters highlighted that 2009 was yet another important year in the transition to digital publishing, with the topics of reading devices and content carriers gaining more and more importance.

The Kindle reading device, for example, was launched by Amazon and in December 2009 Amazon US sold more eBooks than printed books for the first time. Another example is Google Books, a content carrier, which continuously accumulates new and already printed content. Book publishers, and German book publishers in particular, are called upon to work hard to prevent content from becoming subordinate to digital carriers and devices, with companies like Amazon and Google achieving a monopoly (or, at least, oligopoly) over the distribution of books.

Dr. Winters indicated that he hoped that the *libreka!* portal of the German publishers could serve as a model for publishers to distribute content independently.

In his **opening remarks**, Prof. Michael Mabe (CEO, International Association of STM Publishers, The Hague and Oxford, UK) welcomed all participants. He highlighted how the ongoing digital transition had moved the issue of copyright to the centre of the debate (e.g., Google Book Settlement) and how it has also contributed to the vigorous debate on the issue of open access to scholarly literature, with the Scholarly Publishing Round Table in the United States as the most recent effort of finding a sustainable solution.

In his **opening keynote**, Prof. Dr. Matthias Kleiner (President, German Research Foundation (DFG), Bonn, Germany) spoke about the theme *In the Interest of Science – The Priority Initiative “Digital Information” of the Alliance Partner Organisations*. The priority initiative shows that German research funders and organisations are assuming an active role in designing and shaping the digital information infrastructure. Six areas are of particularly importance: national licensing deals, open access, national hosting strategy, research data, legal frameworks and virtual research environments. Prof. Kleiner stressed that the digital revolution has changed the basic conditions of scientific research, including fields

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that hitherto had not comprehensively embraced this revolution like the humanities. Moreover, digital technologies have had a high impact, not least because of the time–space compression that has made research a global affair and data storage an imperative. It has also amplified trends like metric research evaluation and enabled innovations such as open peer review.

According to a careful evaluation of the new environment and the co-ordination of further development is required now, hence the Alliance Initiative. For example, a national infrastructure is required for collecting and storing raw data for subsequent (re-)use by researchers and third parties, while the scholarly communities must cooperate to systematically design the standards and rules for storage and (re-)use. The role of the Alliance is to steer such processes in the interest of science. Occasionally, this may imply a critical approach, for example, towards the proliferating practice of reducing a scientist to the measured impact of the journals the work was published in. The Alliance would be interested in developing alternative measures of performance and impact.

In the **second keynote**, Prof. Dr. Andreas Dengel (Scientific Director, German Research Centre for Artificial Intelligence (DFKI), Kaiserslautern, Germany) talked about *The Semantic Desktop – Supplementing a User’s Memory*. He highlighted that human’s knowledge is associative and that principles of organising information (e.g., folder hierarchies) correspond to subjective concepts of the world (semiotic triangle). Therefore knowledge workers spent a lot of time searching information that is already available somewhere in the company. A vivid information butler is needed which supports information demands in a more intelligent way. The butler is based on semantic web technology and is able to link information from different sources like emails, files, calendar entries by categorizing pieces of information automatically. On the basis of a vocabulary network (e.g., following different w-dimensions: who, why, what, where) and on the basis of the users interactions and feedbacks the butler is able to learn mental concepts, which allow the tool to categorize information to different dimensions or aspects. All information that is potentially needed for a certain task which, for example, is expressed in a keyword search query will be presented.

The first session, **Research**, was chaired by Dr. Salvatore Mele (CERN, Geneva, Switzerland), and he highlighted that stakeholders in the realm of scientific information need to consider, firstly, what researchers need and expect; secondly, how they organise their work; and, thirdly, how they would prefer to disseminate their output to reach their community.

Dr. Ingrid Wüning Tschol (Head of Science, Robert Bosch Foundation, Stuttgart, Germany) spoke about *What the Researchers and Those Who Fund Them Expect from the Library/Publisher Today and in the Future*. She emphasized that funders have become a more interested and important player in scholarly publishing. Firstly, funders, in the interest of fair and transparent decisions, consider the publishing record and impact of applicants. Consequently, this makes them interested in better tools for quality control in publishing, for example, the detection of fraud, new forms of Meta peer review and more accurate measures of impact. Secondly, funders recognize that the evolution and expansion of scientific information poses significant challenges to research and publishers. Of course, authors want more readers, and for readers to find their publications more easily, but funders also would like to secure an improved impact of funded research and thus new tools for meta-discovery are required.

According to Dr. Wüning Tschol, funders are overall developing a systematic approach to publishing that comprises the following expectations: a reliable quality filter, the competent selection of topics, open access, the retention of copyright in the scholarly system, long-term preservation of data, and text and data mining capabilities.

Dr. Michael Jubb (Director, Research Information Network (RIN), London, UK) summarised findings of a study conducted by the RIN in his presentation on *Using and Communicating Knowledge:*

A Researcher. Dr. Jubb indicated that research processes differ even in apparently similar areas of work, which would mean that domain-specific and specialist information services would be important and preferred. Yet, he diagnosed a skills gap with regard to discovery of and access to information, with researchers displaying a lack of concern about the limitations of generic search engines as well as a ‘find-like-stick’ behaviour towards resources, often enough based on informal recommendations only.

Researchers are producers of data. Moreover, they spend much of their time searching for, gathering, organising, and analysing data. But sharing produced data is not a primary objective. The assumption seems to be that data have no intrinsic meaning until analysed, interpreted, described, and coupled with a belief that only scholars have the knowledge necessary to take care of their data locally. Moreover, there seems to be low trust of data produced by others. Obviously, scholars’ attitudes and behaviours towards research data are not always what funders and institutions think they should be.

As regards publishing, barriers to full text access are of concern, but scholars are very much more concerned where and when their work appears. The key motivations are to register a knowledge claim, maximise dissemination, and obtain peer recognition. Publications are seen as measures of performance, but again, there are disciplinary differences: while the humanities still prefer monographs, conference proceedings in engineering and computer science are favoured. In all disciplines the importance of journal articles has increased within the last years. By contrast, new technologies such as blogs and wikis as well as post-publication comments are seldomly used. The presence of scholars in the so-called Web 2.0 is rather limited.

Prof. Dr. Robin Batterham (Former Chief Scientist of Australia, President of the Australian Academy of Technological Sciences and Engineering, Group Chief Scientist, Rio Tinto Limited, Melbourne, Australia) presented *An Australian Perspective on Academic Publishing*. In a perspective from ‘down under’, he alerted listeners to the undeniable shift among the centres of research, with an increasing number of centres of excellence being located in China and India. When correlating scientific impact with GDP, then investments in India, China and the US are most profitable, more than twice as profitable than in Europe. That said, in some research areas Europe is still competitive, though on balance the Pacific region is gaining weight.

In this context, the funding for universities in Australia was doubled from 1999 to 2005. Part of the deal was that the funding would be targeted according to research assessment measures and that the commercialization of research results would be pushed. Researchers have thus had to adopt a model of heightened accountability. With hindsight, metric measurement and competitive funding have largely contributed to the intended outcome, while the emphasis on commercialization through patents and copyright (IPR) has been exaggerated and counterproductive.

The **APE Lecture** was delivered by **Prof. Dr. Stefan Gradmann** (President, German Society for Information Science and Information Practice (DGI), Humboldt-University-zu-Berlin, Germany). Speaking about *Building Blocks of the Future Scholarly Web: Beyond and Far Beyond*, Prof. Gradmann stressed that in the digital world the publishing value chain did not change much other than that traditional tasks such as writing, reviewing, printing, storing, classifying, annotating are now being supported by digital tools and techniques. Hence, the central information object is still the traditional text, albeit transformed into a PDF. However, digitization enables a triple paradigm shift. Firstly, the determination of functions based on traditional cultural techniques will decrease. Secondly, the linear/circular functional paradigm will undergo disintegration. Thirdly, the monolithic document notion will erode in hyper-textual paradigms which have fuzzy margins.

The evolution of the notion of a ‘document’ will follow three paradigms, possibly interlocking, but at least not mutually exclusive. “Document is form”: An electronic document is a data set organized

in a stable structure associated with formatting rules that allow it to be read both by its designer and its readers. “Document is sign”: an electronic document is a text whose elements can potentially be analysed by a knowledge system in view of its exploitation by a competent reader. “Document is medium”: An electronic document is a trace of social relations reconstructed by computer systems. This process of document evolution is the topic of a research group in France (RTP-DOC, Roger T. Pédaque) which is concerned with the de-construction of the document notion in digital, distributed settings.

The panel discussion **Google and Friends: The New World of Digital Libraries. Questions and Implications** was chaired by Jens Bammel (Secretary General, International Publishers Association (IPA), Geneva, Switzerland). The panelists were Prof. Dr. Stefan Gradmann (President DGI and Humboldt-University-zu-Berlin, Germany), Christine de Mazières (Syndicat national de l’Édition (SNE), Paris, France), Mark Seeley (Senior Vice President and General Counsel, Elsevier, Burlington, MA, USA), Dr. Christian Sprang (Legal Counsel, German Association of Publishers and Booksellers (Börsenverein), Frankfurt, Germany) and Santiago de la Mora (Director, Print Content Partnerships, EMEA, Google, UK). Google reported that the scanning and indexing of books is on course and that the proposed settlement, though not ideal, was also acceptable as a way forward. However, the publishers’ representatives were unsatisfied. Mr. Seeley pointed out that the litigation was expensive and uncertain for publishers. Dr. Sprang indicated that German publishers would prefer if none of their books were indexed by Google. Ms. de Mazières recounted that a French court had found Google to be in violation of copyright. Prof. Gradmann credited Google for digitizing books on a large scale, but noted that national copyright legislation was out of step with the digital revolution. Overall, publishers thought it is more complicated for them to stay in control of their books’ copyright because the opt-out approach is less practicable, and because it is difficult to determine, which book is under which settlement. Moreover, the American idea of copyright is not the same as the European one, which focuses on the author’s right to decide who is allowed to publish his/her content, while the American approach focuses on economic aspects of the content’s utilization.

A particularly controversial topic of discussion was the possible dominance of Google as content carrier. Fear was expressed that Google would become a monopolist. Further, the nature of the contract between Google and the participating libraries was queried because it seemed unclear to publishers if anyone else would be allowed to digitize a certain book again since Google seems to have reserved commercial usage exclusively for Google. Mr. de la Mora explained that Google was claiming no such exclusivity.

In a proposed ten-year outlook on the relationship between Google and Friends rather different statements were given:

- Any user in the world should be able to find all kind of books. Every book should be kept alive.
- Users have access to all books, and a more balanced relationship between Google and the other stakeholders should be envisaged as all parties need each other.
- Google will be in a dominant position.
- The emergence of a monopoly (or oligopoly) must be prevented, but neither legal nor political approaches are likely to be a good means.

The second conference day commenced with the session **Content Innovation**. The chair Eefke Smit (Director, Standards and Technology, International Association of STM Publishers, Amsterdam, The Netherlands) emphasized that the traditional research paper is increasingly published and presented online in an enhanced manner, enhancing knowledge discovery.

IJsbrand Jan Aalbersberg (Vice President, Innovation and Product Development, Elsevier, Amsterdam, The Netherlands) reported on *Elsevier's Article of the Future*. He started by explaining why and how it is necessary to rethink the presentation of articles on the web. For example, readers have different interests: some are interested in the topic, others are interested in the method. Hence, a task-oriented view on the material should be supported. Elsevier is developing a tabbed view for quick support of different interests. The published article is deconstructed into its different parts such as abstract, figures, research highlights, each of which has its own tab. Add-ons are also integrated, such as real time reference analysis or audio and video contributions. The developer team also tried to implement clickable figures as table of content substitute, but that feature was too difficult to develop. First user surveys were mostly positive – particularly for navigable results, article highlights and figure thumbnails. However, the enhancements do imply more work for the authors. Also, linear reading remains desirable on occasion.

Dan Pollock (Associate Director, Nature.com, London, UK) gave a presentation on *Latest Developments in Nature.com*. He described efforts that improve the platform incrementally and make content more easily discoverable. Efforts centre on deconstructing the journal, article and article section in an effort to create a more user-centric design. Examples are a modular article view or an improved search function.

Nature.com is also being adapted to mobile devices. The adoption rate of mobile internet devices has been outpacing the earlier rate of desktop adoption. Reading behaviour with mobile devices is different, with more skimming, but papers may be saved for later perusal. Nature.com is also seeking to improve the desktop experience by creating a scholarly workbench into which content and people (networks) are integrated.

Richard Kidd (Manager, Editorial Production Systems, Royal Society of Chemistry, Cambridge, UK) reported on *Project Prospect, Semantic Publishing in Chemistry – Linking Through Standards*. He explained that with the help of semantic publishing the Royal Society of Chemistry tried to improve the discoverability, the use, the understanding and the linking of research results. In chemistry, there are a lot of established standards and tools for handling the specific character of chemical information (like structures of molecules), which are used within 30–40% of all publications. But some further challenges still need addressing. For example, it is not possible to automatically derive chemical structures from images and the results of text mining are a lot of work, because all the mined pieces of information need to be cleaned up afterwards (e.g., separating useful from useless pieces). Richard Kidd also reported on ChemSpider, which provides a structure centric community for chemists. For the future there is a lot of work to do concerning different aspects like making the internet searchable by chemical structure and substructure or sharing and discussing research data in the open.

Ed Pentz (Executive Director, CrossRef, Oxford, UK) spoke on *Trust and the Stewardship of Scholarly Content*. CrossRef has developed CrossMark, a logo that contains a policy and service whereby the publisher guarantees that the 'Version of Record' continues to be maintained by the publishers (e.g., is amended, updated, corrected). The user can thereby see which online version is legitimate, thus bringing order to the proliferation of versions on the Web, and enabling the true version to be cited correctly. Naturally, the integrity of a publication only can be guaranteed by the publisher, who must be a member of CrossRef and hence has the duty to mark new versions and editions. The publisher-maintained copy of a publication will have the CrossMark logo embedded as a "label of quality", which will also be visible in search engine results.

Two parallel sessions followed:

(A) **The Future Lab** (Workshop moderated by Ehrhardt F. Heinold, Heinold, Spiller and Partner, Hamburg, Germany) explored possible futures of scientific publishing. Four groups were charged with considering the following issues:

- How will the publishing value chain change?
- Which role will publishers, libraries and scholarly communities play?
- How will published content change?
- Who will pay for what (e.g., content, access)?

The main results of the discussion were that (a) the value chain will be transformed into a value cloud as the traditional sequence is overtaken by interactive and recurrent relationships; (b) scholarly communities will remain in the driving seat, with publishers seeking to embed themselves in the communities and libraries increasingly in need of finding a new role (also because of national licensing, disintermediation, and the increasing intervention of funders); (c) the emergence of new databases (e.g., metadata, citation, usage) will lead to greater variance in publishing platforms and content carriers; and (d) payment will centre on service, for example, to authors, for added value, for insertion into the information economy, with the winners likely being the researchers, tools and service providers, service-oriented publishers and new entrants from the smart-tech crowd.

The session **Looking Ahead** was chaired by Dr. Einar Fredriksson (Director, IOS Press, Amsterdam, The Netherlands).

Mark Ware (Mark Ware Consulting, Bristol, UK) presented some results of a study concerning the topic *Access by Small and Medium-sized Enterprises to Professional and Academic Information*. At the beginning of his speech Mark Ware clarifies the importance of small and medium sized enterprises (SME), which represent about 99% of all UK firms and which are responsible for about 60% of private sector employment. Research is important for these companies as a growth and innovation basis, as 75% of them make use of university resources and about 22% attributed new products ideas to university origins. Amongst different sources for getting access to scientific information journals are the most important ones. About 70% of the companies stated that their access to research literature is easy, and that access has improved within the last years. Those SME that have difficulties in getting access mentioned payment barriers and technical problems concerning online payment as hurdles. There is a wide variety of access channels. Company subscription and licensed databases are the channels used the most. Personal subscriptions and society memberships as well as open access were also mentioned. In contrast, pay per view is not popular (amongst other reasons, prices are too high and payment mechanisms inappropriate), as is library access ("walk-in" access). The problem that internal information services have difficulties in broadening their services online because of restrictions concerning budget or license was also discussed. Finally, the authors of the study brought up the question whether a national licence for SMEs could be viable, or if the "iTunes" model could work.

In his talk *Open Access Monographic Publishing in the Humanities* **Eelco Ferwerda** (Publisher, Amsterdam University Press, The Netherlands) gave insight into the OAPEN (Open Access Publishing in European Networks) project, which aims at fostering Open Access publishing for humanities and social sciences monographs. This makes sense, because Open Access authors do have a worldwide audience, and the visibility and the impact increases. From the researchers' point of view, full text search and unrestricted access and connections across platforms are advantages. There are also aspects like the spreading of knowledge or increasing ROI in research for funding agencies that underpin that approach. Libraries can improve their services, and from the publishers point of view Open Access books are an effective way to disseminate knowledge. While open access has become mainstream for journals (at least

in SMT), this is a very recent phenomenon for monographs. The OAPEN project, which was founded in autumn 2008 by six European countries, therefore aims at finding publishing and especially financial models, to provide a production centre in order to maintain the creation of open content, and to build up an OA library so as to enlarge the accessible and achieve critical mass.

Martin Fröhlich and **Felix Hofmann** (Managing Directors, PaperC, Berlin, Germany) presented *PaperC: A New Model for Publishers Against Illegal File Sharing*. “PaperC” is a working platform, which contains textbooks and scientific papers. Students and university researchers can read all documents for free. Solely if users want to download, print or annotate a text they have to pay 10 cent per page. Martin Fröhlich and Felix Hofmann explained that PaperC could be a model against illegal file sharing. They demonstrated how easy it is to already have free access to electronic textbooks, because a lot of illegal platforms provide digital copies of the books. Links to these platforms are often located at the top of the result pages of search engines. PaperC allows students to use a legal alternative to get free access to digital textbooks which are licensed by the publishers.

In the afternoon, the session **Metrics, Ratings and Rankings** was chaired by Mayur Amin (Senior Vice President, Research and Academic Relations, Elsevier, Oxford, UK), who highlighted ongoing innovation and the refinement of measurements.

Gregg Gordon (President and CEO, Social Science Research Network, Rochester, NY, USA) spoke of *Article Level Metrics – What We Don’t Know We Don’t Know*. SSRN is a service provider to the scholarly community. On the one hand, it enables scholars to deposit their texts, with SSRN often already receiving an initial working paper, followed later by the final version. On the other hand, a long list of publishers and research institutions announce their publications through the SSRN alert services to the community. SSRN has been measuring usage (downloads) and has recently also begun measuring citations (within its database). Furthermore, SSRN is actively exploring new indices, such as the eigenfactor.

Mr. Gordon highlighted SSRN policies in measuring usage and citations. When producing download statistics for, for example, papers, authors and institutions, not only robots and the like are discounted, but also measures taken to protect against gaming. Moreover, SSRN encourages scholars to use its data to study metrics and rankings. Producing valid and useful ratings requires the simultaneous improvement of tools and policy, an ongoing effort to innovate.

Mark Patterson (Director of Publishing, PLoS, Cambridge, UK) talked about *Article Level Metrics at PLoS*. The Public Library of Science is the largest non-profit Open Access publisher. Recently, it has developed and implemented a concept of article-level metrics. This means that for every article embedded in the item, a comprehensive list of measurements and ratings are available, such as usage, citation, user rating, reader comments, bookmarks, blogs and trackbacks. Measurements may be dependent on third-party provision, e.g., citations are tracked with the aid of external databases.

Mr. Patterson highlighted that PLoS was not primarily interested in serving research assessment, but in aiding the filtering and discovery of content. Moreover, authors would also be able to track impact, for example, usage and citations over the months. Thus, due attention was given to the construction of the landing page. Finally, PLoS is open to the use of its data (Open API) by interested scholars, which also results in independent evaluation of the concepts that PLoS deploys.

In his speech *SNIP – A New Metric for a New Era* **Dr. Henk Moed** (Centre for Science and Technology Studies (CWTS), University of Leiden, The Netherlands) gave a short but comprehensive overview of the new indicator. SNIP (source normalized impact per paper) takes contextual citation into account, whereby characteristics of the subject field (e.g., the frequency at which authors cite other papers in their reference lists) are factored in. Direct comparison of sources in different subject fields is now possible.

The new indicator is defined as follows: a journal's raw impact per paper (RIP) divided by the citation potential of its subject field. The former is based on citations given in the citing year to a journal's papers published in the three preceding years. The latter is defined as the average number of cited references per paper in the subject field, and the journal's subject field is defined as the collection of papers citing that journal. As the citation potential of a subject field depends upon the extent to which the used database covers this field, the number of cited references published in journals processed for the used database should be counted (Relative Database Citation Potential (RDPC); $SNIP = RIP / RDPC$). There are some advantages to the SNIP Indicator. For example, it is not necessary to delimitate a journal's subject field based on pre-defined categorization of journals into subject categories, but is entirely based on citation relationships. The new indicator also adjusts differences in referencing practices (citation frequency, rapidity of maturing of citation impact). Although the impact of journals is an aspect of research performance, it should be kept in mind that journal impact factors should not be used as substitutes of citation impact of individual papers or research group publication portfolios.

Jan Velterop (Concept Web Alliance, Cobham, Dorset, UK) gave a speech on *Measuring Is Knowing – Or Is It?* Mr. Velterop voiced his criticism of a runaway system in which metrics are the means to creating the Lazy Man's Credit League Table. He asked whether the focus on metrics lead researchers to playing the impact game not in the interest of science but in defiance of it. Though public pressure for accountability and the rise of competitive funding have certainly favoured the rise of impact metrics, this rise also seems highly compatible with a scientific egosystem in which acknowledgements are the primary currency and most strive to have more acknowledgements (citations) than the next researcher.

Mr. Velterop also voiced reservations about the conceptual foundation of measuring impact, suggesting that it was questionable whether citation countings and rankings were a useful or meaningful measure of anything. No doubt rankings are interesting, but it was hard to see how all the effort devoted in this direction was furthering the progress of science.

The **closing keynote** was given by H. Frederick Dylla (Executive Director and CEO, American Institute of Physics, College Park, MD, USA) on *Bridging the Divide over the Public Access Debate*. Mr. Dylla presented his view on the report of the Scholarly Publishing Round Table in the United States, which he had co-authored as a representative of publishers, but which had not been signed by either Elsevier or PLoS. It was commissioned by the House Committee on Science and Technology and involved a process of trying to achieve consensus under Chatham House Rules, i.e., the participants had to refrain from any public disclosure before the presentation of the final report.

Mr. Dylla presented the recommendations of the report. These are that (a) an open and full consultation among stakeholders is important; (b) specific embargoes should be set according to research field; (c) the Version of Record is preferred; (d) platforms should be interoperable; (e) non-governmental stakeholders should collaborate voluntarily; (f) more innovation should be fostered; (g) preservation should be given due attention; and (h) an Advisory Board should continue at the Office of Science and Technology Policy (OSTP).

The **closing panel** was moderated by Dr. Herman P. Spruijt (President, International Publishers Association (IPA), Geneva, Switzerland). Participants were H. Frederick Dylla (Executive Director and CEO, American Institute of Physics, College Park, MD, USA), Dr. Albrecht Hauff (CEO, Georg Thieme Verlag, Stuttgart, Germany) and Prof. Dr. Claudia Lux (Immediate Past President, IFLA, Berlin, Germany). Ann Okerson (Yale University, New Haven, CT, USA) was unable to attend, but Mr. Dylla gave a speech on her behalf.

The panel was charged with reflecting on the previous keynote in the light of the conference proceedings. Dr. Hauff indicated that he remained sceptical that open access publishing or open peer review

would improve the scientific information landscape. Mr. Dylla, on behalf of Ms. Okerson, called for a move to a broader middle ground on which stakeholders engage in a dialogue to continuously broaden access. Ms. Lux reminded the audience of the dire situation in many libraries, where the money was now almost exclusively being spent on buying online access to journals and books.

Dr. Spruijt summarised what he saw as the main trends, namely that (a) structural change was still not complete and hence the digital transition ongoing; (b) disintermediation between publisher and reader might be followed by some form of re-intermediation; (c) the trend was towards broad and seamless access; and (d) the scholarly author remained king and queen.

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Note:

APE 2011 will be held 18–19 January 2011 in Berlin.