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Open Access

AT THE TIPPING POINT

Strong increase of Open Access

The European Commission says that Open Access (OA) «*is reaching the tipping point*». According to a study commissioned by the organisation, **every second scientific article published in 2011 is already freely accessible online**. Other studies have found lower proportions of OA, yet likewise indicated a clear annual increase. Two developments are contributing to this trend: firstly, scientists increasingly publish in OA-journals («golden road»). For example, PLOS ONE published *31 500 articles last year*, an increase of 34 % over the previous year. Secondly, following publication in traditional journals, researchers increasingly make their articles available to the public in subject-specific or institutional repositories («green road»). The biomedical database *PubMed Central* alone makes more than 3 million articles freely available.

Open Access as a new market

Commercial publishers have discovered Open Access as a market in which **respective market shares have not yet been distributed**. In the meantime, almost all publishing houses publish new OA journals (e.g. *Chemistry Open* from Wiley), buy into existing OA publishing houses (e.g. *Nature Publishing Group acquired Frontiers*), or transform «Closed Access» journals into OA journals (e.g. *Stem Cell Research* from Elsevier). Under the direction of the CERN, the *SCOAP3-consortium* succeeded in transferring the most important journals in high-energy physics into an OA model

from 2014. The journals are still published by the same publishing houses, the costs are borne by previous subscribers, including Lib4RI.

Scientific societies & organisations

Some scientific societies support the trend towards Open Access not only for reasons of commercial interest. The *Electrochemical Society* (ECS) recently announced that they would like to completely convert their four journals into OA. Proceeding in similar fashion as the *Royal Society of Chemistry* previously, the ECS intends to publish individual articles OA as a first step forward. **Contrary to other publishers, these two societies avoid double financing of individual articles:** authors can publish free of charge if the institution is paying subscription fees, as is the case with Lib4RI. Many international organisations, for example *UNESCO* and the *World Bank*, make all of their own publications available in repositories free of charge.

Funding agencies as the driving force

In addition to researchers themselves, the funding agencies are particularly involved in ensuring that Open Access becomes the norm. The umbrella organisations of the research funding agencies (such as *Science Europe* and *Global Research Council*) and scientific academies (e.g. *ALLEA*) all demand open accessibility to the results of scientific research and formulate measures for the transition towards OA in their position papers. ***The EU demands that all scientific publications which result from the new research program Horizon 2020 must be made accessible on the internet free of charge.*** The EU will assume the costs in the case of the «golden road» (even after project completion) and also supports the «green road». The Swiss National Science Foundation (SNSF) «*requires grantees to provide open access to research results obtained with the help of SNSF grants*». **Since October 2013 researchers may cover the costs of publication in pure OA journals via their project budgets.** Other research funding bodies provide additional financial support for Open Access outside the framework of existing project funds. Examples include the *German Research Foundation* (DFG) and the *Austrian Science Fund* (FWF). The *Research Councils UK* (RCUK) issued a directive according to which **all articles supported by the RCUK must be made publicly accessible** from April 2013. In the USA the *Office for Science and Technology Policy* has directed Federal agencies with research budgets of more than USD 100 million to develop plans to make publications resulting from federally funded research freely available to the public within one year of publication.

Research institutes within the ETH domain

Open Access is also becoming increasingly important to the four research institutes within the ETH domain. While a mere 3 % of all articles were published in OA journals in 2007 («golden road»), by 2013 this percentage had risen to 9 %. Since the beginning of the year, moreover, *Empa* has been cooperating with the Japanese National Institute for Materials Science (NIMS) as **co-publisher of the OA journal *Science and Technology of Advanced Materials*.** <http://ln/>

In the PDF version text in italics refers to additional information on the internet. Available at www.lib4ri.ch > News > Lib4RI-Update.

New Resources 2014

DATABASES, E-BOOKS, E-JOURNALS

We have considerably expanded our collections of databases, e-books and e-journals in the last few months. These are our new resources:

New databases & reference works

- *AccessScience* is a dynamic online resource covering major scientific disciplines.
- A one-year trial access to the *ASM Handbooks Online*. The handbook is a comprehensive source of information on ferrous and non-ferrous metals and materials technology.
- *Britannica Image Quest*: more than 2.5 million rights-cleared images in high resolution from well-known collections.
- A one-year trial access to *CAB Abstracts*, a bibliographic database with 7.3 million records covering the applied life sciences. CAB Abstracts comes with *CABI Full Text*, giving access to over 188 000 journal articles, conference papers etc.
- Two CABI compendia: *Crop Protection Compendium* and *Forestry Compendium*.
- 11 new *Elsevier reference works*, e.g. *Comprehensive Water Quality & Purification*, *Climate Vulnerability*, *Encyclopedia of Genetics*, *E. of Biodiversity*, *E. of Biological Chemistry*, *Treatise on Geomorphology*, and the *Handbook of Statistics*.
- *Nucleonica* has been expanded with the «Karlsruhe Nuclide Chart Online (KNCO)».
- *Standards Methods for the Examination of Water and Wastewater*, a peer-reviewed reference work providing analytical techniques for the determination of water quality.

New e-books

- *AccessEngineering* delivers multidisciplinary information and full text of 330 e-books, including the latest editions of *Marks' Standard Handbook for Mechanical Engineers*, *Standard Handbook for Electrical Engineers* and *Roark's Formulas for Stress and Strain*.
- The complete collection of *AIP Conference Proceedings*.
- The complete e-book collection from the *American Society for Microbiology (ASM)*.
- More than *250 Edward Elgar e-books* in «Environmental Economics», «Environmental Law», «Environmental Management», and «Environmental Politics & Policy».
- *20 new e-book series from Elsevier* (e.g. *Advances in Applied Mechanics*, *Adv. in Chemical Engineering*, and *Adv. in Ecological Research*) are now licensed.
- The *Institute of Physics (IOP) started a new e-book programme*. All titles are available to our users.
- All e-books from *Momentum Press in the subject area «Engineering»*.
- Trial access to the *Colloquium Digital Library of Life Sciences* and the *Synthesis Digital Library of Engineering & Computer Science* from Morgan & Claypool.
- All e-books from the *National Research Council of Canada (NRC)*.
- The «*Materials and Engineering Collection*» from *Woodhead Publishing*, with more than 500 e-books, will soon be available. Because Woodhead Publishing was recently acquired by Elsevier, access will also be available via *ScienceDirect*.

- All e-books from *World Scientific* published 2005-2013. This encompasses a total of 2 837 titles in Chemistry, Engineering, Environmental Science, the Life Sciences, Materials Science, Nanotechnology & Nanoscience, Physics, and the Social Sciences.

Additionally, we have expanded and updated our presently available e-book collections from *ACS*, *CRC Press*, *de Gruyter*, *Elsevier*, *IWA Publishing*, *Knovel*, *OECD*, *Royal Society of Chemistry*, *Safari Tech Books* and *Springer* to include the books that will be published in 2014. We have also added e-books published in 2013 to our collection of *CABI* and *Hanser* e-books. More e-books and major reference works from *Wiley* will soon be available.

New e-journals

- Three new journals have been added to our collection of *Annual Reviews* publications.
- Three journals of the American Vacuum Society (AVS) have been newly licensed: *Journal of Vacuum Science & Technology A*, *Journal of Vacuum Science & Technology B* and *Surface Science Spectra*.
- The journals *Medical Physics* (AAPM), *American Journal of Physics* (AAPT) and the *Journal of the Acoustical Society of America* (ASA) are now available at all four research institutes.
- Two EBSCO journal databases are available until the end of 2014: *Engineering Source* gives access to more than 3 000 journals in the fields of engineering, energy, and computer science. *Environment Complete* is a database providing access to hundreds of journals and monographs focusing in the areas of agriculture, ecology and energy.
- All journals of the *Institution of Civil Engineers (ICE)* are available on an annual trial basis.
- Following user recommendations we have added 5 individual journals to our collection: *ChemCatChem*, *ChemSusChem*, *Diseases of aquatic organisms*, *IEEE Transactions on geoscience and remote sensing* and *Spektrum der Wissenschaft*.
- We have purchased all *journal backfiles of the National Research Council of Canada* (NRC).
- Access to the journals of the *American Physical Society (APS)*, however, had to be reduced significantly due to the enormous price increases (*more info on our website*).

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