shift, that will reinforce a historical oligopolistic situation, does not mean that the current situation is satisfactory. Many actions need to be undertaken:

- Denounce the obscene profits of big commercial publishers and protest against their business practices [L5].
- Cancel subscriptions when necessary [L6].
- Develop and promote good roads to OA:
  - green Open Access (articles are placed in a repository and can be freely accessed by all) with its institutional repositories ,
  - fair Open Access with its sponsor-pays journals, like Discrete Analysis, Journal de l'École polytechnique or Epiga [L7].
- Create new economic models for scholarly publishing, free of charge for the author and the reader, for instance: using institutional support (Episciences [L8], SciELO [L9]), sale of premium services (e.g., OpenEdition [L10]), crowd-funding (e.g., OLH [L11]), or library subscriptions.
- Fight against the use and abuse of impact factors and bibliometrics and rethink the evaluation process.

Finally, perhaps the first battle we must fight is the one of words. For-profit publishers have appropriated the noble idea of open access to propose through APC Gold Open Access a model that preserves their commercial interests. We must denounce this openwashing [L12] that makes politicians think that all forms of open access are beneficial for scientists and taxpayers. Promoting open access without specifying the road chosen to reach it makes no sense. The author-pays road (APC Gold Open Access) is definitely the worst of them.

Links:
[L1] https://www.jisc.ac.uk/sites/default/files/apc-and-subscriptions-report.pdf
[L2] http://www.rcuk.ac.uk/documents/documents/openaccessreport-pdf/
[L3] https://scholarlyoa.com/2015/01/02/bealls-list-of-predatory-publishers-2015/
[L4] http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/news/coar_unesco_oa_statement.pdf
[L5] http://thecostofknowledge.com/
[L6] http://www.bib.umontreal.ca/communiques/20160506-DC-annulation-springer-va.htm
[L7] http://discreteanalysisjournal.com/,
http://jep.cedram.org/spip.php?article33&lang=en,
http://epiga.episciences.org/
[L8] https://www.episciences.org/
[L9] http://www.scielo.org/
[L10] https://www.openedition.org/?lang=en
[L11] https://www.openlibhums.org/
[L12] https://twitter.com/audreywatters/status/184387170415558656

Reference:
[1] T. Pisanski: "Open Access – Who Pays?", Newsletter of the European Mathematical Society , June 2013, p. 54, http://www.ems-ph.org/journals/newsletter/pdf/2013-06-88.pdf

Please contact:
Karim Ramdani, Inria, France
karim.ramdani@inria.fr

Open-Access Repositories and the Open Science Challenge

by Leonardo Candela, Paolo Manghi, and Donatella Castelli (ISTI-CNR)

The open-access movement is promoting free-of-restriction access to, and use of, research outcomes. It is a key aspect of the open-science movement, which is pushing for the research community to go 'beyond papers'. This new paradigm calls for a new generation of repositories that are: (i) capable of smartly interfacing with the wealth of research infrastructure and services that scientists rely on, thus being able to intercept and publish research products, (ii) able to provide researchers with social networking tools for discovery, notification, sharing, discussion, and assessment of research products.

The landscape of scientific research has changed dramatically in the last few years. The forces driving the change include both new technology (namely ICT infrastructures and services) and the open-science movement that is supporting and encouraging an open-access-driven dissemination and exploitation of virtually every research product worth sharing; not only papers but datasets, software, notebooks and every computational object produced in the course of research.

However, the evolution is still underway. ICT infrastructures are quite diffuse among research communities and researchers, and the large majority of daily scientific activities relies on them, yet a gap remains between the 'places' where research is conducted and the 'places' where its dissemination and communication happen. This gap, which originates from the long tradition of paper-driven scientific communication that still characterises science, is one of the major barriers to overcome before open science becomes a reality. The traditional means of scientific communication are so ingrained that, when called upon to manage a new type of scientific product, i.e., the 'research data', the scientific community responded by proposing existing approaches such as specific journals, i.e., data journals [2], and/or repositories, i.e., data repositories [3]. Such approaches do not fit well with the entire spectrum of research products envisaged, for which effective interpretation, evaluation, and reuse can only be ensured if publishing includes the properties of 'within' the environment (and context) from which they originate and 'during' the research activity.

Motivated by these observations we envisioned a completely new kind of open access / science repository, SciRepo [1]. This is a sort of 'overlay repository' that is expected to sit on top of the research environment / infrastructure that researchers use to dynamically collect research artefacts (a) as soon as they are produced, (b) without needing to spend effort to repurpose them for publication purposes, and (c) fully equipped with their 'context', i.e., the wealth of information surrounding the artefact and key for its under-

standing. SciRepo's distinguishing features include: (a) hooks interfacing with ICT services to intercept the generation of products and to publish such products, i.e., to make them discoverable and accessible to other researchers; (b) provision of repository-like tools so that scientists can access and share research products generated during their research activities; (c) social networking based practices to modernise (scientific) communication both intra-community and inter-community, e.g., posting rather than deposition, 'like' and 'open discussions' for quality assessment, sharing rather than dissemination.

SciRepo repository-oriented facilities are largely based on the rich information graph characterising every published product. They include search and browse allowing search by product typology, but also permitting navigation from research activities to products and related products. Ingestion facilities are provided, allowing scientists to manually or semi-automatically upload 'external' products into the repository and associate them with a research activity, thus including them in the information graph. Ingestion allows scientists to complete the action of publishing a research activity with all products that are connected to it but generated out of the boundaries of the community. The way scientists or groups of scientists can interact with products (access and reuse them) is ruled by clear rights management functionalities. Rights are typically assigned when products are generated or ingested by scientists, but can vary over time.

SciRepo collaboration-oriented facilities include typical social networking facilities such as the option to subscribe to events that are relevant to research activities and products, and be promptly notified, e.g., the completion of a workflow execution, the generation of datasets that conform to a particular criteria. Users can reply to posts and, most importantly, can express opinions on the quality of products, e.g., 'like' actions or similar. SciRepo thus represents a step towards truly 'open' peer-review. More sophisticated assessment/ peer-review functionalities (single/double blind) can be supported, in order to provide more traditional notions of quality. Interestingly, the posts themselves represent a special type of product of the research activity and are searchable and browsable in the information graph.

References:
[1] M. Assante et al.: "Science 2.0 Repositories: Time for a Change in Scholarly Communication", D-Lib Magazine. 21 (1/2), (2015), doi: 10.1045/january2015-assante
[2] L. Candela et al.: "Data Journals: A Survey", Journal of the Association for Information Science and Technology. 66 (1): 1747–1762, 2015), doi:10.1002/asi.23358
[3] M. Assante et al.: "Are Scientific Data Repositories Coping with Research Data Publishing?", Data Science Journal. 15, 2016, doi:10.5334/dsj-2016-006/

Please contact:
Leonardo Candela, ISTI-CNR, Italy
leonardo.candela@isti.cnr.it

LIPIcs – an Open-Access Series for International Conference Proceedings

by Marc Herbstritt (Schloss Dagstuhl – Leibniz-Zentrum für Informatik) and Wolfgang Thomas (RWTH Aachen University)

The commercialisation of scientific publishing has resulted in a situation where more and more relevant literature is separated from the scientists by high pay walls; this has created an unacceptable impediment to scientific exchange. To illustrate how scientists can regain the essence of 'publishing' – namely to make research results public – we report on LIPIcs (Leibniz International Proceedings in Informatics), an open-access series for the proceedings of international conferences.

Background
With the advent of digital technologies, many tasks involved in scientific publishing have been facilitated enormously. This applies to scientific writing (using systems such as LaTeX) as well as the world-wide dissemination of literature via the internet. Somewhat paradoxically, at the same time the prices for accessing scientific literature have exploded, a development that was and is driven by commercial publishers and which imposes severe obstacles to scientific progress. It is not clear whether and how the world of science will be able to launch a "reconquista" of scientific publishing, taking it out of the hedgefonds and stock markets and making it more science-driven again.

We report here on an initiative, started ten years ago, that has the potential to be a successful chapter of this reconquista.

The Foundation of LIPIcs
Since the 1970s, a standard venue for proceedings of conferences in computer science was the series Lecture Notes in Computer Science (LNCS) published by Springer-Verlag. When the first editorial board of LNCS resigned in 2004, the number of published volumes drastically increased (to about two volumes a day) by inclusion of many workshop proceedings. At the same time, the price of the series increased significantly, resulting in many research institutions cancelling their subscriptions. LNCS was effectively alienating its readers and contributors.

Responding to this development, the steering committee of the renowned Symposium on Theoretical Aspects of Computer Science (STACS), together with the Asian conference Foundations of Software Technology and Theoretical Computer Science (FSTTCS), made the bold decision in 2007 to leave Springer-Verlag after more than 20 years. They elected instead to go open access with solely digital online proceedings. A strong and devoted partner was found in Reinhard Wilhelm, then scientific director of the Germany-based Leibniz Center of Informatics – Schloss Dagstuhl, which is well known in the community for hosting its 'Dagstuhl Seminars'. Together the open-access series Leibniz International Proceedings in Informatics (LIPIcs) [L1] was