Open Access: Far More Than Just Making Research Results Available to Read

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The 8th Conference on Open Access Scholarly Publishing was held in Arlington, Virginia, on 21–22 September 2016. Organized by the Open Access Scholarly Publishers Association (OASPA), this is the first time the conference was held in the United States.

OASPA's mission is "to support and represent the interests of Open Access (OA) journal and book publishers globally in all scientific, technical, and scholarly disciplines." OASPA has seen a dramatic growth in its membership over the past 7 years, when it was officially launched at a Wellcome Trust–sponsored forum. Its members now publish more than 160,000 articles a year.

The conference program was extremely well organized and packed with great back-to-back sessions on OA. Attended by scientific, technical, and medical professionals and OA advocates, the conference offered a range of insightful talks on technology, innovation, open data, reproducibility, discoverability, OA financial models, open peer review, data policies, evaluation, and open scholarship initiatives.

A common message that resonated throughout the two-day conference was the need for a cultural change to sustain the momentum of the OA movement. Heather Joseph (Scholarly Publishing and Academic Resources Coalition) kicked off day 1 with this powerful message and reminded all that public good[1] has been the core value of OA since its inception. In her talk "It's Not Easy Being Open," Joseph shared the challenges OA publishers and stakeholders face today, such as OA growth, which has been substantial but not easy because of the increasing number of stakeholders and complexity of goals and strategies. Should we fear this complexity may cause the OA movement to fail? Joseph pointed out that OA is experiencing a phase of predictable difficulty. It is in the middle of the bureaucratization stage—one of the stages of any social movement. Joseph drove home an important point: Open access does not exist simply for its own sake, but it should be used to achieve specific goals and advance the public good. Publishers should focus not only on collective action but on collective impact.[2] This thought-provoking keynote set the perfect tone for the rest of the event.

The first panel discussion on technology and innovation shed light on web-based, collaborative, and open-data measures. Alberto Pepe (Authorea[3]) gave a talk entitled

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"From Open Access to Open Science: Why the Paper of the Future Will Be Data-Driven" and noted that we are performing 21st-century research but writing papers using 20th-century tools and publishing in a 17th-century format. Authorea, a collaborative online-editing platform, allows open and transparent dissemination of research results with all data sources necessary to reproduce them. Dario Taraborelli (Wikimedia Foundation) presented "Citations Needed for the Sum of All Human Knowledge: Wikidata as the Missing Link between Scholarly Publishing and Linked Open Data."[4] Wikidata is the first free knowledge base that anyone can edit and use to find provenance of source of data. Taraborelli stressed that publishers should 1) release open-citation data and 2) use licenses supporting content mining for citations. Highlighting the challenges of reproducibility and bias toward positive data, Katharina Volz (OccamzRazor[5]) addressed "Atomized Content—The Future of Scientific Information." OccamzRazor's mission is to accelerate scientific discovery by breaking scientific knowledge into the smallest possible units of information and understanding the relationships between them through machine learning and human curation.

MacKenzie Smith (University of California, Davis) gave the second keynote, "Financial Sustainability of Open Access Scholarly Journals at Scale." This was a fascinating talk based on a study[6] investigating whether a large-scale shift to OA publishing funded by article-processing charges (APCs) will be financially sustainable for large, research-intensive institutions in North America. What will be the financial ramifications of a wholesale shift to a model in which authors or institutions pay for publishing an article and not for subscription? The answer is complex. The study showed that library journal budgets alone in the United States would not be sufficient to cover all APCs for research-intensive institutions. However, author grant funds, which are already a major source of funding for publishing fees, could cover the difference. The model distributes APC payments derived from three potential funding sources: 1) library funds redirected from journal subscriptions, 2) research grant funds, and 3) other author-controlled discretionary funds.

Turning from APC to non-APC models, the second panel shared insights into viable financial models for transitioning from subscription to OA. Kamran Naim (Stanford University Graduate School of Education) is researching the Open Access Cooperative Publishing Study.[7] His talk was "Flipping the Script: Building Cooperatives in Scholarly Publishing for Open Access." These cooperatives should be based on the principles of 1) a multi-stakeholder cooperative association of libraries, journals, societies, presses, and funders; 2) using existing allocations; 3) pooling resources; 4) transparency and metrics; and 5) standards. Caroline Edwards (Open Library of Humanities[8]) discussed "Building a Non-APC

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Business Model for Humanities Journal Publishing." Open Library of Humanities is a charitable organization enabled by a library partnership subsidy model dedicated to publishing OA scholarship with no author-facing APCs. Arianna Becerril (Redalyc[9]) addressed the non-APC model in Latin America. "Latin America is not in transition to OA—it was born in OA." This OA success story is based on cooperation, networking, crowdsourcing, open-source software and repositories, and government support.

The final session was show and tell, with 6 talks by representatives from a variety of publishing avenues, ranging from digital libraries, repositories, and journal houses to universities, OA journals, and reference-linking services. The speakers covered engaging topics such as the internationalization of Scientific Electronic Library Online[10] Brazil journals, results from a journal-flipping project, Springer Nature's data policies and how authors can take full advantage of data, PubMed Central's interagency public-access efforts, the importance of OA in cancer research as a prime example of a public good, and how metadata ties everything together in science.

Day 1 also featured lightning talks in which 8 speakers presented posters on topics that fueled conversations with the presenters over breaks. The themes were "The Book Peer-Review Process—Who, What and Why"; "Rewarding Transparent and Reproducible Scholarship"; "Come Together Right Now: An Introduction to the Open Access Network"; "Not All Open Content is Fully Discoverable"; "Lever Press and Fulcrum: Open Monographs on an Open Platform"; "Improving Author Adherence to Reporting Guidelines"; "Finding a Data Sharing Solution with Dataverse"; and "15 Years of Interactive Open-Access Publishing."

Day 2 kicked off with Hilda Bastian's (PubMed Health[11]/PubMed Commons[12]) keynote, "Openness and Consequences: Directions in Pre- and Post-Publication Peer Review." Walking us through the benefits of open peer review, Bastian stated that the future of both pre- and post-publication peer review is open and collaborative. Open peer review will help expose reviewers' conflicts of interest and journal bias as well as build critical skills and reputation. Looking at which factors are deterring open critique, Bastian pointed out lack of confidence, motivation, and time and fear of retribution. Stating a need for a cultural shift, Bastian highlighted the need to stop being concerned about the consequences of critique and to enhance our communications culture to be more collegial.

Next, a panel on evaluation discussed the challenges and solutions related to identifying critical contributions: recognizing the ecosystem behind a paper, author taxonomies, and contribution ontologies. Melissa Gymrek (University of California, San Diego) offered "Middle Author Dilemma: How to Recognize Critical Contributions of Multidisciplinary Teams." Gymrek suggested a few strategies for better recognition: 1) explicitly describe author contributions; 2) use smaller citable units (e.g., supplemental online material); and 3) cite sources that are not publications (e.g., source code or data). In her talk "Credit and Accountability—Tools for a Better Ecosystem," Veronique Kiermer (PLOS Journals) shared some measures to change the evaluation culture, such as showing full citation distributions, adopting ORCID, and using systems such as CRediT.[13] Kiermer raised points about moving to an author-centric view, acknowledging disciplinary differences and a cultural shift. Melissa Haendel (Oregon Health & Science University and FORCE11[14]) spoke on "Credit Where Credit is Due: Acknowledging all Types of Contributions." Referring to the Open Research Information Framework[15] (OpenRIF) and contribution ontology, Haendel discussed integrating the research landscape to acknowledge all contributions. OpenRIF, an open-source organization, aims to help link and classify data about people and their relationships to different scholarly products.

Drawing parallels between OA and open data, Meredith Morovati (Dryad[16]) touched upon the evolving needs, challenges, and possible solutions for adopting open data. In her keynote, "A Newcomer's Perspective on Lessons Learned (or not) Toward Open Access Within Scholarly Communication," Morovati made a strong case for open data and stated, "without open infrastructure for data, the scholarship which an article or an argument is based on is not there—it disappears." For data to be open and accessible, it must be discovered by machines and understood by humans. Addressing the concerns that it is difficult and time consuming to work with data, Morovati observed that making data available is not complicated. Publishers should make their data policies clear and actionable. In fact, such practices enhance reputations and increase submissions, as seen in the case of the British Ecological Society. Most authors already support open data, and journals and publishers need to give their support. Innovating to make data affordable, Dryad (a nonprofit digital repository) has used the idea of APCs and introduced data-processing charges. Morovati insisted it is our responsibility to innovate, work together, and find solutions to support open data.

The final panel shared insights on Open Scholarship Initiatives. John Inglis (Cold Spring Harbor Laboratory Press) presented "bioRxiv: A Preprint Service for the Life Sciences." Inglis highlighted that one of the top benefits of preprints is the acceleration of communication. Articles deposited in bioRxiv[17] can be retrieved and readers can add public comments. bioRxiv also allows authors to submit papers to some journals with just one click. Jenna Makowski (Alexander Street Press) spoke about Anthropology

Commons, a repository of open primary sources critical to the study of anthropology. With a new business model, Alexander Street is funding its archiving initiative through an Open Archive fund based on royalties. Kathleen Fitzpatrick (Modern Language Association) addressed "MLA Commons & CORE: Networking Scholarly Communication." MLA Commons is a web-based, scholarly communication, networking, and publishing platform. Connecting MLA Commons and Humanities Commons Open Repository Exchange (CORE), which is a library-quality repository system, Humanities Commons[18] aims to provide its members a collective, cooperative, and sustainable platform for open communication and publishing.

The final keynote for the event was given by Jerry Sheehan (White House Office of Science and Technology Policy [OSTP]): "Going Open: Access, Data, Science, and Beyond…." Referring to the 2013 White House directive on public access to federally funded research and data, Sheehan noted that the Obama administration has been committed to openness and transparency for government information. OSTP works to advance initiatives related to science, technology, and innovation and turning the policy statements into actions. Given that open science is an enabler of science and not an end in itself, Sheehan explained that public (and open) access is meant to accelerate science and innovation. He stated that 16 US federal agencies have completed their public-access plans: these agencies cover 98% of the federal research and development budget. OSTP has also issued a memorandum entitled "Addressing Societal and Scientific Challenges through Citizen Science and Crowdsourcing."[19] More than 80 federal agencies have engaged more than 250,000 citizens in 700 challenges and led to more than 275 start-ups and thousands of new jobs. Turning the focus to open science discussions in international forums, Sheehan pointed out highlights from the Organization for Economic Cooperation and Development and the G7 and G20 summits supporting efforts to promote open science. Sheehan acknowledged there is still much to do and reached out to the community for their suggestions and questions.

Overall, the two days at OASPA were immensely informative—the organizers did a fantastic job. The conference brought to light various aspects of OA publishing and key issues facing the OA publishing community. Talking with OA advocates about their efforts toward open science was a quite an educational experience. The conference served as a useful platform to discuss current events, while showcasing new ideas and collaborations. My takeaways were not just from the publishing point of view: this conference helped me identify ways in which Enago[20] can disseminate OA knowledge to the academic community worldwide.

Links

1. www.budapestopenaccessinitiative.org/read
2. www.collaborationforimpact.com/collective-impact
3. www.authorea.com
4. www.slideshare.net/dartar/citations-needed-for-the-sum-of-all-human-knowledge-wikidata-as-the-missing-link-between-scholarly-publishing-and-linked-open-data?cardname=player
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