Stakeholders and decision-makers in research and scholarly communication from 46 countries came together at the 15th Berlin Open Access Conference (B15) to reflect on their progress in transforming the current subscription-based system of scholarly journal publishing to a system based on open dissemination of research results for the benefit of science and society.

In recent years, institutions and national consortia globally have successfully negotiated transformative agreements (TAs) with a range of publishers to (1) empower authors to grant free and universal access to their peer-reviewed research while retaining their copyright, and (2) empower institutions to integrate, rationalize and rein in their financial investments in scholarly publishing.

Reflecting on insights shared by panelists from Australia, Colombia, Germany, Japan, Kenya, Lithuania, Nepal, Portugal, South Africa, Sweden, the United States of America and the United Kingdom, the B15 cohort discussed current challenges and highlighted opportunities for further adapting, improving and advancing their transformative negotiation strategies to foster a scholarly publishing system that is open, sustainable and equitable.

The enormous progress made in open access, since the cohort of the last (14th) Berlin Open Access Conference first affirmed transformative agreements as a viable pathway, is the result of the individual and collective efforts of librarians, scholars and scientists, consortium leaders, university rectors/presidents, and research funders who utilized their agency to drive positive change.

This summary highlights key insights from B15 and some further opportunities for individuals and organizations to take action in advancing transformative agreement strategies to accelerate the open access transition in scholarly communication.
Open access to scholarly journals is essential for progress in science and society. Motivating the broad geographic and functional spectrum of participants in B15 was the awareness that scholarly communication and, in particular, scholarly journal publishing is an integral part of the research process which is currently hampered by the subscription paywall paradigm. Scientists use scholarly journals to discuss their hypotheses and experimentation methods, review and validate their findings, and share these broadly so that other scientists can build on their results and science can advance; as a process of organized criticism, scholarly communication requires the unlimited readership and scrutiny afforded only through an open access paradigm. Scholarly communication also plays a vital role in the advancement of society, which is amplified when made openly accessible. Through the insights gleaned from peer-reviewed research articles, learners can expand their knowledge capacity, doctors and health care workers can immediately put the latest discoveries into practice, policy makers can make better-informed decisions, industry can apply new technologies and innovations, and individuals can be empowered with authoritative information.
Open access is advancing thanks to transformative agreements. The ESAC Registry documents more than 275 TAs currently running in over 60 countries with nearly 50 publishers, large and small, that will enable immediate open access publishing for 150,000+ new research articles globally in 2021, alone. The ESAC Market Watch shows the first movers of transformative agreements on a national scale—Netherlands, Sweden, Finland, Ireland, Norway, Hungary, Austria, Qatar, Switzerland, the United Kingdom and Germany—are all well beyond a ratio of at least 50% of their corresponding authored papers published immediately open access, with a number of countries approaching 80%. Additionally, there has been significant growth in adoption of TAs in the US: before the last Berlin Open Access Conference, MIT’s publish-and-read agreement with the Royal Society of Chemistry was the single extant agreement of its kind in the US. Since then, over 140 US institutions have signed TAs with Cambridge University Press and some institutions have significantly broadened their approach to further publishers; early movers are making significant progress, as exemplified by Iowa State University’s 16 agreements and the University of California system’s 10 agreements. As the momentum of transformative agreements spreads globally, low and middle-income countries have affirmed the value of open access to scholarly journals enabled by TAs and are starting to integrate them into regionally appropriate strategies, as well. This diversity is reflected in the myriad transformative agreement models developed by institutions and consortia and, in some cases, proactively offered by publishers; creativity and bold new approaches are hallmarks of this phase in the open access transition of scholarly journal publishing.

**ACTION** Learn more about the steps others have taken to develop their transformative agreement approaches through the US OA2020 Working Group and Community of Practice and the many resources and activities promoted by the global OA2020 and the ESAC Initiatives.

**ACTION** Enter your agreements in the ESAC Registry to share critical negotiation information and benchmarks with the community and increase transparency into the scholarly publishing market in transition.
Negotiations with scholarly journal publishers are a pathway to openness and equity. The plenary contribution of Jagadis Aryal (Nepal Library and Information Consortium) punctuated the fact that free and open reading access to scholarly journals is valued globally, emphatically including in those contexts, such as in low and middle-income countries or in lesser-endowed institutions, where subscription fees to scholarly journals are unaffordable. Acknowledging the pressures of national promotion and tenure mechanisms and the need for more work around editorial bias, Arnold Mwanzu (Kenya Libraries and Information Services Consortium) marked the fact that the ability to publish their research articles openly in the canonical and, primarily, English-language peer-reviewed journals of scholarly publishers headquartered in high-income countries is also valued by scientists globally, including by scientists in countries with preexisting, homegrown publishing infrastructure—but the author fees involved are not universally accessible.

Open access Transformative agreements (TAs) negotiated with scholarly publishers at national and institutional levels secure the maximum visibility for research by enabling scholars to publish their research articles openly without author-facing fees or, depending on previous subscription investments, significantly reducing author fees, while integrating, reorganizing and reining in current institutional investments in subscription fees and author-facing open access publishing fees. At the same time, the shift from subscription-based to transformative open access agreements has immediate effects in fostering a more equitable system for research. Ahmed Bawa described efforts of the university system in South Africa to bridge the divide stemming from its apartheid past, in which research investments—and consequently investments in scholarly communication—privileged a small minority of institutions. Through its nationwide, aggregated negotiation approach, the university system in South Africa is now pursuing transformative agreements to enable open access publishing for researchers at all institutions along with equal and sustainable access to journal content still behind subscription paywalls. Bawa further pointed out the lifting effect that open access publishing for South African research can have for research in the broader regional landscape.
**ACTION** The process of signing key documents including the *San Francisco Declaration on Research Assessment* for improved inclusivity in tenure reviews and the *Expression of Interest in Large Scale Implementation of Open Access to Scholarly Journals* can be an opportunity for conversations with local stakeholders around open access and the principles of equity and inclusion.

**ACTION** Engaging with publishers in negotiations of transformative and open access publishing agreements is an opportunity to directly influence their policies, commitment and accountability to the principles of equity and inclusion in scholarly publishing.

**ACTION** As a community we can explore ways to advance discoverability and impact of local/local language publishing outlets, for example, through indexing, to level the playing field in the scholarly publishing landscape and enhance the open access publishing opportunities of authors globally. Publishing agreements are an opportunity to directly influence their policies, commitment and accountability to the principles of equity and inclusion in scholarly publishing.
Open access publishing must be enabled under equitable economic conditions. The community of library consortia and institutions negotiating transformative agreements is unwavering in its aim of global open and free access to scholarship, and we are equally committed to developing partnerships and principles to ensure that, as scholarly journals transition to open access, authors everywhere are empowered to publish their works openly under equitable economic conditions. The work of EIFL member consortia in low and middle-income countries (LMICs), dedicated OA2020 working groups and funders such as UKRI, highlighted in the plenary contributions of Romy Beard, Colleen Campbell and Rachel Bruce, provide greater transparency around just how much libraries in LMICs are actually paying in subscription fees, the payments authors in LMICs are required to make to publish their articles openly, and the challenges they face in asserting their eligibility for waivers and discounts. We have learned that while current publisher discount and waiver practices do not sufficiently address the issue of equity, they are valued by the research community in LMICs as a temporary measure, particularly if they are optimized and governed under bilateral agreements such as those negotiated by EIFL, while the community explores more permanent solutions applicable to different open access publishing models. The international B15 cohort expressed strong commitment to engaging in local and international partnerships, developing community principles, and promoting both temporary long-term mechanisms as scholarly journal publishing transitions to open access to ensure authors everywhere can publish their research under equitable economic conditions. Some specific actions are already in the planning phase, promoted by OA2020.

**ACTION** Consider what local, cross-border and international partnerships you might engage in to foster community principles and mechanisms to ensure open access publishing under equitable conditions for researchers everywhere.

**ACTION** Consider what consequential action you might take locally to foster equitable open access publishing conditions for authors everywhere through collective funding models or through innovative cross-institutional, cross-consortium or cross border transformative agreement negotiations.
Increasing transparency of funding flows and reorganizing just a tiny share of investments can have immeasurable impact. B15 panelists from the global north and south highlighted the financial risk of perpetuating siloed approaches to financing scholarly publishing—with subscriptions, on the one hand, and open access publishing, on the other. Ellen Tise (Stellenbosch University) described findings of the SANLiC Consortium's data analysis which revealed that current national expenditure on subscriptions in South Africa was almost double the potential payments for open access publishing services under an OA paradigm with current market conditions.

Raising concerns over the additive nature of open access publishing and subscription fees, Nicolás Duque-Buitrago (Universidad de Caldas) described findings from data analytics work of Colombia's CoLaV which uncovered the increasing payments made by authors to publish their articles open access in 'hybrid' subscription journals that come on top of nationwide subscription fees paid, in part, by the federal government. Participants in B15 from countries with strong economies as well as LMICs stressed the importance of taking a comprehensive view of the total spending in scholarly publishing in order to (1) develop fact-based negotiation approaches with objectives of cost reduction and open access publishing and (2) reorient investments around open dissemination of research.

Many in the B15 cohort affirmed that the findings of the National Library of Sweden reported by Anna Lundén held true for their own regional contexts: the costs of scholarly publishing amount to 1-2% of the total cost of producing research. The effort of reorganizing such a nominal proportion of research investments to support open modes of dissemination, including via transformative agreements, is a small price to pay for the immeasurable benefits that science and society stand to gain.

**ACTION** Start quantifying author-spending on open access publishing and conduct data analysis and cost modeling exercises to understand all financial streams of scholarly publishing in your local context. Learn how from the ESAC Data Analytics Working Group.

**ACTION** Share these findings with the financial stakeholders involved, including libraries, faculty governance, research administrators and research funders to discuss potential approaches to consolidate, rein in and reorganize investments around open dissemination of research.
Further open access developments require bold new partnerships. Reaffirming the widely accepted notion that the current global investment in subscriptions is more than enough to enable open access publishing of the bulk of today’s scholarly journals, the B15 cohort also discussed the challenges of cost redistribution as the scope of contracts with scholarly publishers shifts from being, primarily, reading-based to publishing-based in an open access paradigm. The many negotiating teams participating in B15 described partnerships among stakeholders as a key component to addressing these challenges, and Astrid Söderbergh Widding (Stockholm University) cautioned that the community will get stuck in an eternal transition if it simply relies on top-down policy decisions to achieve open access, urging all members of the B15 cohort to “move from a reactive to proactive role and to take the lead”.

The relevant constellation of partnerships can vary depending on local contexts. In some parts of the world, nationwide approaches bringing together library consortia, associations of university rectors or presidents, and national-level research funders or government bodies are proving to be powerful alignments to negotiate open access with scholarly journal publishers as part of even more ambitious open science objectives. In these contexts, library consortia are developing new internal cost distribution models for their publisher agreements that gradually adjust institutional payments in reflection of their publishing activity and allow time for institutional funding at a higher level to be reorganized around the open access publishing needs of authors.

In countries where research is decentralized, such as the United States of America, faculty governance, regional consortia and peer institutions can forge equally powerful partnerships to face scholarly publishers at eye level, walking away if necessary, and develop sustainable cost distribution models that bring the benefits of open access to all partners. Breaking with the subscription paywall paradigm means acting boldly to form new partnerships, particularly nationwide approaches, partnerships among existing consortia, and cross-border collaborations.

**ACTION** Map local stakeholders and draw lines to potential regional, national and international partners to broaden your range of action and increase your negotiation potential.
Scholarly publishers are embracing open access. The global proliferation of transformative agreements negotiated by research institutions, on the one hand, and the adoption of Plan S principles by research funders, on the other, is prompting shifts in the scholarly publishing landscape. Publishers who had not previously found clear paths to open access, such as PNAS, Cell Press, Lancet, Nature & Nature Research, are now engaging in transformative pilots and, as in the case of the American Astronomical Society (AAS), embracing a complete flip in business model to open access publishing. But, as described by three publishing directors, Mandy Hill (Cambridge University Press), Susan King (Rockefeller University Press) and Ruth Wilson (Springer Nature), invited by the B15 organizers to reflect on their strategies to transition to their journals to open access, finding appropriate and sustainable business models can be a challenge—particularly for scholarly societies whose journal subscription revenues help fund the many activities of the society, and for publishers of journals with particularly high rejection rates where transposing current subscription revenues to APCs results in price points significantly above industry averages and beyond the reach of authors outside of transformative agreements. The publishers described the value in experimenting with a variety of models and embracing the direction of travel with iterative approaches, using the opportunity to question their print-based processes and consider the services that are truly needed by researchers today and, consequently, how to make those sustainable. On using the open access transition to integrate principles of greater equity, diversity and inclusion in their publishing models and practices, there was a clear sense of accountability and, additionally, an appetite to work in partnership with funders and institutions.

**ACTION** The scholarly publishing landscape can benefit from open and transparent conversations to improve the level of understanding and establish trust among funders, institutions and publishers of the journals valued by researchers. Initiatives such as the Society Publishers’ Coalition, Transitioning Society Publications to OA, and the ALPSP- and cOAlition S- funded SPA-OPS Project represent just some opportunities for multi-stakeholder discussions.
Mature open access strategies include different synergistic approaches. While we gathered at the B15 conference to focus on advancing transformative agreements as a powerful path to open access, members of our community craft and pursue holistic strategies that employ a broad range of approaches, informed by their specific institutional and regional contexts.

This community values local and regional publishers and publishing venues equally to its agreements with international publishers and is committed to not diminishing their importance as a result of signing transformative agreements. Exemplifying this point, we learned from Ellen Tise how the principles of inclusivity and social justice are central to South Africa’s aggregated approach to publisher negotiations, in which potential savings recovered by shifting from a subscription-based agreement to one based on open access publishing are earmarked for reinvestment in local open access publishing initiatives.

We are also committed to a community conversation that surfaces and recognizes the impact of advancing multiple pathways to open access, including TAs. From colleagues in the Netherlands and Portugal we learned how transformative agreements and deposit of Authors Accepted Manuscript in institutional repositories work in tandem to generate the potential for 100% of their outputs to be open access.

**ACTION** Gain a better understanding of the relationship and role between local/local language publishing, and the canonical/English language journals and the motivations of authors when submitting their manuscripts to each of them.

**ACTION** Consider and develop transformative agreement models that enable lump sum subscription fees to be disaggregated in such a way that investments can flow and be repurposed to support a diversity of publishing venues in reflection of the discipline specific needs of authors.

**ACTION** Library and scholarly communication leaders can explore the interplay of multiple open access strategies to identify the combinations that will provide the greatest impact.
Having gained and shared expertise in striking and administering successful transformative open access agreements, the community has arrived at a new vantage point from which to better scope and grapple with the new challenges that have come into focus, including global equity in scholarly publishing, changing formulas of cost distribution as the scope of publisher agreements shifts from reading access to open access publishing services, and sustainable models for transitioning the high-rejection-rate journals and society journals valued by authors.

We, as a global community, intend to continue advancing on our objective of a scholarly publishing system that is open, sustainable and equitable.

ABOUT THE BERLIN OPEN ACCESS CONFERENCES

Since the first conference in 2003 produced the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities, the Berlin Open Access Conference has explored the potentials of our digital environment to transform scholarly communication and “build a future-proof, flexible, open, and high-quality scholarly and scientific publishing system.” Over the years, the series has highlighted a variety of initiatives which have gone on to occupy elemental roles in the broader open access landscape, but the persistence of subscription paywalls prompted the creation of a global alliance, the Open Access 2020 Initiative (OA2020), dedicated to accelerating the transition of today’s scholarly journals to open access. The focus of the Berlin Open Access Conference series, now organized by OA2020, thus centers on viable strategies to replace the existing subscription business model underlying the bulk of today’s scholarly journals with transparent and sustainable open access models. Most recently, the international cohort of the 14th Berlin Open Access Conference (2018) affirmed the importance and viability of transformative agreements in accelerating the open access transition.