



Global Outlook for Open Access

**Presentation to
STM Online Conference**

**by
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KENNEALLY: Clearly, very clearly, nothing in our lives today is untouched by the coronavirus pandemic. The endeavor of scientific publishing is arguably affected even more than most. The walls surrounding research and scholarship have largely fallen. Today, the general public avidly follows developments in research related to COVID-19, and the range of concerns goes well beyond virology and epidemiology.

Mike Taylor, head of metrics development for Digital Science, told me in May for a CCC podcast that this is one virus, but it is a phenomenon in 12, 13, 14 different fields. We might think of this as purely a medical issue, but there are all sorts of things going on here. We are seeing people, he said, talking about urban planning, tourism and travel, communication and public health policy. Understanding that and understanding how we listen to research makes this very interesting. Indeed, it does.

Today's presenters will consider the state and future prospects of open access publishing in ways especially fitting for 2020. My guests come prepared to share fresh viewpoints and experiences that are far from the usual publishing conference fare, and I think that's very exciting.

Like so much else, open access publishing in October 2020 must address difficult questions about equity and justice. You will hear frank views on the barriers that researchers confront when pursuing publication of their work, and you will be urged as well to challenge your deeply held convictions about what it means to be involved in scientific publishing.

My first guest today joins the program from Nairobi, Kenya. Welcome, Joy Owango.



OWANGO: Thank you so much, Christopher.

KENNEALLY: Very nice to see you. Let me tell the audience a bit about you, Joy. Joy is co-founding, non-executive director for the Training Centre in Communication, the first African-based training center to teach effective communication skills to scientists and to help researchers disseminate their work. TCC Africa is celebrating its 14th year anniversary. Joy Owango also sits on the board of AfricArXiv, the free preprint service for African scientists.

Joy, you have important insights to share with our STM audience on how African researchers are leveraging open access and open science to take greater ownership of their work.

OWANGO: Thank you so much, Christopher. Ladies and gentlemen, welcome, or *karibu*, from Nairobi. That's in Swahili. What I'm going to take you through is how working with the global south can help in contributing to the whole plethora of what's around open science.

To begin with, as a center, what we have done is that we've partnered with the University of Nairobi, and what we do is that we support researchers in Africa – researchers, research institutes, and governments on how they can improve their research output and increase their research visibility. Open science plays a big role in this.

And when I look at the whole aspect of open science from an African perspective, sometimes I feel like we still get the short end of the stick, because we are still yet to understand the difference between open science and open access. Because of that, due to the lack of awareness of it, we end making sometimes some difficult decisions or wrong decisions, and then we end up suffering. But I want to take you through how we in the global south can have a role to play in open science in enabling global south/north knowledge exchange, particularly bearing in mind with the kind of collaborations that are taking place right now, there's a lot of global north/south or south/north collaborations, but what are we contributing in this whole role? What is our role in regard to open science?

As I mentioned earlier, we support researchers, research institutes, and governments in sub-Saharan Africa on how to improve their research output, and we guide them on how to increase their research visibility through this support system. Open science is one aspect of it. Because by the time we are telling researchers that they need to produce good-quality research, and they do not have access to resources to produce that research, it comes down to where can we get these resources? That is now where open science comes in or open access.



Because of that, I'd like to bring a great differentiation between open science and open access. I'm looking at open science from the philosophical perspective, which is the umbrella body of it, and then open access, where you come in as publishers. This is where, unfortunately, due to lack of awareness, most researchers, most research institutes, or even governments are not aware of what entails open access. But then if you're looking at the technology tools and the models and the incentives, it also means even from an open access perspective, the narratives need to change from the librarians' perspective to the researchers' perspective.

I know as publishers that your point of contact is either the chief librarians within institutions or directors of research within governments. But then looking at the perspective of the narrative coming from a researcher's perspective, access to the right kind of information and open access information supports the researcher on what strategies she or he can use on academic publishing – that is number one – on the kind of resources they can use for research discovery, and that is now where you start seeing the growth of open access research discovery solutions superseding full text. The narrative of full text is slowly being taken under the bed as compared to having an open access research discovery solution which can help you get all the full text that you might actually require from publishers. So yes, we are trying to change that narrative as well.

What does this mean? The advent of open access, how it ends up supporting us as African researchers, is that it helps democratize higher education. Again, you're talking about quality of education. When you're looking about the quality of education, it comes down to basics. What contributes to quality of education? Quality of education comes down to access to resources.

For the longest time, the researchers that have always had complete access to resources are those in the research interest areas of their respective countries they come from, or even the continents. If you're looking at health sciences, agriculture, they'll get that. But then if you're looking at it from a multidisciplinary perspective, where even the donors are demanding that you need to work from a multidisciplinary perspective, you'll find that social scientists or arts and humanities researchers do not have the same number of resources as health scientists. And as such, some of them, the bulk of their work may be sitting behind paywalls. It becomes a dichotomy of issues on access to just something as simple as resources to conduct research. So the advent of open science is democratizing higher education, and it's rather democratizing education, because it gives everybody a level playing field.



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Out of that, let's look at what is happening in Africa. In the last two years, since when Plan S came out, was launched in 2018 – September 2018 – as of yesterday, this is data from Dimensions – the open access citation database known as Dimensions. African researchers had published over 339,000 publications. Out of those, 162,993 are open access. 48% of our papers are open access. As I said, it's a yes and no for us, because sometimes we feel like we're taking the short end of the stick, because we don't quite understand the process of open access. But we know the power of open access, because it helps in increasing the research visibility of our output.

If you look at it from year on year, it is increasing. So it's not like we are dead in the water. Year on year, since 2018 until now, you can see that the output is increasing. We are moving toward the open access. But the need to understand the concepts behind it so that we can be a bit more strategic is really important.

What does this mean? If we are to actively contribute to global knowledge – that is, south/north collaborations – we have a fighting chance with the creation of AfricArXiv. AfricArXiv, it is Africa's leading and only preprint repository service. What does it do? Its objective is to increase the research visibility of African research and also have a platform where you can put literally every single research output produced by African researchers or anyone who's come in to work with African – any collaborator from the global north who's come to do research in Africa.

What does this also mean for us? It means that we can own our data. Instead of us being glorified data collectors, where we do the data in collaboration with our partners in the global north, it is synthesized in Europe or the US, and then we have to buy that data, there's a platform where you can actually store that data, get a DOI, and at the end of the day, you can acknowledge where that data originally came from. Because out of the 10 African principles of open access that AfricArXiv has set up on scholarly communication, the first and most important one is on academic research and knowledge from and about Africa, and it should be freely available to all who wish to use it or to reuse it, and at the same time, protecting our data so that it is not misappropriated or misused. That is extremely important.

As I said, the power of open access comes with its strengths and its weaknesses. We are trying to take advantage of its strengths so that we can increase our research visibility, and we have a platform where we can also put all our research output that can be used properly.



What does this mean for you as publishers? Number one, you need to understand the current trends in research and higher education in Africa. From a policy perspective, as I said, we are more and more aware of what is happening in terms of open science and open access, but we need more education on it and a better understanding so that we can differentiate between what open science is and what open access is.

For the case of policy, Ethiopia is the first country in Africa to adopt a national open access policy for higher educational institutions. Some of you might look at this as, yes, you're all publishers, so you're businessmen. A-ha. So we have an opportunity for a transformative deal. But here is a fun fact. If you're even looking at those transformative deals, like the most recent one with Projekt DEAL, which led to about €2,900 per APC, it will be almost impossible to sign a similar deal in Africa. Yes, we need to be more aware of what entails open access. We understand it is a business. But then we also have to be realistic on when you're coming into the continent and the geopolitical economic dynamics on how you can work with us in the continent.

So as much as Ethiopia has a national open access policy, ask yourself, do you think a transformative deal would actually work on this side of the world? What other ways can we work together in making sure that our African researchers have access to publications, are able to share their data and still own their data and still respect the whole philosophy of open science? Things are changing. You're not coming into a space where systems are not changing. That is from the open access perspective. Ethiopia is the first country to have this policy.

Now, the other thing that you need to be aware of is that since 2007, the African Union came up with the STISA report. This report gave the mandate for Africans to spend at least 1% of their GDP in higher education and research. Out of that, we have a minimum of 15 countries that have actually committed to this 1% of this higher education, and they've created science granting councils. Out of these science granting councils, they have an open science policy, meaning the fact that they have an open science policy, they are trying to advocate that all research output needs to be published in open access journals or research needs to be open science.

So you are coming into a continent where dynamics are changing, and they are demanding visibility of their research. They are demanding visibility of ownership of their research, because now they are slowly joining – they are becoming part of the playing field in the knowledge that comes with open science and also in academic publishing.



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What does this mean for you? What it means for you is that you will be negotiating with governments on open access. You will be negotiating with governments who are aware that some of the deals that you're working on are not friendly to the continent. So you need to be cognizant of the geopolitics of the country. And when I say of the continent and when I talk about geopolitics, please don't look at South Africa. South Africa (laughter) is not representative of the entire continent. You are looking at 54 countries, and out of those 54, we have at least 15 that have committed to spending 1% of their GDP. One of them has an open access policy. They're increasingly asking themselves, what can be done to improve our research output?

That is why platforms like AfricArXiv are coming in very handy, because they are creating the awareness and creating a system where these researchers can, number one, own their data, and also through the preprint server, work with publishers so that their manuscripts can be seen, as they're already identifying the journals that they intend to publish in.

What needs to be done? Let's look at it from a challenge and opportunity perspective. The challenge is right now, with the advent of open access, there is still a conflict on understanding what open science is and what open access is. So the need for awareness is important to differentiate the business aspect of it and the philosophical aspect of it. Because once we are able to break that down – and that is what we are doing as a center as well – as a center and a project partner for AfricArXiv. It means that by the time publishers are coming to work in the continent, African governments, research institutes, are well aware of the dynamics. We have a fighting chance even in negotiating for the APCs.

I am not romanticizing open access, because APCs have to be paid in order for the journals to be available – the papers to be openly available. The fact that we have science granting councils, it's also guiding the science granting councils that give funding for research in their respective countries on how they need to negotiate for APCs for any major publisher who intends to work in the continent such that it is favorable to the African researchers. That is in terms of the challenges.

Now, in terms of the opportunities, with AfricArXiv, we are no longer going to be glorified data collectors. We are owning our data. There's a platform where you're able to put in our data – and when I talk about data, you're looking at even audiovisuals, and then even if it is synthesized in the global north, the original data can be cited. So you can get the original data.

And we are looking at global south/north partnership. In this day and age of collaboration and also with the current pandemic, the one thing that has come out



clearly is that collaboration is extremely important. So the need to respect the research output from the respective countries or regions that you're working in is paramount. You want data from us? You want collaborators from this side of the world? Respect the data that comes from this side of the world as well. Because at the end of the day, you will still need us if you want to have access to the journals or to be part of the deals that you'll be bringing into the region – the publishing deals you'll be bringing into the region.

As publishers, take advantage of AfricArXiv. Let's be honest. It's in your best interest. It's in your best interest. For the publishers who are already working with preprint servers, you do not calculate the citations or the downloads when the manuscript is accepted. You start from when it was at the preprint server. So it is in your best interest to show how accessible and how interactive that manuscript or later paper was or is. Take advantage of it, because literally all African research output passes through AfricArXiv, and that is a great platform for publishers to look at partnering with.

We have a fighting chance as African researchers. We have a fighting chance, because we are owning our data through AfricArXiv, because we have a platform to put in all that data. We have a fighting chance, because we're able to increase our research visibility. This is still under the umbrella body of open science, because AfricArXiv is pushing for open science. So we're increasing our research visibility as well.

And then in terms of opportunities, the trends right now – and this is something I'm sure you're very aware of – the trends towards open access from the business perspective are more in line with research discovery than full text. Let me give context to it so that you don't get nervous about what I'm trying to say. From a research discovery perspective, when a researcher is doing their work, they're not going to immediately start asking for full text. They'll do their topic search and then from that topic search choose whether they want to access that paper or not. If they want to access that paper or not, if it is full text, there are AI solutions that are crawling all over the internet to pull out that full text.

If I'm to be critical, some of the trends I think publishers need to look at is how can we work with research discovery solutions or partners so that we can make sure that our journals are indexed there for easier accessibility? That is what is happening on this side of the world. And I am so excited to share with you some of these opportunities, because as I said earlier on, we are cognizant of the power of open science, and we are also conscious of the challenges that come with open access. But the fact that we have AfricArXiv in the region, we have a fighting chance. The fact that centers like what we are doing, like the Training Centre in



Communication, even the Africa Academy of Sciences exists to create the awareness on open science and open access, it means that African researchers and governments have a fighting chance, especially when it comes to ownership of data, increasing research output, and also increasing research visibility of their work.

Thank you so much for listening to me.

KENNEALLY: Thank you, Joy Owango. Joy Owango is the co-founding non-executive director for TCC Africa and sits on the board of AfricArXiv. Joy, we will come back for questions later from the audience. But I want to follow up and really emphasize the point that you have just made, which is about the need for partnerships. You're calling for a partnership not only with AfricArXiv, but for publishers to really see that they need to work with these governments that have dedicated resources to education, to science, to research.

OWANGO: Oh, absolutely. I know it's a buzzword, and you've heard it so much – the future is African. We made this commitment in 2007. Nobody thought that it would happen. Now, we have 15 countries and counting that have literally committed to spending 1% of their GDP on higher education. We are getting to the leveling plane, and we have a fighting chance to demand good data. That is number one, because we are giving data. We also have a chance to demand visibility of our research output and ownership of our research output as well. These are good times ahead for us in the continent.

KENNEALLY: Well, thank you again, Joy Owango, in Nairobi.

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