

VIRTUAL EVENT
Held on 24 February 2022

SUMMARY REPORT

WEBINAR ON OPEN SCIENCE

Topic

The COVID-19 pandemic has served as a catalyst to accelerate the implementation of Open Science. However, significant challenges need to be addressed in order to boost Open Science and make it an accelerator for tackling global challenges (such as pandemics, climate change, biodiversity loss, etc.), and achieving the UN Sustainable Development Goals in OACPS member countries. The webinar has put attention on the benefits, good practices and challenges of Open Science.

Speakers



Ana Persic

Senior Programme Specialist at UNESCO and coordinator of the UNESCO Recommendation on Open Science



Joseph Mwelwa

Founder of Joint Minds Consult, former technical advisory board member of the African Open Science Platform



Gareth O'Neill

Principal consultant on Open Science at Technopolis Group and expert on the European Open Science Cloud

Participants



Around 90 participants from ACP and European countries

Organised by the OACPS Research and Innovation Programme



Implemented by the OACPS Secretariat



Financed by the European Union

OPEN SCIENCE IN BRIEF

Open Science aims to open up research through new digital tools and technologies and covers different realities and practices, depending on the regions, countries and actors.

"The COVID-19 pandemic has reminded us the importance of pushing for international solidarity, specifically in the scientific arena, to be able to confront together the societal problems that we are all sharing. The potential of Open Science is tremendous, and I do think that this dialogue needs to carry on."

Dr. Norbert Richard Ibrahim
Assistant Secretary-General
of the OACPS Secretariat

Open Science Practices



[Taxonomy on Open Science](#)

BENEFITS AND CHALLENGES OF OPEN SCIENCE

Benefits

- opens access to research
- increases discoverability
- facilitates reproducibility
- increases (social) impact
- accelerates innovation
- uses efficiently resources

Challenges

- privacy and confidentiality
- intellectual property rights
- appropriate use of data
- sensitivity (ex. biomedical data)

Open Science resources and tools should be as much as possible accessible and free-at-the-point-of-use for researchers and citizens, always balancing the principle "as open as possible, as closed as necessary". For sensitive data, a solution could be to use algorithms that do not extract personal data, but just results.

MAIN BARRIERS TO OPEN SCIENCE

- Too slow cultural shift in the way research is conducted and recognised (current evaluation system based on metrics, such as numbers of citations, publications by "high-impact" journals- often closed)
- Lack of funds and incentives
- Inadequate infrastructural capacity (poor access to the Internet, lack of research databases, trusted data repositories,

journals dedicated to Open Science and standardisation of services and platforms, etc.)

- Insufficient capacity of institutions to institutionalise Open Science
- Lack of political commitment to promote Open Science
- Lack of political governance on Open Science
- Lack of awareness of Open Science benefits

UNESCO RECOMMENDATION ON OPEN SCIENCE

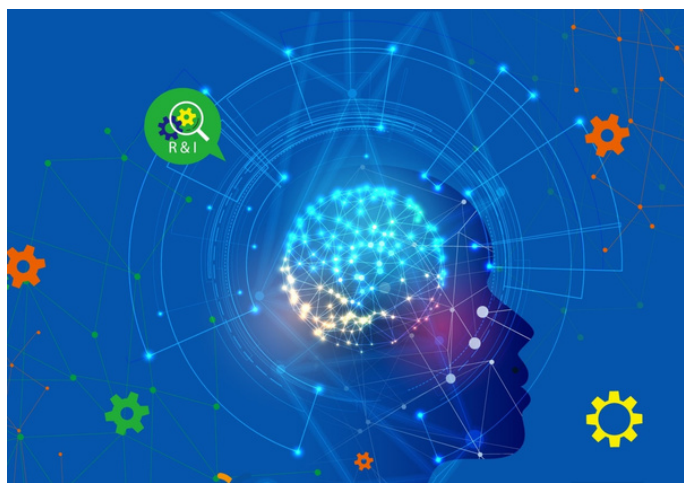
- Adopted in November 2021 by 193 member states, following a very inclusive and consultative process, ensuring that all countries in all regions have a voice on Open Science, and recognising disciplinary and regional differences in Open Science perspectives.
- A standard-setting instrument of Open Science, pushing countries to implement it.
- A common definition for Open Science.
- An overview of who the different actors are.
- A roadmap as to what needs to be put in place for Open Science to thrive, and really be used as a tool to bridge the gaps in science, technology, innovation (STI) between and within countries, bring science closer to society and accelerate the achievement of the UN SDGs.

UNESCO Recommendation: in [English](#) and [French](#) versions and more info on the [UNESCO website](#)



UNESCO is currently mapping the different levels at which Open Science is practiced around the world: there are national open-access policies and strategies in Europe (e.g., Denmark, Germany, Luxembourg, Malta, and Switzerland), Asia (e.g., India and Japan), in Africa (e.g., Ghana and Ethiopia), and South America (e.g., Mexico, Argentina). More and more countries are developing their national Open Science roadmaps (e.g., Cote d'Ivoire, Ghana, Nigeria, Ethiopia, Tanzania, Lesotho, Uganda, Mozambique).

OPEN SCIENCE AND INCLUSIVITY



- Diversity and inclusiveness are core values for Open Science.
- Multilingualism is coming up more and more as one of the key issues for ensuring inclusiveness and diversity. People must access scientific knowledge in their own languages. And today, with artificial intelligence tools, we can promote language-specific knowledge.
- Inclusion of indigenous knowledge requires building a dialogue with indigenous knowledge

holders and taking into account their ideas on collaboration on Open Science.

- Open Science should accommodate Indigenous Knowledge Systems expressed in multilingual formats to expand access to millions of Africans, likely to exploit the potential scientific knowledge for innovation.
- Governments should support access to indigenous knowledge in research and innovation activities.
- Women's participation in Open Science should be increased through sponsorships, training in data science courses, advocacy, etc.
- Early-career researchers: need for institutional support to help them make their data FAIR and open. Universities and funders should make news and publications available through Open Access Journals, and pay for them (ex. Austrian funder FWF).
- Intermediate-level and senior researchers: need to increase awareness of what Open Science is, why they should do it, how they can do it.

SOME NOTEWORTHY INITIATIVES



African Open Science Platform

AOSP is a pan-African initiative launched in 2016 to position African scientists at the cutting edge of data-intensive science, and be the heartbeat of Open Science on capacity building, resource mobilisation, etc. AOSP aims to:

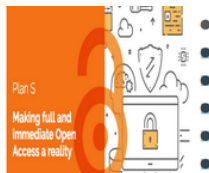
- Create economies of scale, by pooling, coordinating, and linking human, digital and physical resources (ex. hyper-computing infrastructure needed for big data and machine learning - only available in 10 African countries- will be accessed by many more countries)
- Stimulate collaborations and partnerships among Africans to tackle common challenges and accelerate innovation and development
- Increase the contribution of Africa to global scientific knowledge (currently less than 1%) and give more visibility for its research outputs, through powerful connexions (ex. EOSC).
- Make Internet scientific content more accessible to Africans by adapting it to the linguistic specificities of the continent.

Some other Open Science initiatives in Africa:

- The [Human Heredity and Health in Africa \(H3H Africa\) project](#)
- The [South African National Biodiversity Institute](#), a major node of the [Global Biodiversity Information Facility](#)
- The [Square Kilometre Array \(SKA\)](#) in South Africa (astronomy)
- The [Indigenous Knowledge and Climate Change Adaptation Research Project](#) among the Griqua and Nama peoples in South Africa, with participatory action research (“PAR”) design and methods.

More information on Open Science initiatives in Africa in the research paper, published in the [Data Science Journal \(2020\)](#) '[Developing Open Science in Africa: Barriers, Solutions and Opportunities](#)'
Mwelwa, J, Boulton, G, Wafula, JM and Loucoubar

EUROPEAN UNION AND OPEN SCIENCE



Plan S:

An initiative for Open Access publishing, launched in 2018 and supported by [COALition S](#), an international consortium of research funding agencies.

- One target: make full and immediate Open Access to research publications a reality, by requiring that all scientific publications resulting from research funded by public grants (with effect from 2021) be published in compliant Open Access journals or platforms.
- [10 principles to implement](#)



EUROPEAN OPEN SCIENCE CLOUD

European Open Science Cloud (EOSC):

A European initiative, officially launched in 2018, to create a virtual space for researchers to share and exploit data (access and reuse all publicly funded research data in Europe, across scientific disciplines and countries).

- Ultimate aim: develop a Web of FAIR (meta)data -
 - Findable
 - Accessible
 - Interoperable
 - Reusable- and services for science in Europe, upon which a wide range of value-added services can be built (ex. computing, processing, analysis, visualisation of datasets).

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It's important to learn from each other and use fora, such as the OACPS R&I [InnovationXChange platform](#). Join us for further discussion on the topic!

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