



International Federation of
Engineering Education Societies

Open Access and Open Science in Times of Crisis

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Proposal of this open conversation

- **Discussing on national and international tensions which still remain and hinder open access to science.**
- **Reflecting on global changes**
- **Barriers and proposals from various fields**
 - This conversation is based on multiple sources.



The pandemic

This pandemic has exposed the weaknesses in our social support structures and in our health, communications and government structures.

Science is no exception to this.

Facing this crisis, we need to act together.



During COVID-19 times

Gain awareness of the "irresponsibility of closed science"

<https://blog.scielo.org/es/2020/03/12/el-brote-de-coronavirus-covid-19-resalta-serias-deficiencias-en-la-comunicacion-cientifica/>

, C. El brote de coronavirus (COVID-19) resalta serias deficiencias en la comunicación científica [First published in LSE Impact Blog in March 2020] [online]. *SciELO en Perspectiva*, 2020 [last accessed on 7 May 2020]. Available from: <https://blog.scielo.org/es/2020/03/12/el-brote-de-coronavirus-covid-19-resalta-serias-deficiencias-en-la-comunicacion-cientifica/>

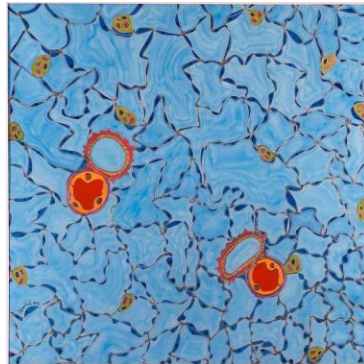


Imagen: [Odra Noel](#).

Uncertainty is the only certainty

COVID-19 has impacted on certainties and knowledge.

No unambiguous answers can be given.

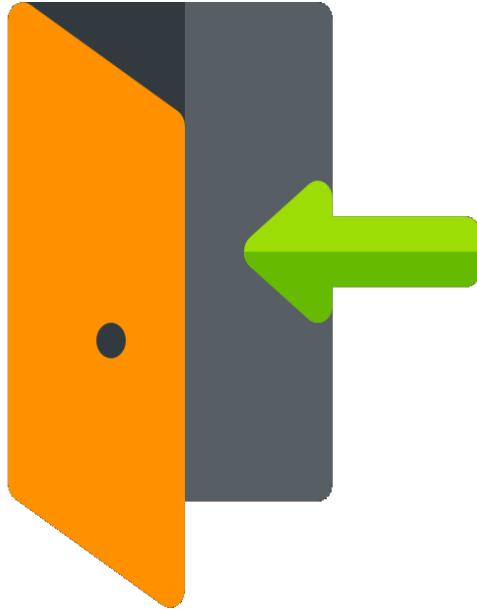
Potential post pandemic scenarios are uncertain.

More awareness of the value of public information is needed.

Open institutionality needs to be discussed.

A possible answer

Open Access, Open Data, Open Science



Situation in Latin America

- Several Latin American countries have managed to develop policies and laws on Open Access: Argentina, Peru and Mexico have all national regulations in place.
- Colombia, Brazil and Chile have been working for years in the management of national digital repository systems.
- They all have national nodes that display repository data records.
- National records are harvested.

The Open Access movement

OA is the free and unrestricted availability of scientific literature on the Internet; it includes permissions to read, download, copy, print, distribute or any other legal use, under the conditions that the author keeps control over the integrity of the work and authorship is recognized.

- Document and Data
- Reuse and Licences (linked to exploitation)



Statements:

https://es.wikipedia.org/wiki/Acceso_abierto#Declaraciones_internacionales_de_Acceso_Abierto

Open Access



"The movement's logo symbolizes the removal of the barriers that constrain scientific information and free and unrestricted information sharing on the Internet."

"It changes the current scientific communication model, which is neither free nor unrestricted and in which most of the content is controlled by publishers."

"It claims public domain for science and culture."

Applications of Open Access

Open Access repositories: thematic/disciplinary, institutional, data.

Harvesters: national, regional, international.



Journals: bronze, gold, purple (hybrid), diamond.



<https://universoabierto.org/2019/03/13/las-5-rutas-para-llegar-al-acceso-abierto-verde-dorada-bronce-hibrida-y-diamante/comment-page-1/>

Open Access Repositories

Web structures that enable storage works of different types: articles, books, book chapters, presentations at conferences and even data, according to a certain policy.

Upon publishing, the version should be selected as per certain criteria.

Self-archiving.

Cataloging, licenses, access, search and content exploration functionalities.

Open Science

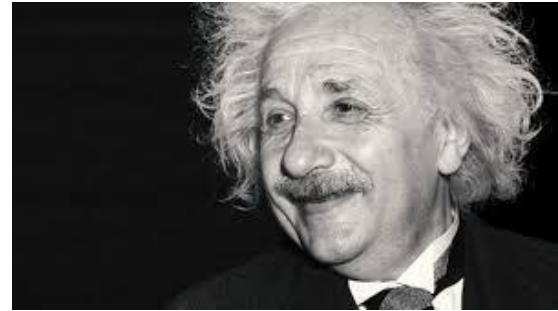
- Wider concept.
- A new way of doing science from the beginning and throughout the whole process:
 - Free and unrestricted
 - Collaborative, dialectical
 - Society-focused
 - Transparency, reproducibility, discussion, dissemination.

Open Science: Is it possible to define it better?

“Having the opportunity to know and understand the results of scientific research work is really important. It is not enough that acquired knowledge is registered, developed and applied only by specialists. Restricting knowledge capital to its own circle equals the death of the philosophical spirit of an entire people and leads to intellectual impoverishment. ”

Albert Einstein (1948)

¡He was a genius, of course!



Open Science

- Entails free disposition of data, results and methods used in a collaborative way; it is a process performed by many actors which intervene by adding value to the research.
- Gives back to society: participation, appropriation and availability of individual contributions.
- It introduces a new agenda of rights.
- Many materials shared without restrictions.
- It involves new protocols, new standards and new practices.

Open Science

It needs to be understood in the context of social movements that emerge amid changes in conditions of production and dissemination of knowledge and culture and disrupt current epistemological and institutional structures.

How do we deal with Open Science as work-in-progress, with multiple and sometimes conflicting interpretations.



Some Negative Aspects of Scientific Publishing Today

Controlled by USA, WE and China

Lingua franca

Slowness of the peer review process; lack of transparency

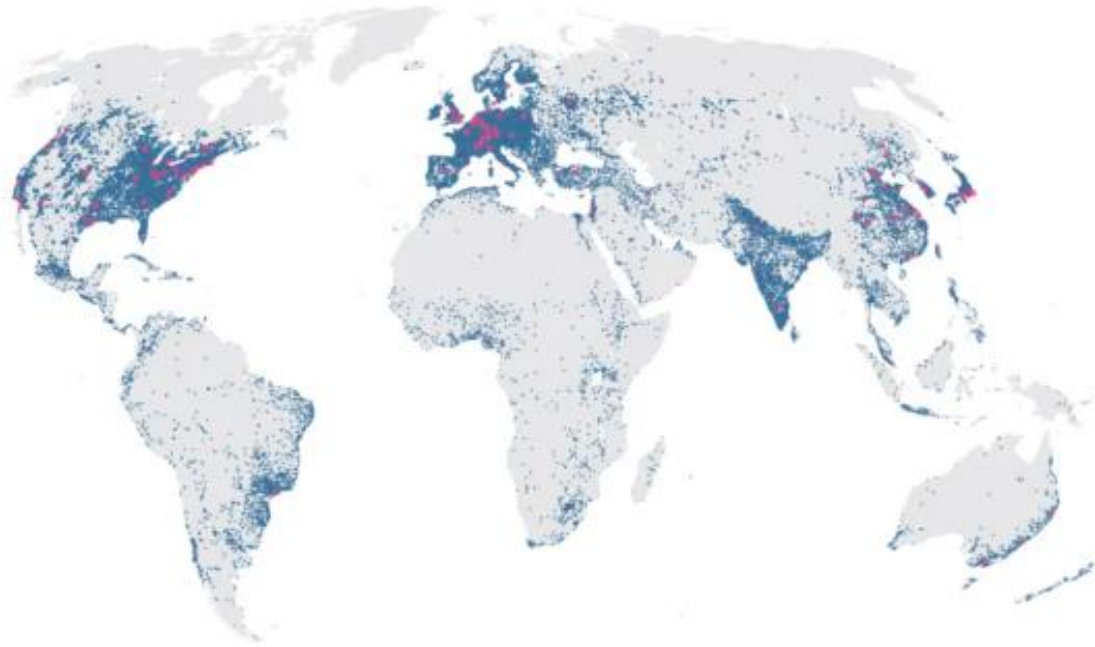
Payment of APCs

Lack of funding and new funding horizons



01/12/2019 BY PERE CONDOM-VILA

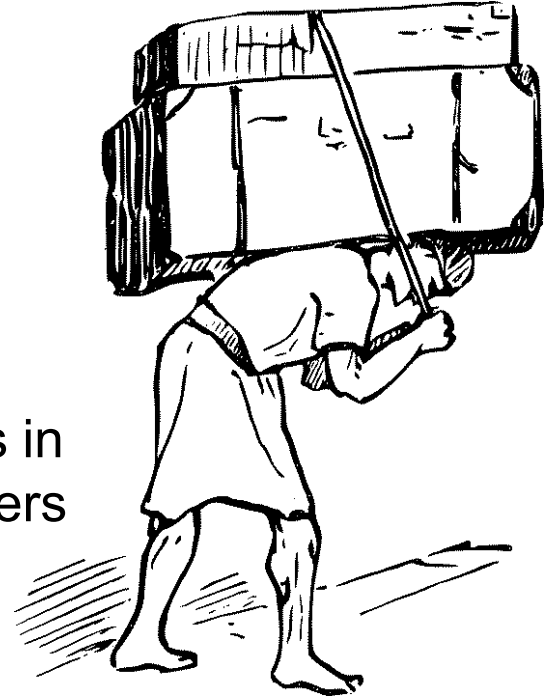
La geografía mundial de la Ciencia y la Innovación



Scientific publications determine the map of Science

Some Negative Aspects of Scientific Publishing Today

- Impositions of external topics.
- Local research is set aside.
- Scientists face difficulties when they need to present their research in another language.
- Rankings rate institutions for their publications in a subset of journals selected by a few publishers that have absorbed many smaller publishers
- The "big deals".



Pressure to publish

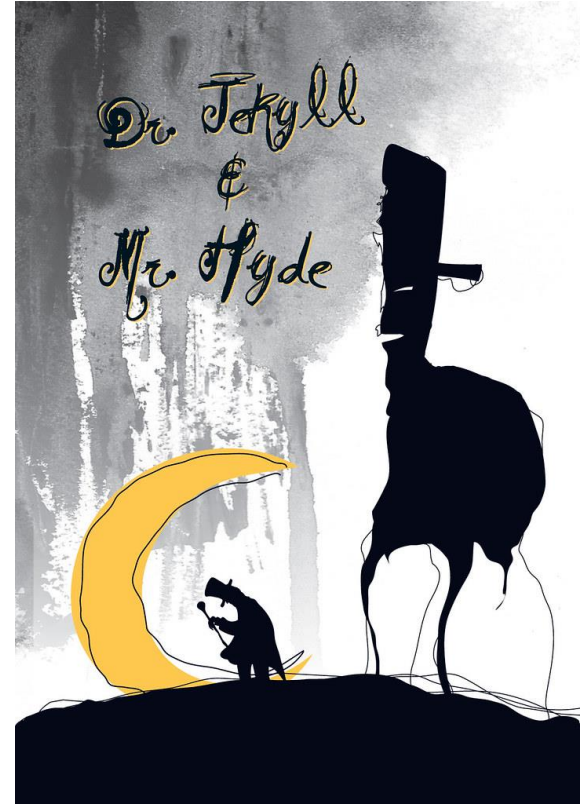
Some Negative Aspects of Scientific Publishing Today

- Classic evaluation and worse than that: simplistic, bibliometric, considering clearly discredited indices.
- Changes: New legislation (in Argentina, Law no. 26899).
- Difficult to implement, hard to understand.

Axis of conflict for a shared discussion

Knowledge socialization versus privatization. Albagli & Maciel (2011).

The behavior of scientists varies based on their role: reader or author. Sale (2006).



Axis of conflict

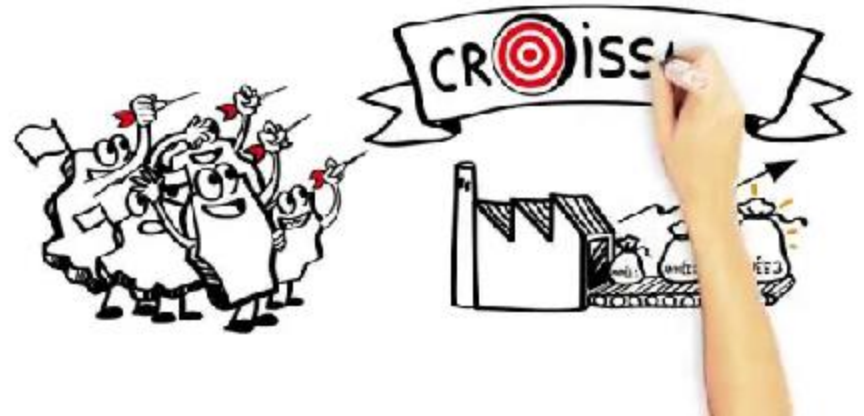
- Personal reputation versus debate.
- Ethical and political dilemmas.
- Challenges for institutions.
- The obsession with IP: prominence of the individual author when all knowledge is based on previous works.
- Benefits for intermediaries, incl. publishers.



Axis of conflict

Scope of the meaning of Open
Science versus the link to other fields
of knowledge production.

Go beyond thinking about science
based on its own intrinsic
productivity.



Ejes del conflicto

"In scientific publishing, the peer reviewer as a quality filter or certification is retreating and curatorship is taking ground: being together to serve and co-produce." Sarita Albagli.

Open science proposes new approaches to reviewing.

**Teknokultura**

ISSNe: 1549-2230

<http://dx.doi.org/10.5209/TEKN.60616>EDICIONES
COMPLUTENSE

Los desafíos que enfrentan las prácticas de ciencia abierta

Mariano Fressoli¹, Valeria Arza²Recibido: 14 de junio de 2018 / Revisado: 22 de agosto de 2018 / Aceptado: 24 de agosto de 2018 [Open peer reviews](#)

Resumen. En los últimos años, la ciencia abierta ha capturado gran interés por parte de científicos, hacedores de políticas y agencias de desarrollo internacional, en gran parte debido a los beneficios prometidos por las nuevas prácticas. Sin embargo, a medida que las ideas de ciencia abierta se transforman en iniciativas concretas, comienzan a enfrentar desafíos que pueden retrasar y/o impedir su implementación. Entre ellos se incluyen: la ausencia de conocimiento y/o capacidades para realizar nuevas prácticas, barreras normativas o institucionales que impiden avanzar en la apertura, y falta de infraestructura que puede desalentar su adopción. Este trabajo sistematiza los desafíos que surgen en las prácticas de ciencia abierta con el fin de informar el desarrollo de futuras políticas de ciencia y tecnología que faciliten su avance en la región.

Phases of Open Science

Networking and collaboration

Data collection

Data analysis

Infrastructure

Documentation and description

Publication and report

Assessment

Communication

Practices and challenges

Example: open science introduces new tools, publications, repositories, online resources but there are few incentives.

Challenges: building new capacities, new institutions and new policies.

Open Science: UNESCO recommendation (in preparation)



La ciencia abierta tiene el potencial de transformar todo el proceso científico

UNESCO
recommendation
"The question is no longer whether open science is a reality, but rather how everyone can contribute to and benefit from this transition."



Open Science can include

- Differentiated instances of internal and external action
- From the individual researcher and research teams.
- Up to the macro level of public policies.
- Going through the middle level of institutions and formats.

Open Science means

- New communication approaches.
- New evaluation models (incl. ethical values).
- Recognition and support for new spaces of collective knowledge and openness production.
- Mobilizing a diversity of social actors and knowledge producers unknown to institutional spheres.
- Building a collective and common infrastructure.

Open Access to Science in the Repository

Repository networks: The focus is on the resource:

- 🎵 Works linked to data and other resources, commented and in the repository, open evaluations, etc.

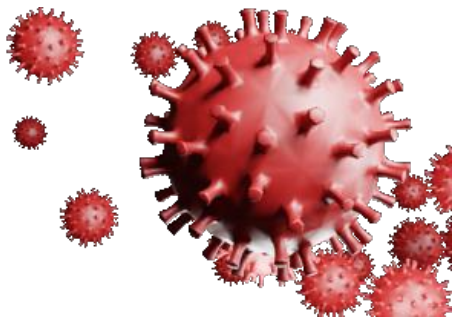
Technical changes in protocols and standards, etc.



[COAR - Next Generation Repositories](#)



Algunos aspectos destacados del nuevo plan de trabajo son desarrollar la arquitectura y los protocolos para apoyar la revisión por pares **distribuida** y **escalable** en el repositorio



[Recomendaciones de COAR
Para los repositorios que alojan
recursos sobre COVID-19](#)



[Fomentar la “bibliodiversidad](#)



[Pubfair](#)

Call for action!

[Call for action!](#)

- 1) Call to action for funders and institutions to support the Dora Declaration and reform their research evaluation systems to include diversity as a key factor.
- 2) Call to action for libraries and library consortium associations to develop alternative funding models that simplify investment in content and services, including open infrastructure.

Call for action!

[Call for action!](#)

3) For infrastructure providers, in order to adopt community governance models.

4) For political decision-makers to include diversity as an underlying principle in their open science and open access policies.

Call for action!

[Call for action!](#)

5) For researchers to use open and community infrastructures

6) For stakeholders to collaborate to develop coordinated strategies that align funding and incentive policies in order to support diversity and academic communication.



**Helsinki Initiative
on Multilingualism**

Hi!

#InAllLanguages

READ

SIGN

SIGNATORIES

EVENTS

INFO

Español

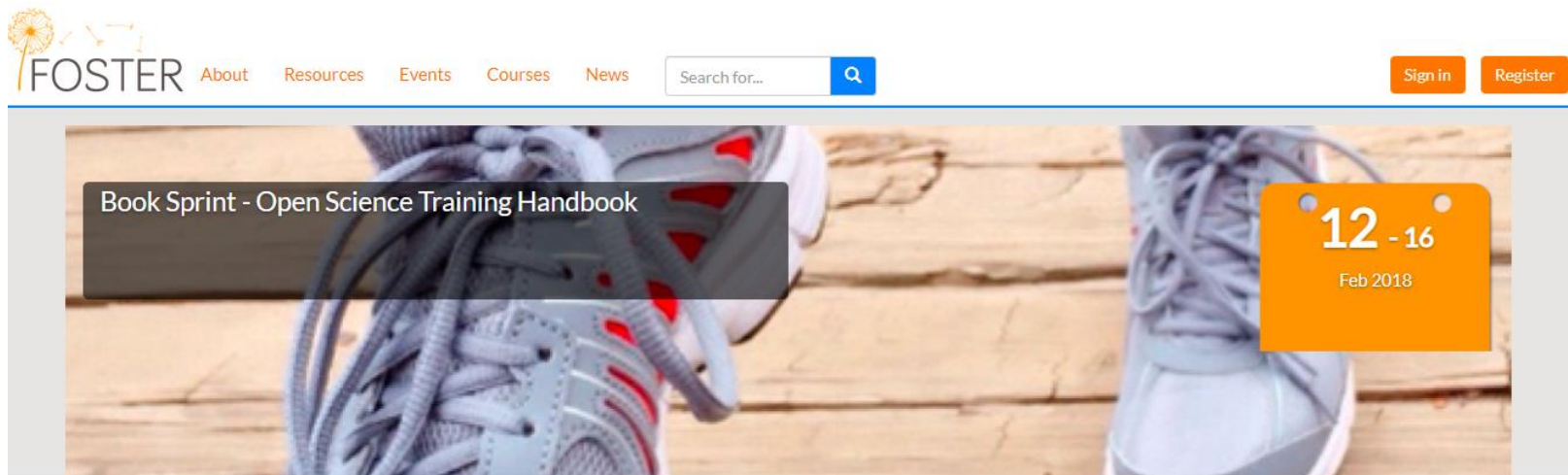


Iniciativa Helsinki sobre Multilingüismo en la Comunicación Científica

La investigación es internacional. ¡Así nos gusta! El multilingüismo mantiene viva la investigación localmente relevante. ¡Protégelo! Difundir resultados de investigación en tu propio idioma crea impacto. ¡Apóyalo! Es crucial para interactuar con la sociedad y para compartir conocimiento más allá de la academia. ¡Promuévelo! La infraestructura para la comunicación científica en lenguas nacionales es frágil ¡No la pierdas!

Foster Open Science Training Handbook

<https://www.fosteropenscience.eu/content/open-science-training-handbook>



5 days in February 2018: A group of 14 authors will come together at the TIB in Hannover and create an open living handbook on Open Science training. Professionals from various areas of expertise will collect and share their experiences on multinvling Open Science.

Where

TIB Hanover



alianza regional

Alianza regional

por la libre expresión e información



PROPUESTA:
PRINCIPIOS
DE DERECHO DE
ACCESO A LA
INFORMACIÓN
EN SITUACIONES
DE EMERGENCIAS
SANITARIAS



- Eliminate Poverty
- Erase Hunger
- Establish Good Health and Well-Being
- Provide Quality Education
- Enforce Gender Equality
- Improve Clean Water and Sanitation
- Grow Affordable and Clean Energy
- Create Decent Work and Economic Growth
- Increase Industry, Innovation, and Infrastructure
- Reduce Inequality
- Mobilize Sustainable Cities and Communities
- Influence Responsible Consumption and Production
- Organize Climate Action
- Develop Life Below Water
- Advance Life On Land
- Guarantee Peace, Justice, and Strong Institutions
- Build Partnerships for the Goals

Benefits of Open Science

- Disseminates knowledge
- Accelerates innovation
- Increases visibility and actual science impact
- Enables access
- Collaborative
- Fair and equitable
- Gives back to society
- Economic benefits



WHO and PAHO's resources on COVID-19

WHO's Virtual Library:

<https://search.bvsalud.org>

Resources on COVID-19 (+26,000 to date):

<https://search.bvsalud.org/global-literature-on-novel-coronavirus-2019-ncov/>

World Health Organization: Institutional information for sharing information

<https://apps.who.int/iris/>

Resources on COVID-19:

<https://apps.who.int/iris/browse?type=mesh&value=COVID-19>

WHO and PAHO's resources on COVID-19

Technical documents (in recent months, mainly on COVID-19 and related issues):

<https://apps.who.int/iris/handle/10665/26723>

Pan American Health Organization - Institutional Repository:

<https://iris.paho.org/>

Resources on COVID-19 (trending):

<https://iris.paho.org/discover?query=COVID-19>

Article about the scientific method and accelerate research:

<https://bbva.info/3cEKLFw>



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Doubts and questions, suggestions, discussion and last but not least, thank you!

Contact: marisa.degiusti@sedici.unlp.edu.ar

Document available at: <http://sedici.unlp.edu.ar/handle/10915/97811>



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