An overview on the European Open Science

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30/11/2018

Scientific communication at a crossroads

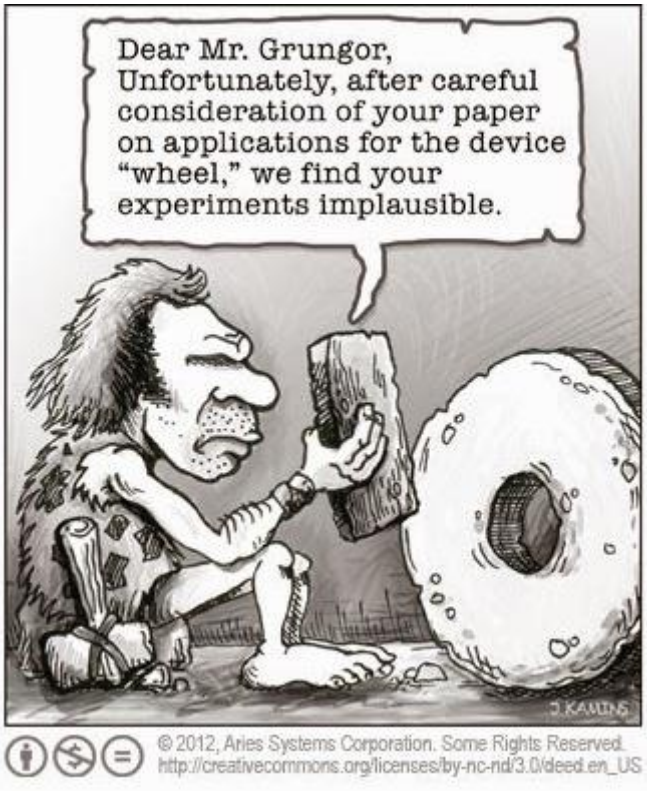
How scholarship is changing

Traditional Scholarly Publishing Model

The scientific communication is a **cycle** involving **researchers**, **publishers**, **peer reviewers**, **editors** and **libraries**.

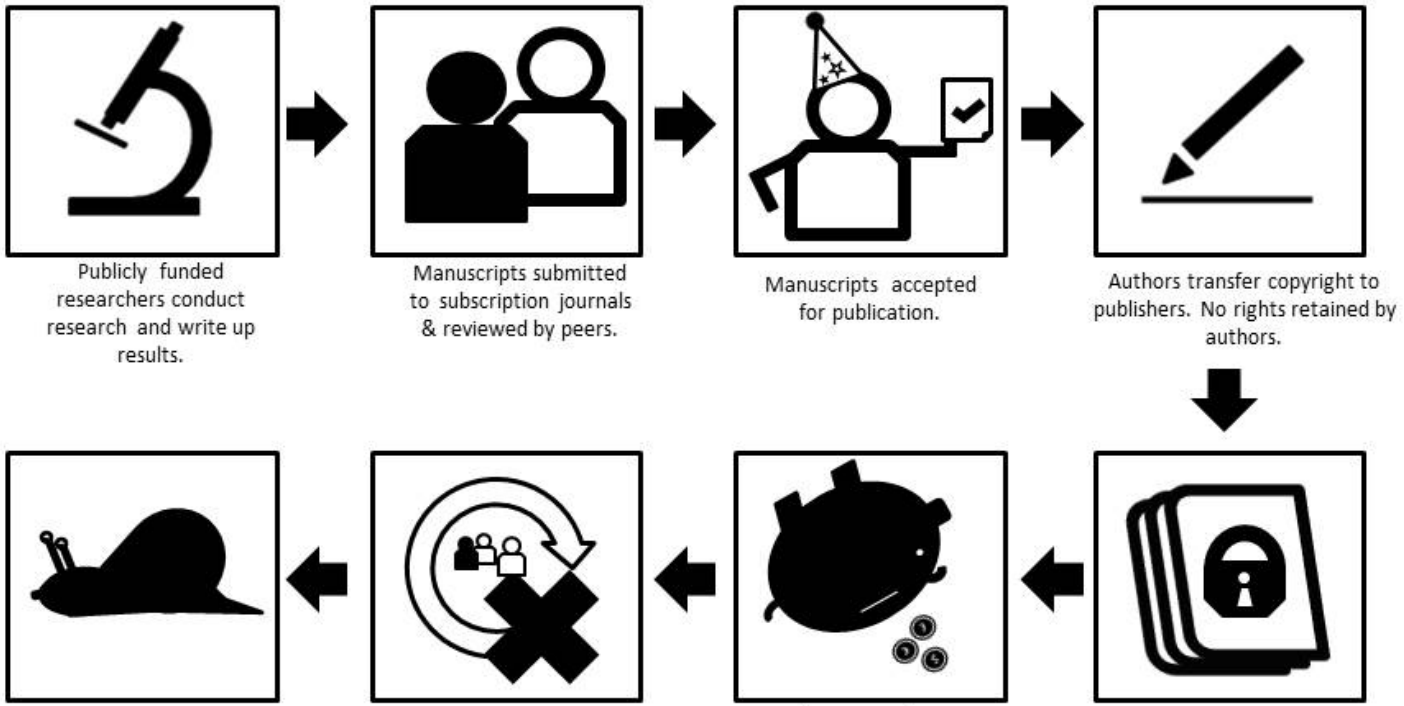
The **traditional scholarly publishing model** is a **subscription-based** access model: libraries or individuals readers have to pay subscription charges in order to have access to articles.

In this subscription model, **copyright is usually transferred to the journal**: **researchers and peer reviewers are not paid** for their contribution, and only the publishers make a profit.



TRADITIONAL SUBSCRIPTION PUBLISHING

limited dissemination, economic efficiency & social impact



Model and text adapted from Timothy Vollmer and Teresa Sempere García "Research article cycles" http://wiki.creativecommons.org/File:Research_articles_cycles.jpg

Scholarly communication has become…

Expensive: universities pay an article 4 times:
1) researcher salary
2) research funds
3) subscriptions (libraries)
4) copyright

Not widely accessible: access is typically **restricted** and **limited** only to those who have a subscription (via their university affiliation, or by purchasing access to individual articles)

Slow: publishing process takes a long time

This **closed system** limits the impact on the scientific and scholarly community and progress is **slowed** significantly

Is this model effective? NO

The traditional model misses the target.

Also several other questions arise:

Peer review, impact factor, metrics: guarantee or **obsession**? retractionwatch.com; Peer community in

Scholarly publishing: only a **big business** for the major publishers?

Articles are locked behind a **paywall**: why not invest in research instead of in paywalled journals?

A change is necessary, but…

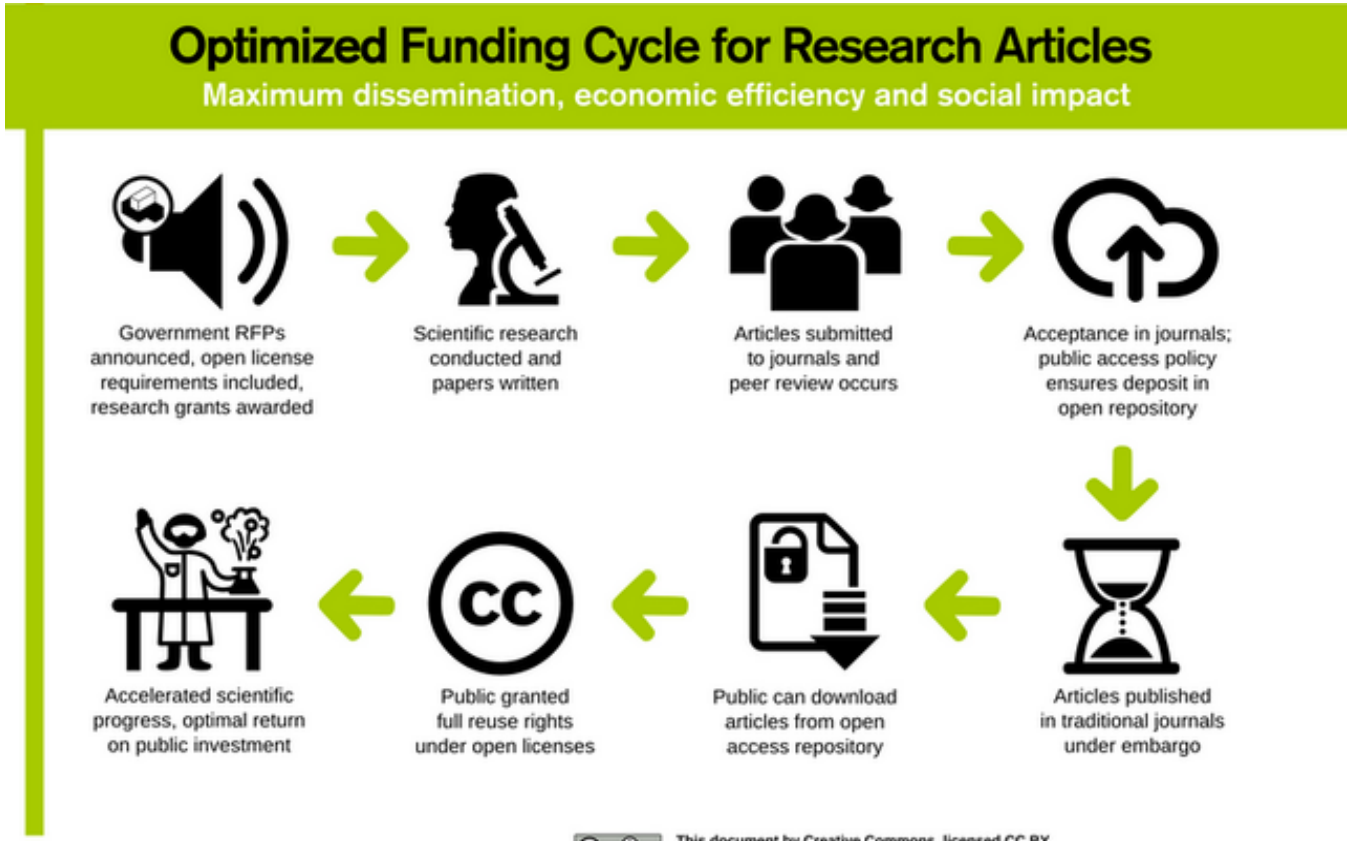
Obstacles…

Publishers' profits

Universities overrate rankings that value only journals with high IF so researchers are forced to publish only in these journals

It's time for a new model – It's time for Open Access

Transforming scholarly publishing from subscription-based publishing models into **sustainable open access (OA) funding models**.


Optimized Funding Cycle for Research Articles
Maximum dissemination, economic efficiency and social impact
Government RFPs announced, open license requirements included, research grants awarded
Scientific research conducted and papers written
Articles submitted to journals and peer review occurs
Acceptance in journals; public access policy ensures deposit in open repository
Articles published in traditional journals under embargo
Public can download articles from open access repository
Public granted full reuse rights under open licenses
Accelerated scientific progress, optimal return on public investment
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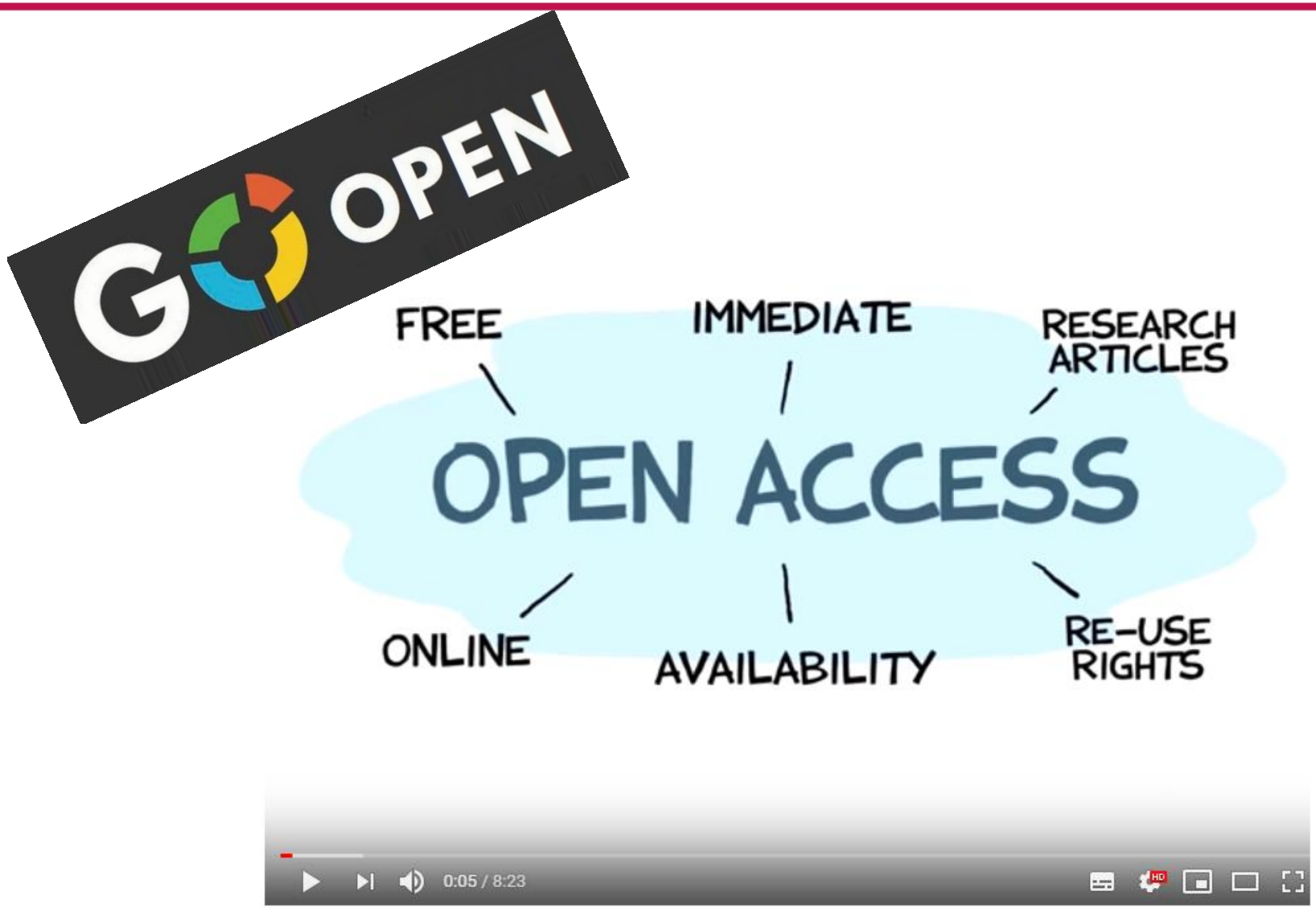
Open access is **not only a recommended good practice**, but is **mandatory** for **all projects** supported with funds from the **European Commission** and **funding bodies** (H2020, ERC ecc.).

29.2 Open access to scientific publications

Each beneficiary must ensure open access (free of charge, online access for any user) to all peer-reviewed scientific publications relating to its results.

ARTICLE 29 — DISSEMINATION OF RESULTS — OPEN ACCESS — VISIBILITY OF EU FUNDING


GO OPEN
FREE
IMMEDIATE
RESEARCH ARTICLES
OPEN ACCESS
ONLINE
AVAILABILITY
RE-USE RIGHTS
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What is Open Access?

Open Access is the **free**, **immediate**, **online availability** of peer reviewed scientific content, with no or limited copyright and licensing restrictions.

Open Access is not the umpteenth administrative burden

Why Open Access?

- Better **visibility** and higher **citation** rates : more people can read the results of scholarly research
- Immediate **dissemination:** new ideas can be spread more rapidly and widely, which in turn triggers new research studies, avoiding duplication
- **Acceleration** of scientific progress
- Compliance with **grant rules**

http://whyopenresearch.org

Misconceptions on Open Access

Open access publishing doesn't mean that:

- you, as the author, will not retain copyright
- your publication will not be peer reviewed
- your publication will not be indexed in scholarly databases
- your publication will not have an impact factor

Avoiding predatory publishers

Useful tools to avoid untrustworthy journals:

Think Check Submit

Beall's List of Predatory Journals and Publishers

Open Access in practice: two roads

GOLD OA

GREEN OA

GOLD ROAD (OA journals)

Gold OA makes the final version of an article freely and permanently accessible for everyone immediately after publication without charges for the reader.

Gold OA articles can be published in:
- **fully OA journals** (all the content is published OA)
- **hybrid journals** (a subscription-based journal that offers an OA option: the author or, more often, author's institution pay the costs (**APCs**-Article Processing Charges).

Find Open Access journals in:
DOAJ
(Directory of Open Access Journal)

APCs: the dark side of gold Open Access

In the hybrid OA publishing model - where some articles are made openly available, against the payment of a fee and the rest of the articles remain closed access – universities and research funders pay twice for:

1) **APCs**
2) **Subscriptions** to the same journals

This originated the unfair so-called **double dipping**.

The costs of APCs could be very high.
Ex. Cambridge Open Access Spend

Cambridge Open Access spend 2013-2018

Average APC by publication year of article (where known)

Year of publication	Average APC paid (£)
2013	£1,794
2014	£1,935
2015	£2,044
2017	£2,187
2018	£2,336

GREEN ROAD (OA repositories)

Green OA, or **free self-archiving**, is the practice of storing a permitted version of a manuscript (article or book) into an institutional (**ARCA**) or disciplinary repository (list of **OAD**), making it freely accessible for everyone.

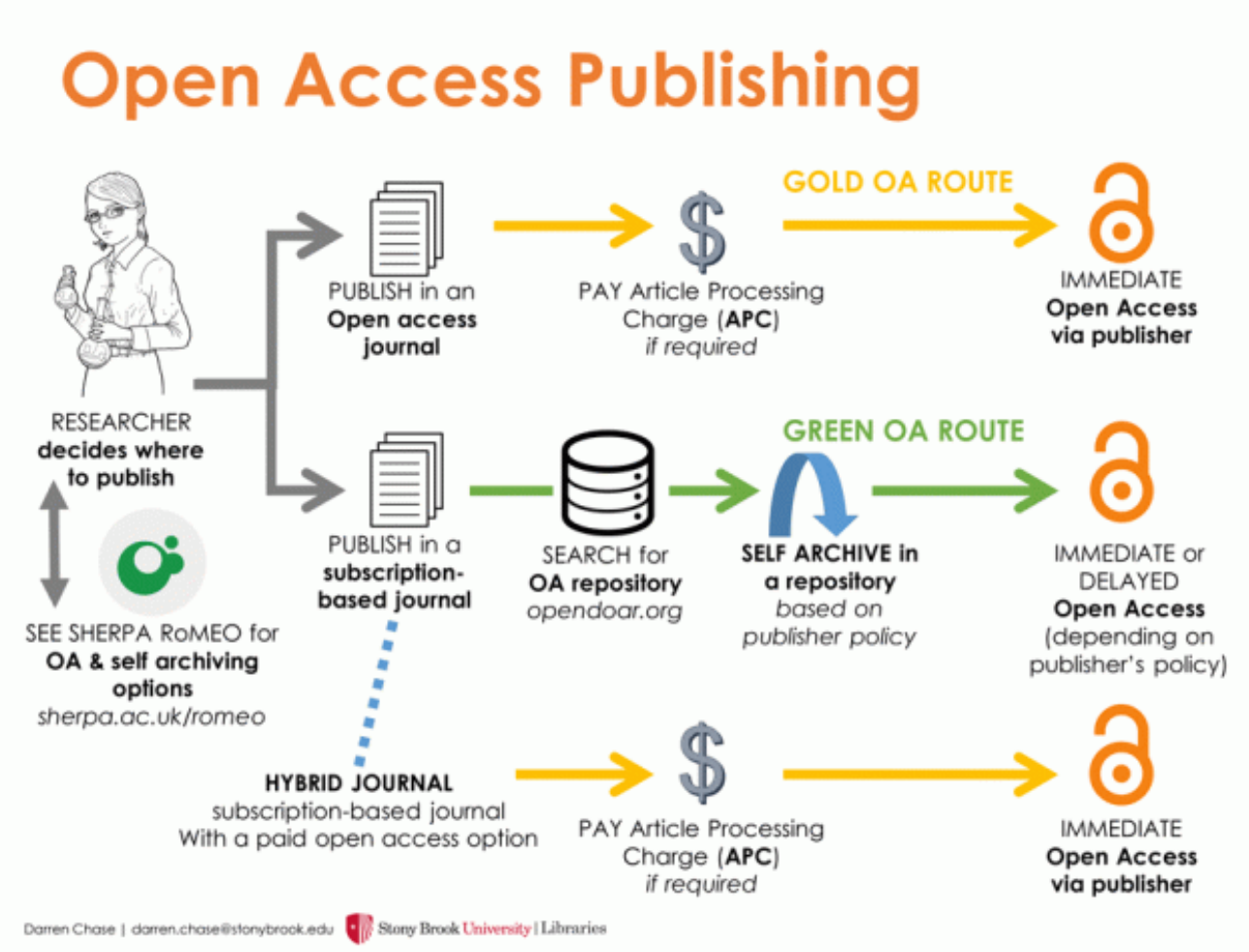
All items made available in a repository can be also published by a commercial publisher.

Check the permitted version (pre-print/post-print/publisher's version; embargo…) in **SHERPA/RoMEO**
searchable database of publisher's policies regarding the self-archiving

Academic social networking sites such as **Academia.edu**, **ResearchGate** or **Mendeley** are extremely popular with scholars, but most of the content offered on these platforms is in **violation of copyright agreements**.
Moreover they don't guarantee long term preservation.

	Open access repositories	Academia.edu	ResearchGate
Supports export or harvesting	Yes	No	No
Long-term preservation	Yes	No	No
Sends you lots of emails (by default)	No	Yes	Yes
Wants your address book	No	Yes	Yes
Business model	Nonprofit (usually)	Commercial; sells job posting services	Commercial; sells ads and job posting services

To sum it up…


Open Access Publishing
RESEARCHER
decides where to publish
SEE SHERPA RoMEO for
OA & self archiving options
sherpa.ac.uk/romeo
PUBLISH in an
Open access journal
PAY Article Processing Charge (APC)
if required
GOLD OA ROUTE
IMMEDIATE
Open Access via publisher
PUBLISH in a
subscription-based journal
SEARCH for
OA repository
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SELF ARCHIVE in
a repository
based on publisher policy
GREEN OA ROUTE
IMMEDIATE or DELAYED
Open Access
(depending on publisher's policy)
HYBRID JOURNAL
subscription-based journal
With a paid open access option
PAY Article Processing Charge (APC)
if required
IMMEDIATE
Open Access via publisher
Darren Chase | darren.chase@stonybrook.edu
Stony Brook University | Libraries

Open Access @ Ca' Foscari

ARCA : the institutional repository.
Since 2014 ARCA has the purpose of collecting, spreading and preserving the scientific production of the university.
ARCA has specific rules for authors (see Regolamento di Ateneo per il deposito nell'Archivio istituzionale e l'accesso aperto alla letteratura scientifica).

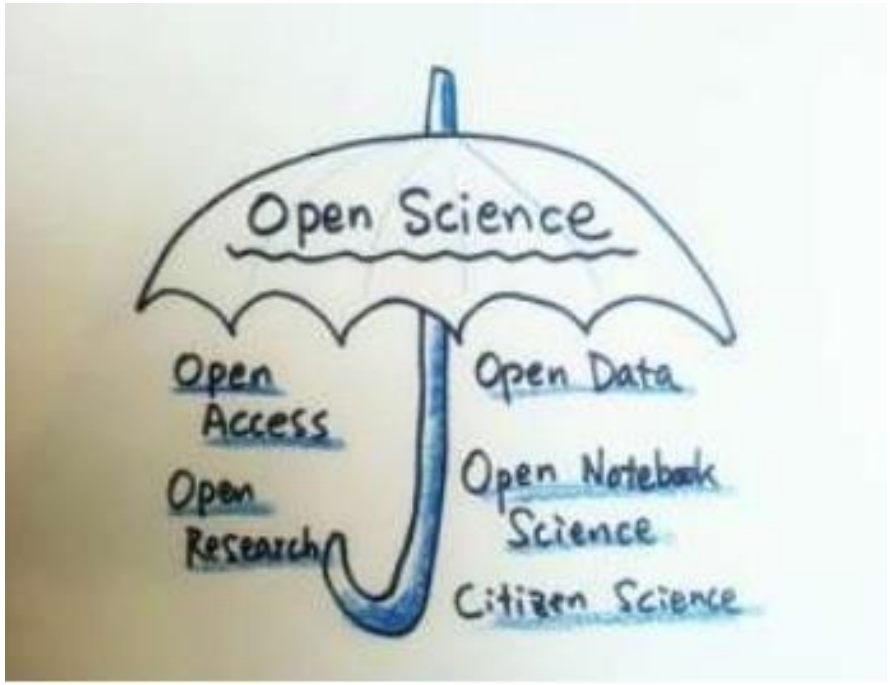
Edizioni Ca' Foscari Digital Publishing (ECF) :
Ca' Foscari publisher.
ECF publishes journals and monographic series in digital format in all areas of academic research. All publications are free and open access.

Phaidra : long-term archiving platform for images, documents, books, audios, videos, collections, teaching resources

Archivio delle tesi : repository for theses and PhD dissertations

From Open Access to Open Science

Publishing in Open Access journals or archiving your manuscript in a repository is a good practice, but is not enough.
Open Access is just a part of Open Science.



What is Open Science?

"***Open Science is just science done right***"

(Jon Tennant)

Open Science is…

… making scientific research, data and dissemination **accessible** to all levels of an inquiring society (Foster Open Science Definition).

… making open every step of the research process.

Why Open Science?

... Research

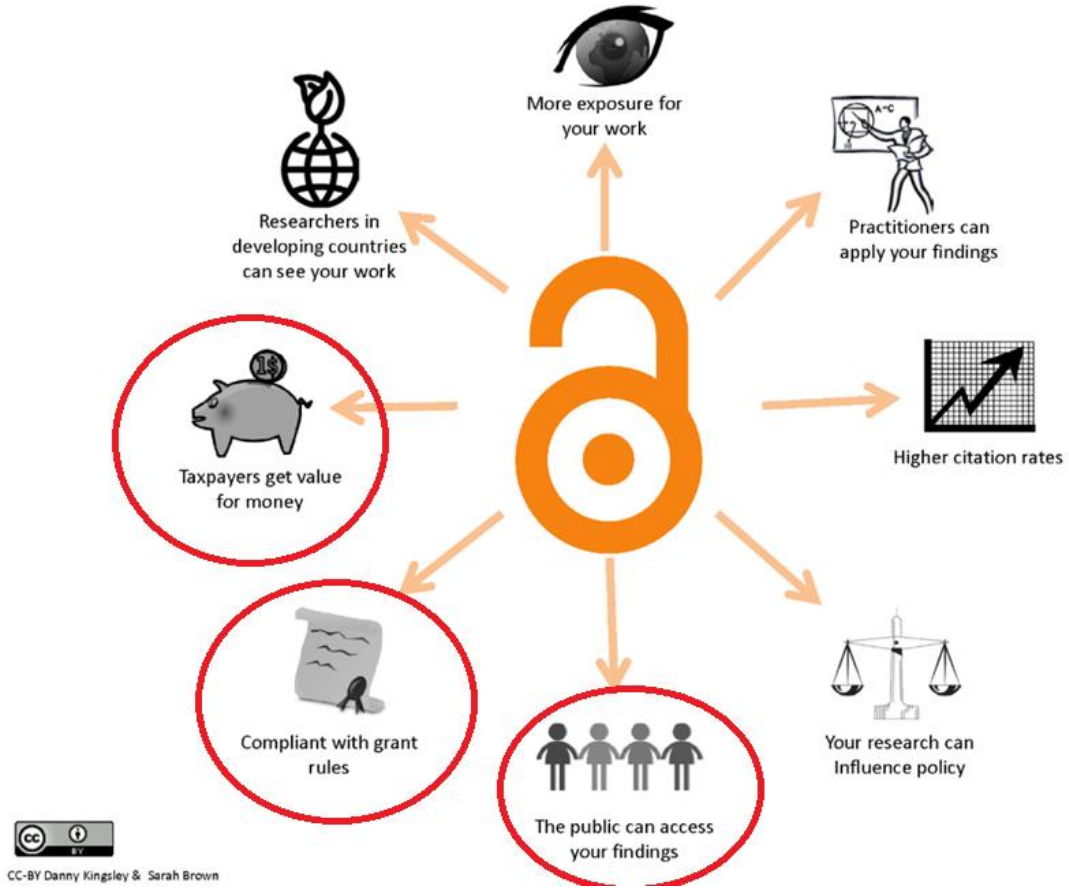
- Open Science means that **research outputs are accessible to all** – not stuck behind pay walls

- **all researchers have access to the same information** - regardless of their location or economic situation

- the **research process** can be **accelerated** and **new knowledge** can be more **quickly generated** and built upon to face big challenges.

... Society

Open Science offers a **better return on investment** from research funded by public money and **contributes to economic growth**.



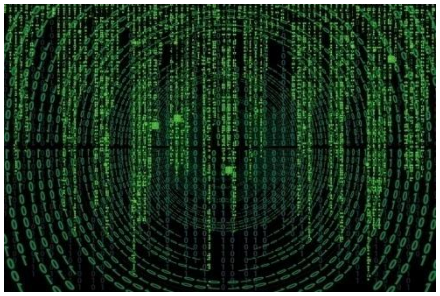
... You

Making your research outputs findable, accessible, interoperable and reusable (FAIR) does require an additional effort, but by making open your data and code as well as your articles in return you have **more exposure** of your work and **higher citation rates**.
If people can find and access your research, there will be new collaborations and research partnerships.

(Foster Open Science, *Practicing Open Science is good for...*)

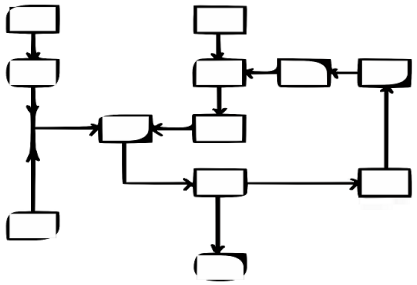
Open Science in practice

... share your data



... share your code

... share your workflow



Open Science is more than just making open your publications

Opening the research process supports validation, reproducibility and reduces cases of academic misconduct. Applying open science in the daily workflow is part of **good research practice**!

The **opposite of "open science"** isn't "closed science" –it's **"bad science"**

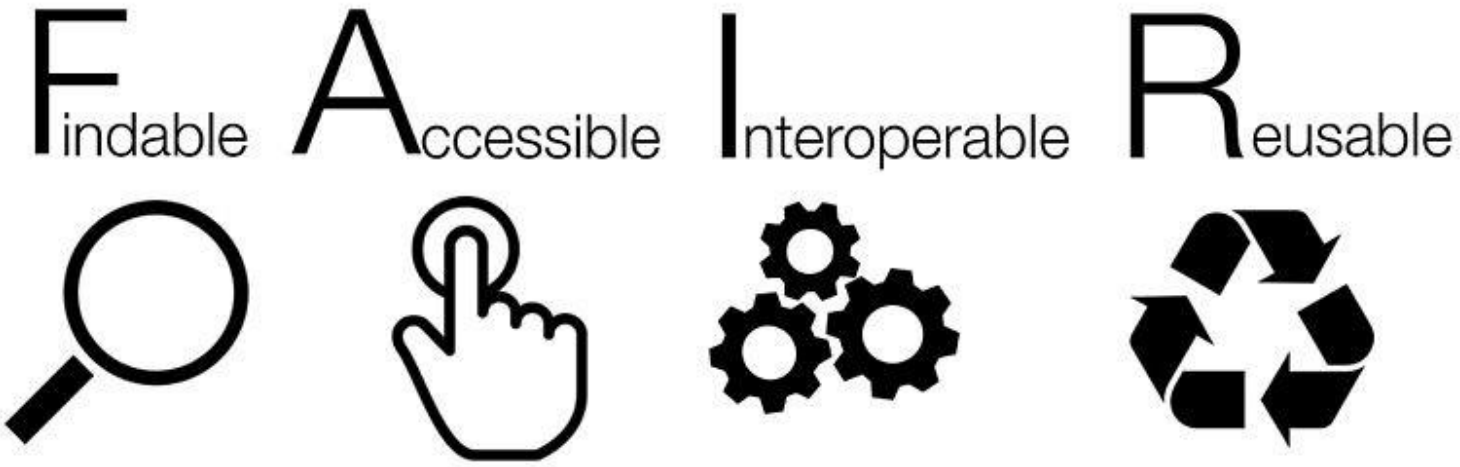
Open Data

Open data is data that can be **freely used**, **re-used** and **redistributed** by anyone – subject only, at most, to the requirement to attribute and sharealike (e.g. CC licenses)

GO FAIR

How to share data? How to **make data FAIR for Open Science**?

Open data should be compliant to specific requirements:
the **FAIR Data Principles**, a set of guidelines in order to make data findable, accessible, interoperable and reusable



Barend Mons et al., *The FAIR Guiding Principles for scientific data management and stewardship in Scientific Data*, 2016

Findable

Data and supplementary materials have sufficiently rich metadata and a unique and persistent identifier.
FINDABLE

Accessible

Metadata and data are understandable to humans and machines. Data is deposited in a trusted repository.
ACCESSIBLE

Interoperable

Metadata use a formal, accessible, shared, and broadly applicable language for knowledge representation.
INTEROPERABLE

Reusable

Data and collections have a clear usage licenses and provide accurate information on provenance.
REUSABLE

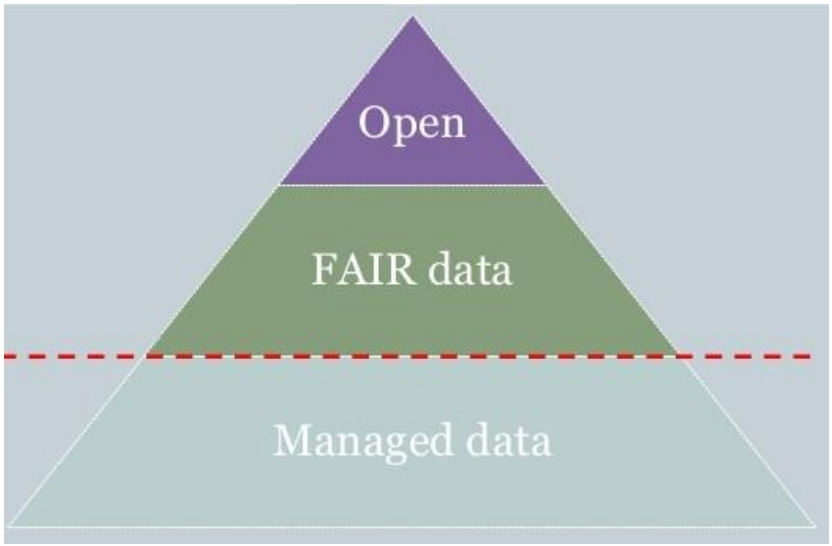
REUSABLE / REPLICABLE

If you want to make your data accessible (for data mining, exploitation, reuse, dissemination, reproduction) make sure to use the appropriate **licence** that allows the free use and, at the same time, protects the intellectual property of the author (eg **Creative Commons-CC-BY**)

"As open as possible, as closed as necessary"

From January 2017 all projects supported with funds from the European Commission and funding bodies (H2020, ERC ecc.) require that the data produced during the research process and the related metadata must be:

- **made accessible** with the **least possible number of restrictions**, unless a reasoned decision is made
- subordinated to the drafting of a **Data Management Plan (DMP)**



Data Management Plan (DMP)

The **management of research data** could be a very **complex process**.
The DMP can be a helpful tool because it allows researchers to plan all the research phases: **collection, storage, description** and **dissemination** of their **data** and **research metadata** from the beginning of the activity.
The DMP is a **responsible management** of the data collected and produced, according to FAIR principles.

The DMP represents the **entire life cycle of data**, allowing traceability, availability of authenticity, citability, appropriate conservation and adherence to clear legal parameters and safety standards. The DMP is considered in all respects by the European Commission a mandatory living document and deliverable, to be drawn up within 6 months from the approval of the project.

Data Monitoring Board

EOSC – European Open Science Cloud

The European Open Science Cloud (EOSC) initiative has been proposed in 2016 by the European Commission and has been launched on November 23rd 2018.
The EOSC has the ambitious goal to offer 1.7 million European researchers and 70 million professionals in science, technology, humanities and social sciences a virtual environment with open services for storage, management, analysis and re-use of research data, across borders and scientific disciplines by federating existing scientific data infrastructures, currently dispersed across disciplines and the EU Member States.

The EOSC portal will become the **universal access channel** through which all European scientists will be able to **access, use and reuse research outputs and data across disciplines**.

Plan S: Open Access by default in 2020?

Plan S is an initiative for Open Access publishing launched in September 2018. The plan is supported by **cOAlition S**, an **international consortium of research funders**. Plan S requires that, from 2020, **scientific publications that result from research funded by public grants must be published in compliant Open Access journals or platforms**.

10 principles

Funders and supporters

INFN (Istituto Nazionale Fisica Nucleare)

"**S**" in "Plan S" stands for "**science**, **speed**, **solution**, **shock**" (Robert-Jan Smits, the European Commission's special envoy)

Reference Sources

http://www.unive.it/oa

European Commission, Open Science

Open Science Monitor

Noad OpenAIRE

Foster Open Science

CreativeCommons.org

EOSC

cOAlition S

Science Europe, Plan S

Peer community in

Retraction Watch

Unpaywall.org

Open Access Button

Thank you
for your attention!

Elena Guida
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Settore Servizi per la Ricerca
bda@unive.it