University of Szczecin

Open Access Week 24–28th of October

Open Science/Open Research/Open Data

Marija Maksimovic, Open Access training and education specialist

24th October 2022

Agenda and Webinar Objectives

About MDPI

Webinar Objectives

What is Open Science

What is Open Access?

OA Mythbusting…

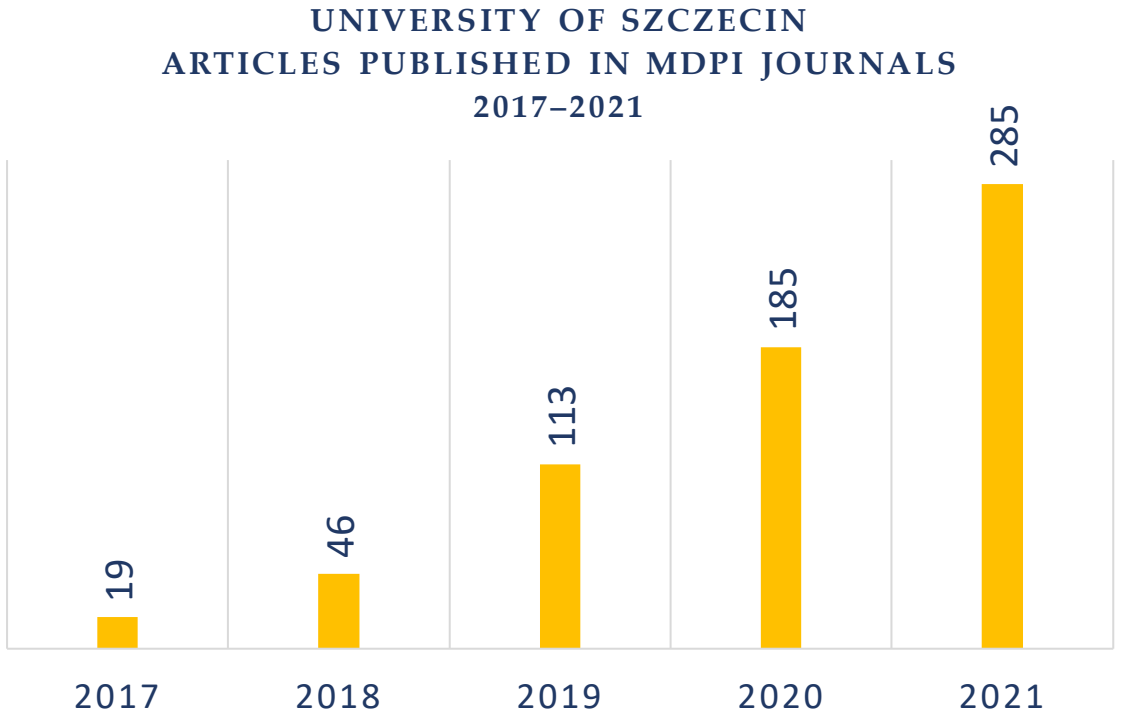
Open Research

Open Data

About MDPI

About MDPI

- Pioneers in OA
- Largest OA publisher globally
- 4th largest publisher overall
- 400+ gold OA journals across all subject disciplines
- Head office in Basel, Switzerland
- Poland office in Krakow
- MDPI is proud to publish an increasing number of articles from authors at the University of Szczecin



energies

sustainability

International Journal of Molecular Sciences

About Open Science

About Open Science

"Open Science is the practice of science in such a way that others can collaborate and contribute, where research data, lab notes and other research processes are freely available, under terms that enable reuse, redistribution and reproduction of the research and its underlying data and methods."

https://www.fosteropenscience.eu/foster-taxonomy/open-science-definition
https://openscience.org/what-exactly-is-open-science/

About Open Science

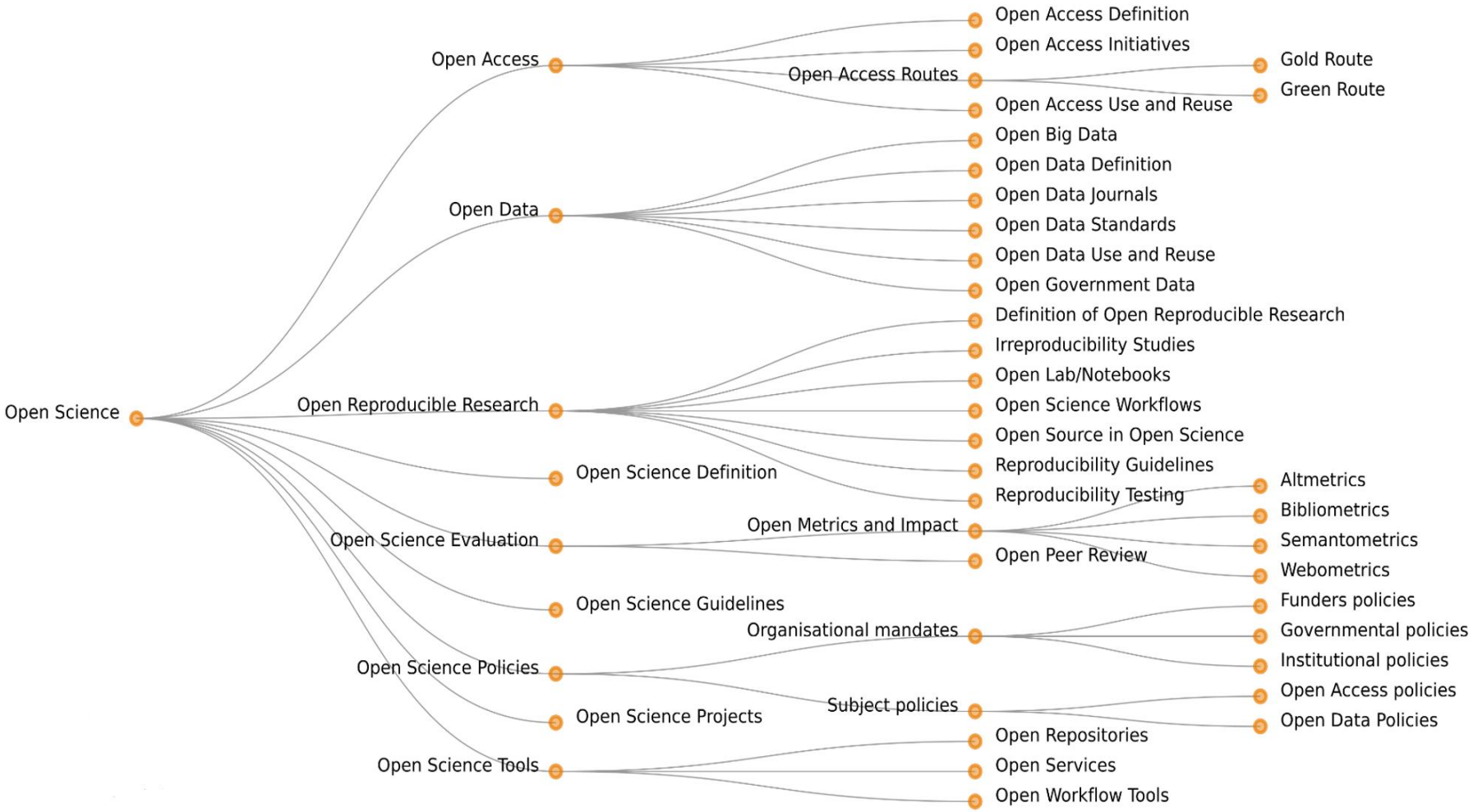


Figure 1. Open Science Taxonomy.

Pontika et al. Fostering open science to research using a taxonomy and an eLearning portal. Proceedings of the 15th international conference on knowledge technologies and data-driven business, 2015.

What is Open Access?

Open Access Timeline

1991: arXiv preprint server launched
1996: MDPI launches its first OA journal
1997: PubMed
2001: PLOS

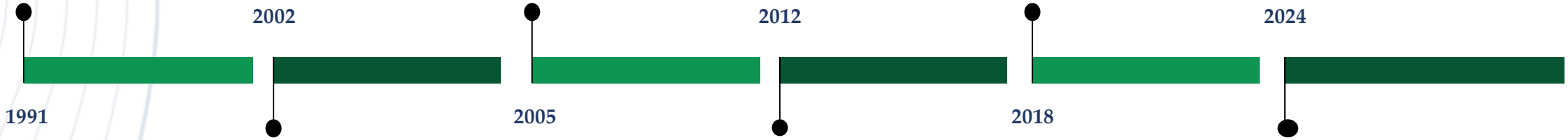
2002: Budapest Open Access Initiative
2003: Berlin Declaration of Open Access
2003: Betesda statements
2003: DOAJ launched
2004: Springer introduce hybrid model - Open Choice

2005: Wellcome Trust OA policy
2008: NIH OA policy (US)

2012: Finch report (UK)
2013: Horizon 2020 announced

2018: Coalition S launches Plan S
2018: Wellcome Trust strengthens OA policy
2021: Plan S mandates come into force
2021: Horizon Europe

2024: Coalition S will no longer fund journals under a transformative agreement



What is Open Access?

History and Current Context

BBB Declarations - Three Defining Statements on Open Access

"Open access (OA) means free access to information and unrestricted use of electronic resources for everyone. Any kind of digital content can be OA, from texts and data to software, audio, video, and multi-media."

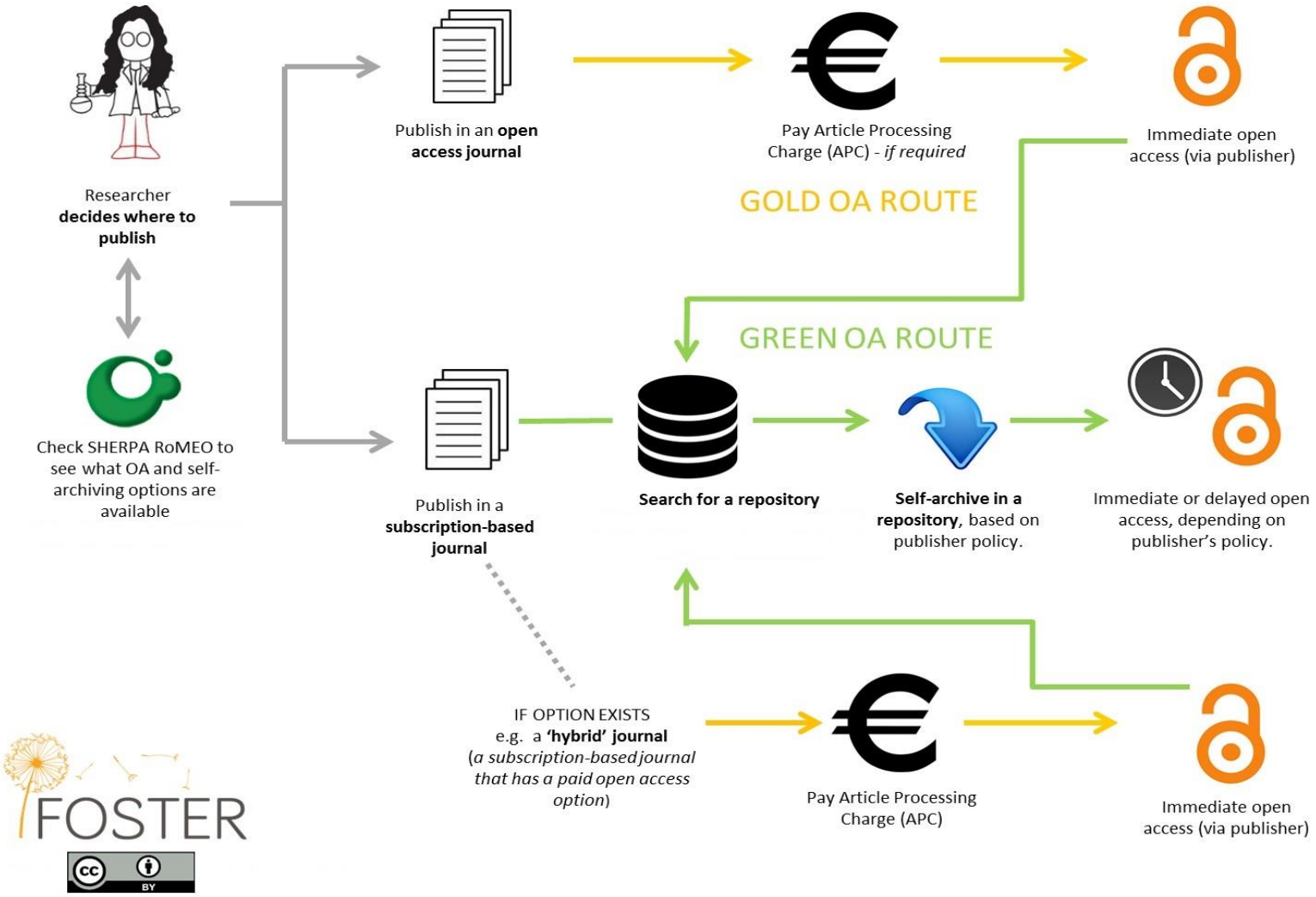
its content freely accessible at no cost to the reader

it is deposited, immediately in open access repository

the author grants to all users the right to use, copy, or distribute the article

https://en.unesco.org/open-access/what-open-access

Open Access Models



FOSTER

Open Access Model: Gold

WHAT?
- Final, publisher version of a manuscript (**version of record/VOR)** freely available

WHEN?
- **Immediately** on publication

WHERE?
- Journal/publisher's website

OTHERS CAN SHARE AND RE-USE?
- Yes. Published with a **Creative Commons Attribution license**—CC-BY
- Authors/institutions **keep copyright**

HOW?
- **Fully open access** journals
- **Hybrid** journals

COST?
- Authors/funding institutions pay an **Article Processing Charge (APC)**
- Sometimes referred to as the 'author pays model'
- University agreements

Open Access Model: Green

WHAT?
- **Author's version** of an accepted manuscript **(AAM)**

WHEN?
- **Immediately** or after an embargo of **6–24 months**

WHERE?
- Open Access **repository** (university or subject repository)

OTHERS CAN SHARE AND RE-USE?
- It depends. **License restrictions can vary.** Traditionally, copyright is signed off to the publisher

HOW?
- **Most subscription journals** have a policy allowing green open access deposits

COST?
- **No direct cost** for authors but green open access is **supported by the subscription model**

Open Access Models: Summary

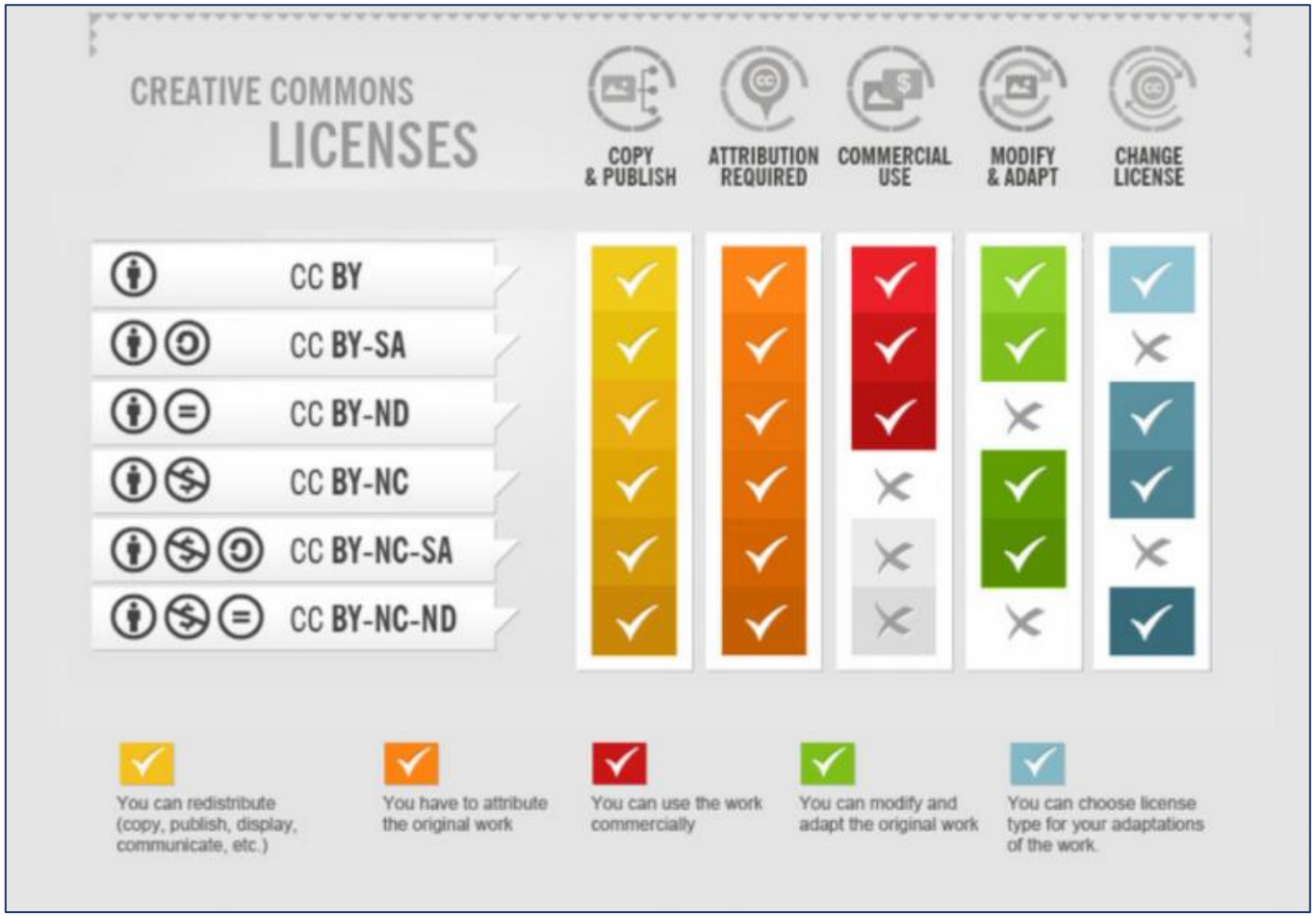
Model?	Accessible Version?	APC?	Financial Model	CC-BY License?
Gold OA	VOR	Y	APCs	Y
Green OA	AAM	N	Supported by subscription income	Y – Often NC
Platinum OA	VOR	N	Usually sponsored by annual fee from association or institution	Y
Diamond OA	VOR	N	Usually supported by library/voluntary work and contributions	Y

Understanding CC-BY licenses

Important Considerations…

Which license is required / permitted by:

a) Your funder?
b) Your institution?
c) The journal/publisher?



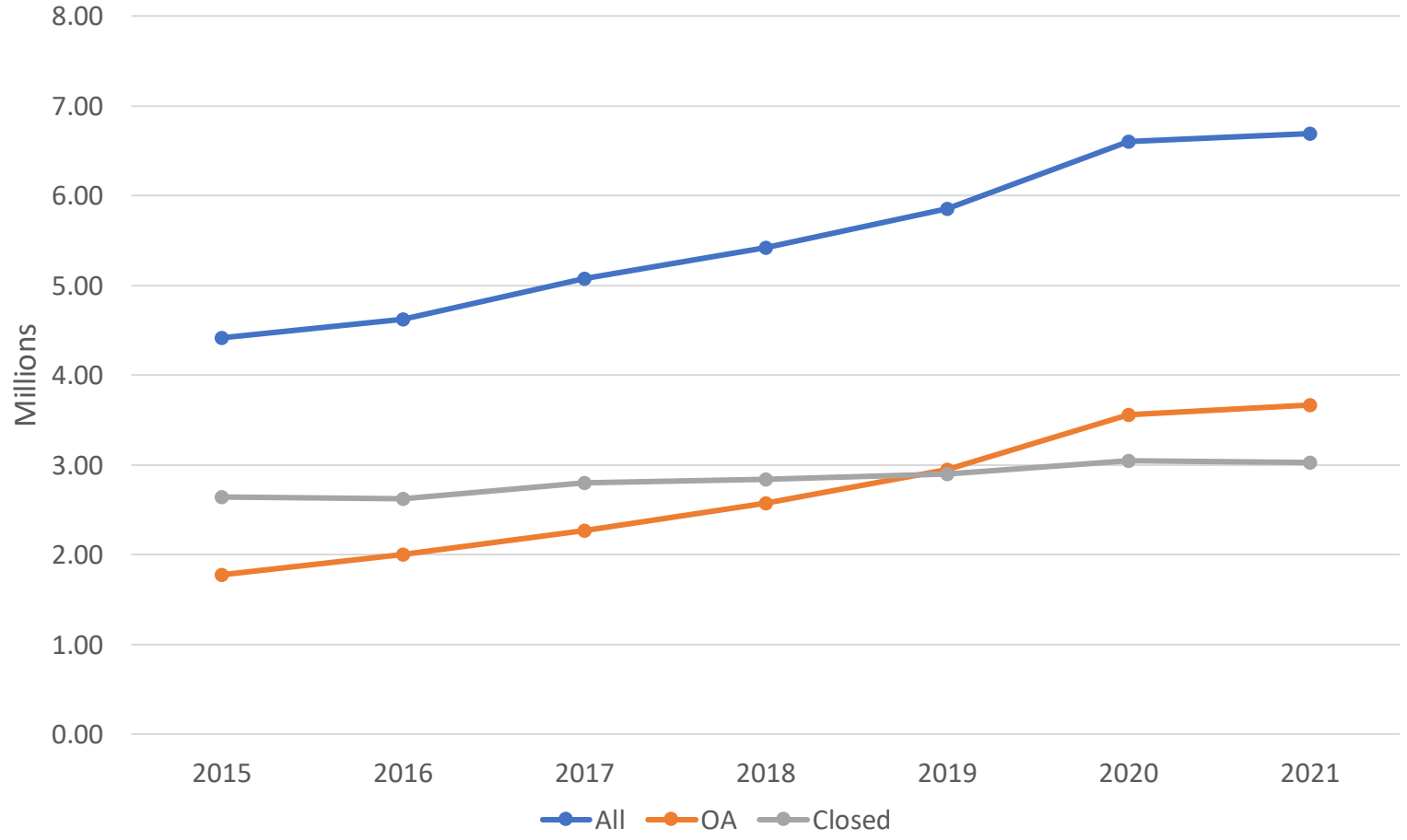
MOST OPEN

LEAST OPEN

Creative Commons Licenses, Foter.com, CC BY-SA 2.0, https://foter.com/blog/how-to-attribute-creative-commons-photos/

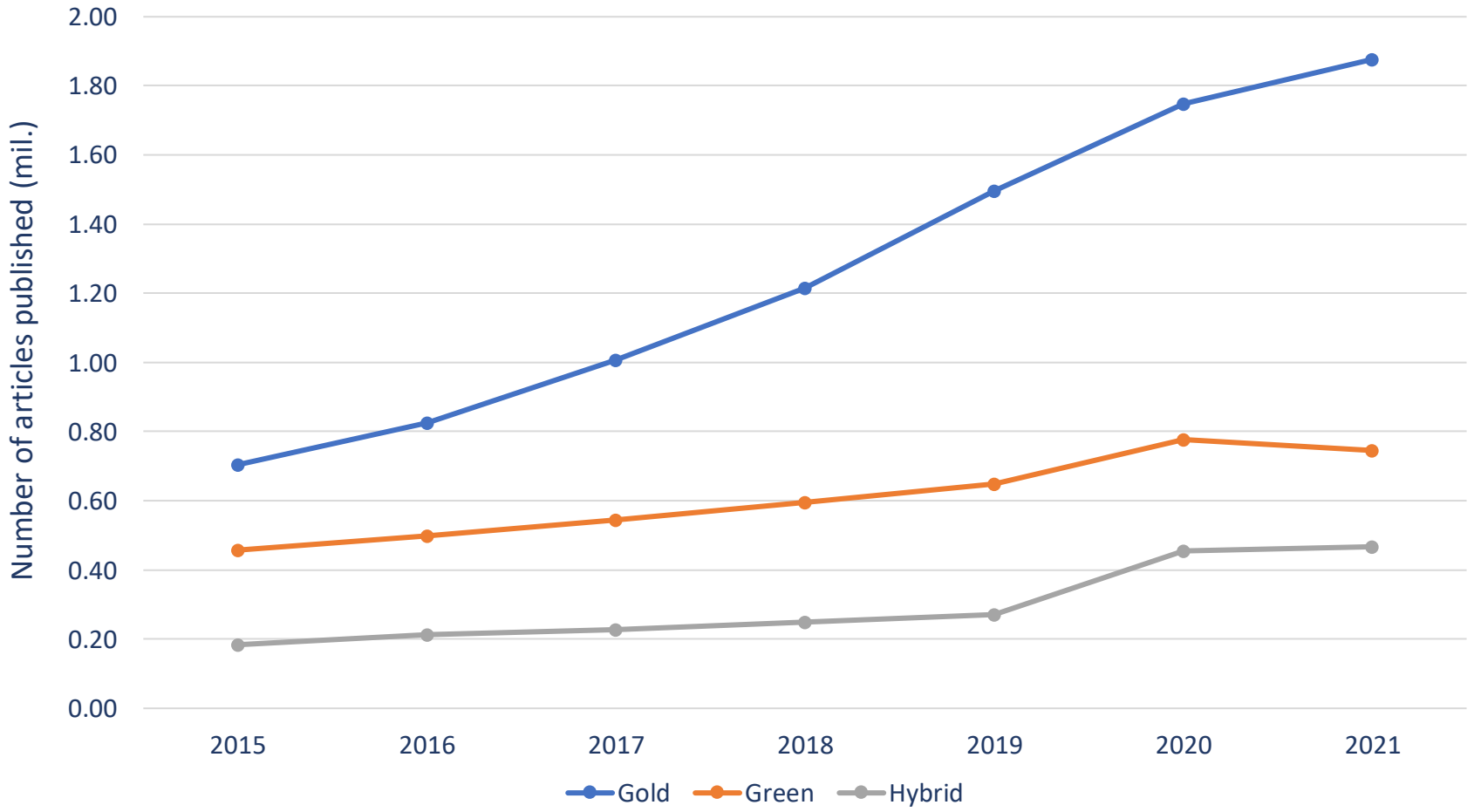
Literature Growth

2015–2021



Source: https://app.dimensions.ai/discover/publication (6/10/2022)

Open Access Literature – Growth: 2015–2021



Open Access includes Gold, Green, Bronze and Hybrid models. Data from www.dimensions.ai (15/09/2022)

OA Acceleration…

Plan S

Transformative Agreements

Transformative Journals

2024?

Horizon 2020/Horizon Europe

SDGs

OSTP 2022 (USA)

Traditional and Open Access Academic Publishing

Traditional	Open Access
Pay to read	Free to read
Restricted access/Often not free to use/reuse	Widely available/Often Free to use/reuse
Delayed publishing cycle	Short publishing cycle
Copyright owned by publisher	Copyright owned by author
Higher APC on average *	Lower APC on average *

https://treemaps.openapc.net/apcdata/openapc/

Why Open Access?

Benefits to the Authors, Scientific Community and Funders

- Improved methodologies
- Short publishing time
- Retained copyright (CC-BY)
- Greater visibility
- Higher citation rate
- Fulfillment of funding mandates

Visibility and impact

Studies have highlighted that OA **increases visibility and impact,** with OA articles attracting **higher altmetric scores**.

- SPARC EUROPE **- Open Access Citation Advantage Service**
- **Altmetric (https://www.altmetric.com/)**

The study by Springer Nature and Digital Science (2018) highlighted that:

- On average, OA articles were **downloaded 1.6x more** by users based at **academic institutions** and **4x more** by **users overall**
- OA articles attracted an average of **1.6x more citations**
- OA articles attracted an average of **2.4x more Altmetric attention,** with **1.9 x more news mentions** than non-OA articles

Hélène Draux, Mithu Lucraft, John Walker: Assessing the Open Access Effect for Hybrid Journals, 2018.

OA Mythbusting…

Mythbusting

I have no funding and therefore I cannot publish Open Access ...

It is possible that funding is available. An increasing number of research bodies and funders are making funding available, and an increasing number of publishers are making agreements with universities to cover APCs as part of their subscription agreements. Most journals also have waivers available for authors where necessary. If you are unsure if you have access to funding for APCs speak with your university library in the first instance. If funding is unavailable, there are other routes to OA i.e., green OA, platinum OA, diamond OA.

It's 'author pays'! That means that I am paying...

No. Article Processing Charges are paid most commonly by universities, funders, libraries and institutions and not by authors directly.

The quality is lower...

No. OA Articles undergo peer review in the same way that subscription articles do. Numerous studies have dispelled the idea that 'OA journals are inherently, or more inclined to be, of lower quality than subscription journals' 'There is no evidence that, in the mainstream literature, open access (OA) journals suffer significant quality issues compared with non-OA journals. An increasing number of fully OA publications are attaining higher Journal Impact Factors at faster rates than their subscription and hybrid counterparts' *.

* Pollack and Michael, Open Access Mythbusting, doi:10.1002/leap.1209.

Mythbusting

Open Access articles are just articles without copyright...

No. OA articles are published using a CC-BY license meaning articles can be shared, used and adapted freely, provided they are cited appropriately. Authors publishing with a CCBY license keep their copyright.

All Open Access is Gold Open Access ...

No. There are many different options for making your work OA. Green OA offers an alternative route where funding is not available. It is important to check the requirements of your funder and institution before making a decision on your route to OA.

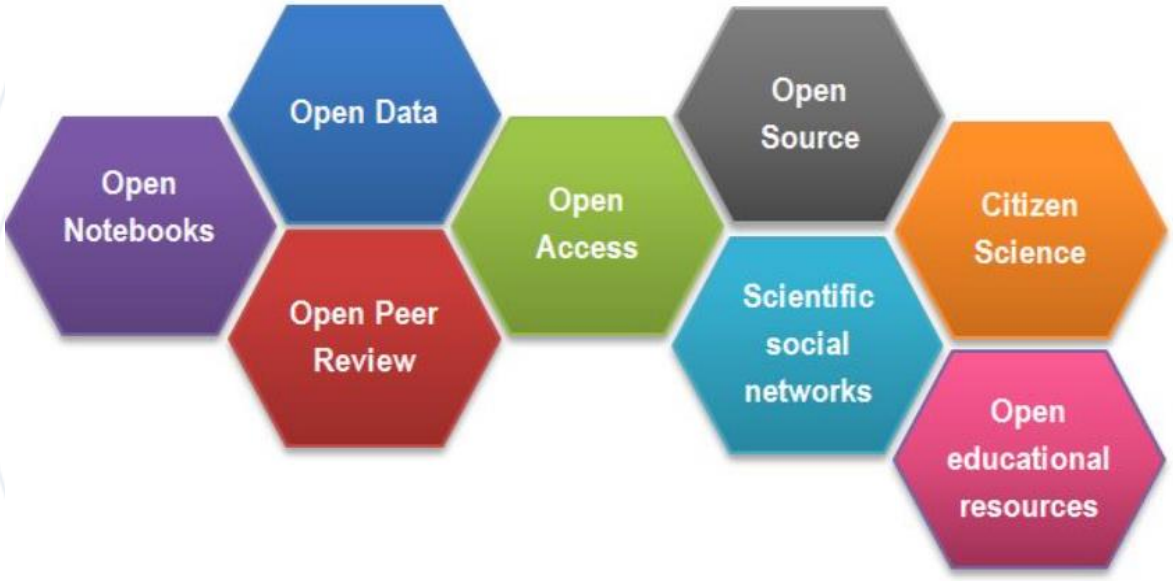
Open Access journals are 'fringe', 'emerging' , or 'other' than subscription models...

No. MDPI have been around for 25 years, and there are many more emerging fully open access publishers! Most subscription journals now offer the option of publishing OA via the hybrid model. Open Access now accounts for a significant proportion of research articles that are published each year.

Open Research

What is Open Research?

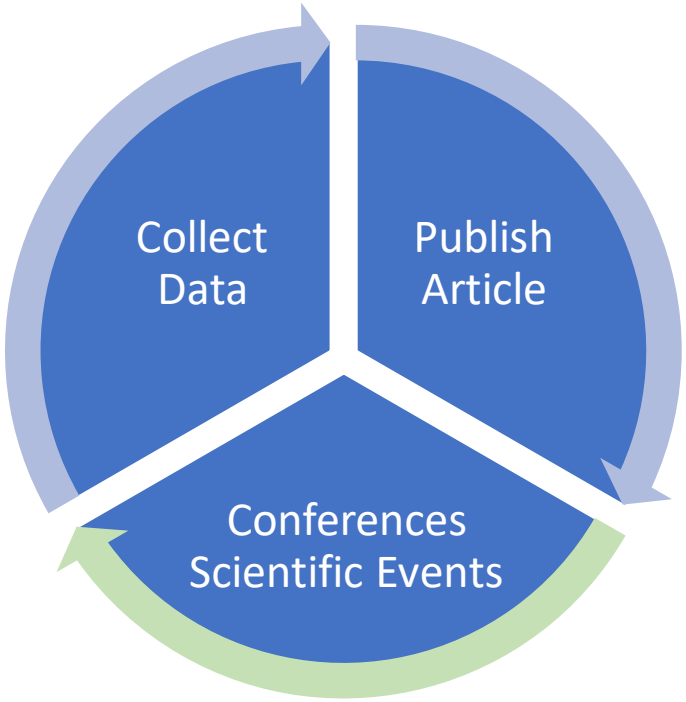
Open Science facets as a beehive by FOSTER consortium.



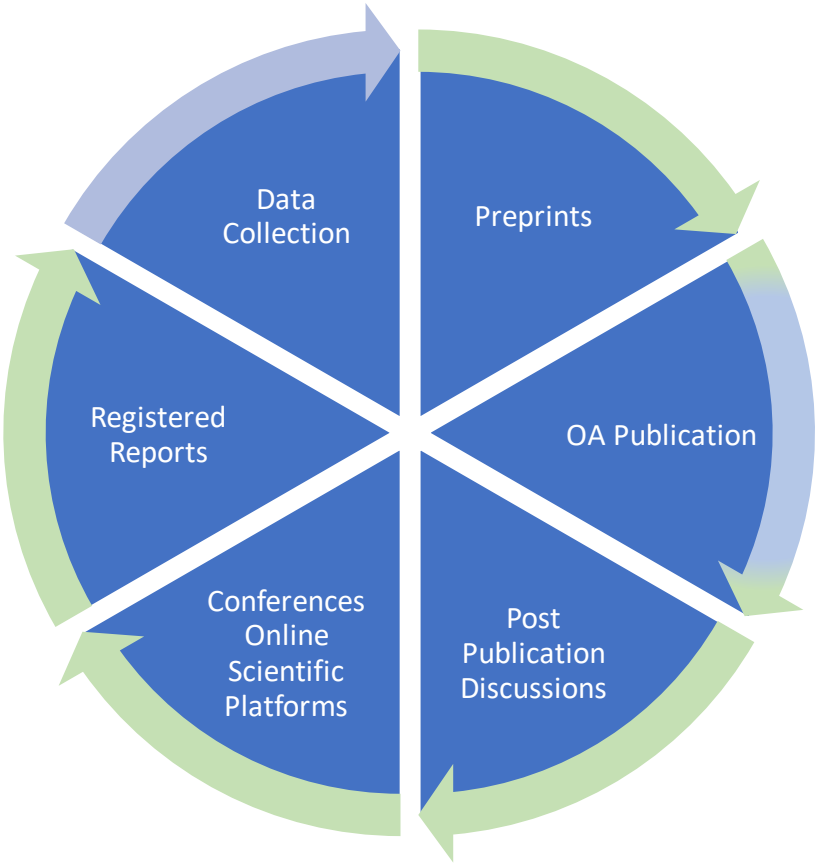
Open Research, often referred to as **'Open Science'** is *"about **extending the principles of openness to the whole research cycle**…fostering sharing and collaboration as early as possible thus entailing a **systemic change** to the way science and research is done."*

Developing an Open Research Lifecycle

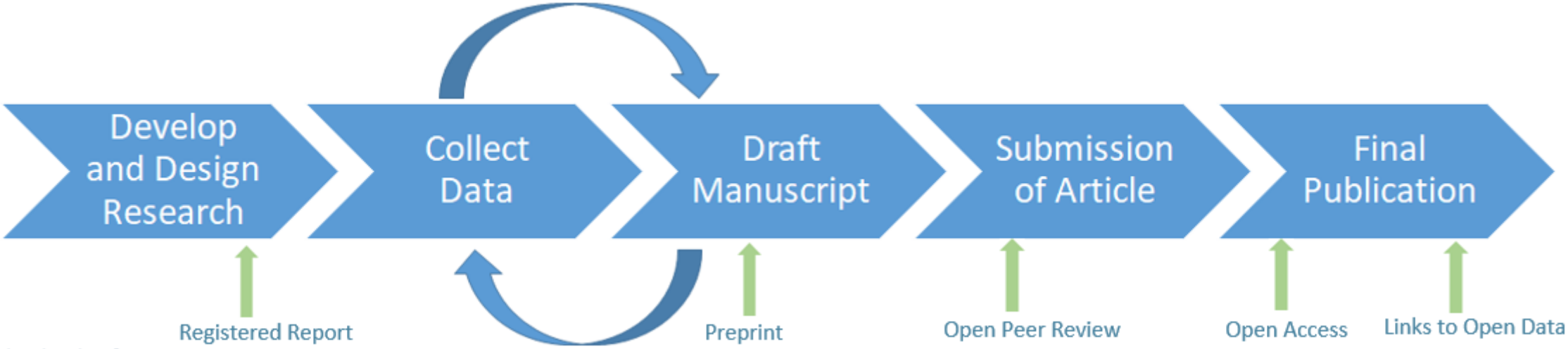
The Traditional Lifecycle of Research



The New Open Lifecycle



An Open Research Workflow



Registered Reports

Develop and Design Research

- Publishing **'registered reports'** is the practice of sharing your research question and methodology prior to data collection.

- Usually provide feedback on:
  - The importance of the area of study / research question
  - The soundness of the research question
  - The quality / rigor of the proposed methodology

- The benefits:
  - **reduction in research bias**
  - increased **transparency and reproducibility**
  - **reduction in research waste**

Preprints

Draft Manuscript

- Preprints are drafts of research papers that are shared online prior to peer review.
- The benefits
  - Speed
  - Community Feedback
  - Increased visibility for your work
- The practice of publishing preprints is more common in some research communities than others i.e, Physics.

arXiv.org

ChemRxiv™

SOCARXIV
open archive of the social sciences

preprints

Open Peer Review

Submission of Article

- **Open Peer Review** = Open, transparent, and often collaborative
- Open peer review can combine a number of different elements including:
  - Open identities
  - Open reports
  - Open comments
- **Benefits** of open peer review:
  - Increased transparency and insight into editorial decision-making process
  - More open and constructive feedback from reviewers
  - Demonstrates contribution of the reviewer
- **Challenges** of open peer review:
  - Harder to find reviewers
  - Can be less 'critical'

Open Data

Open Data

Final Publication

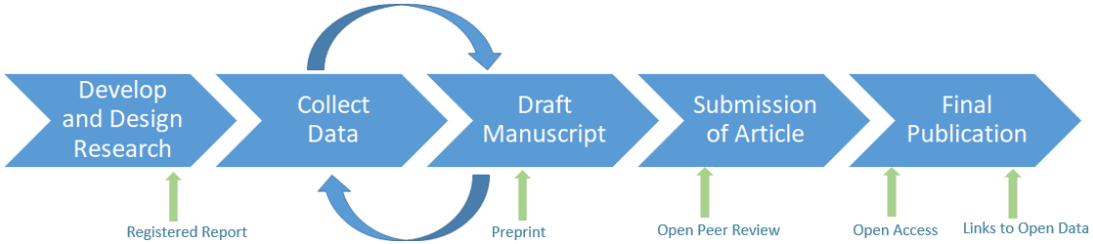
"Open data is data that can be freely used, re-used and redistributed by anyone – subject only, at most, to the requirement to attribute and sharealike"

Open Data Handbook

Open Data: Considerations

- It is not possible to make all data openly available
- Data should be as **open as possible**, but as **closed as necessary**
- The types of data collected varies across different disciplines
- Some data that contains **personal or commercially sensitive** data has to remain closed
- It is important to have a clear **data management plan** from the start of your research project
- What is common across all disciplines is the need for data to be **organized, described and stored** in ways that ensure it is retrievable and reusable (FAIR principles)
- Most universities now have their own **data repositories**, and there are many other general and subject specific repository options available
- Repositories often include all type of research outputs including figures, data sets, videos, posters, thesis, codes, preprints, presentations, etc.
- Make sure you are aware of your **funder and institutions data policies**, and speak with your institution for further guidance

MDPI Supporting Open Research



Preprints

REGISTERED REPORTS

PREPRINTS

OPEN PEER REVIEW

OPEN ACCCESS

OPEN DATA

Science should not be hidden behind the paywall!

Thank you!

Q&A