uc3m | Universidad Carlos III de Madrid

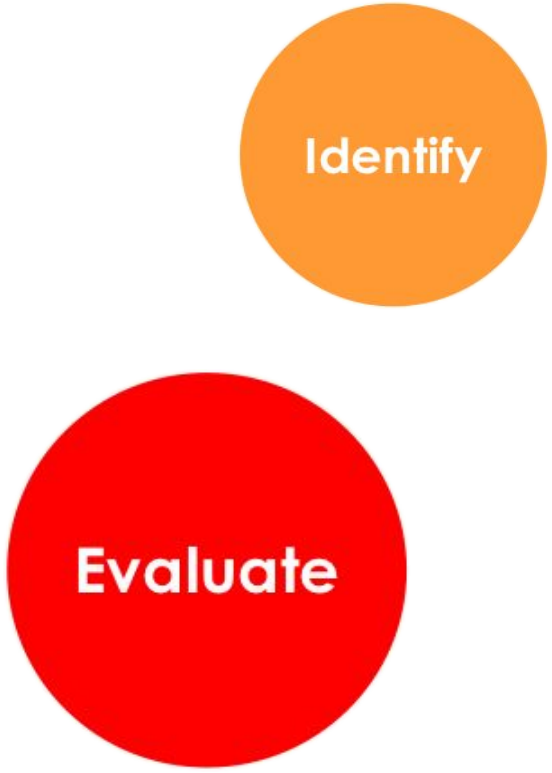
Open Science and Open Access to scholarly information

Library and Information Science Department

Contents

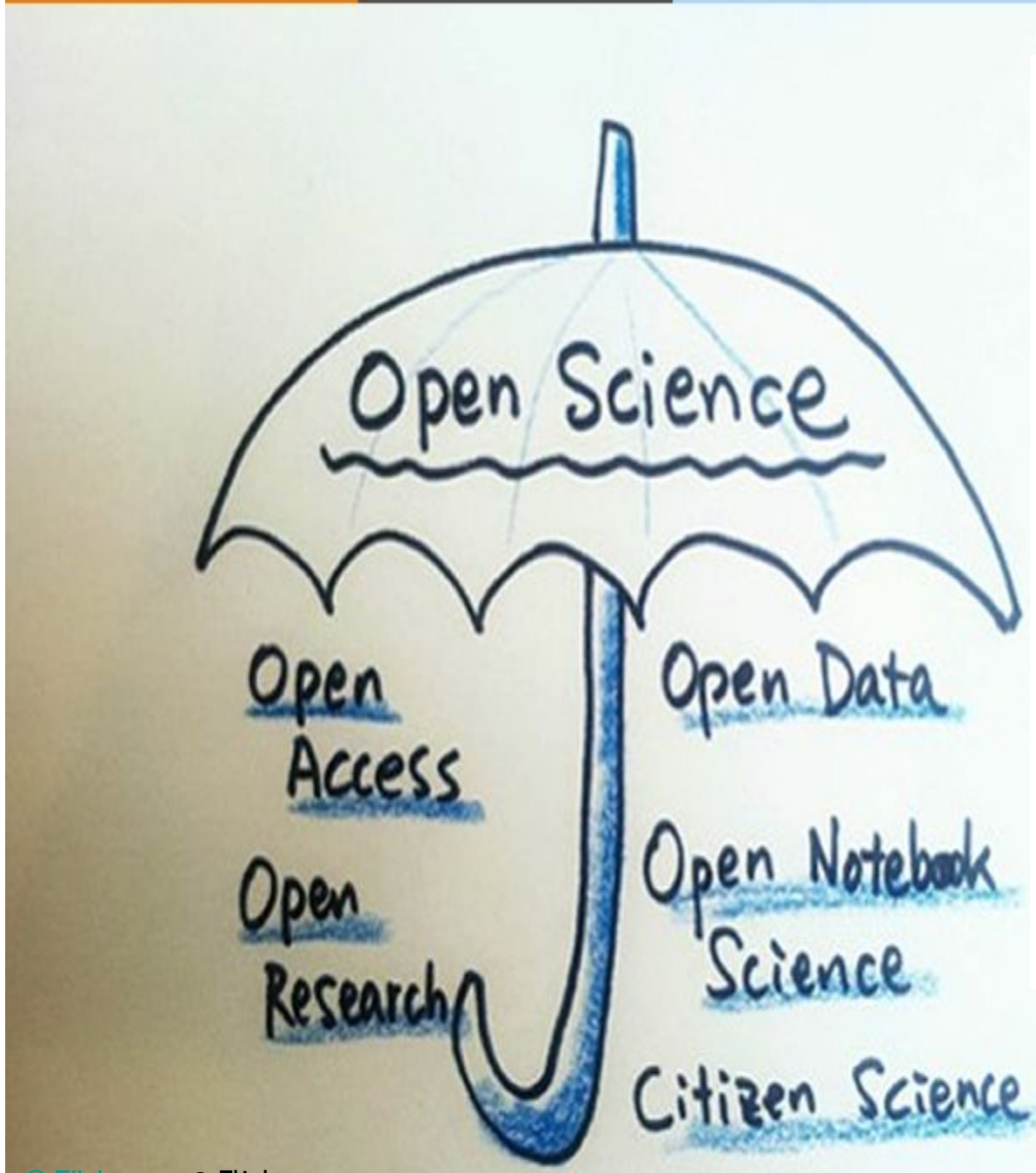
LESSON 1: Where to find reliable information

- Data, information and knowledge.
- Competences in information.
- Sources of information: typology and location.
- **Evaluation of information resources: OPEN**



Contents for today's session

- What is Open Science / Open Access
- Where to find reliable information in Open
- Find scholarly publications and Data in the OPEN
- Practice with this information resources to find information on your topic…



© Flickr user © Flickr user 지우 황

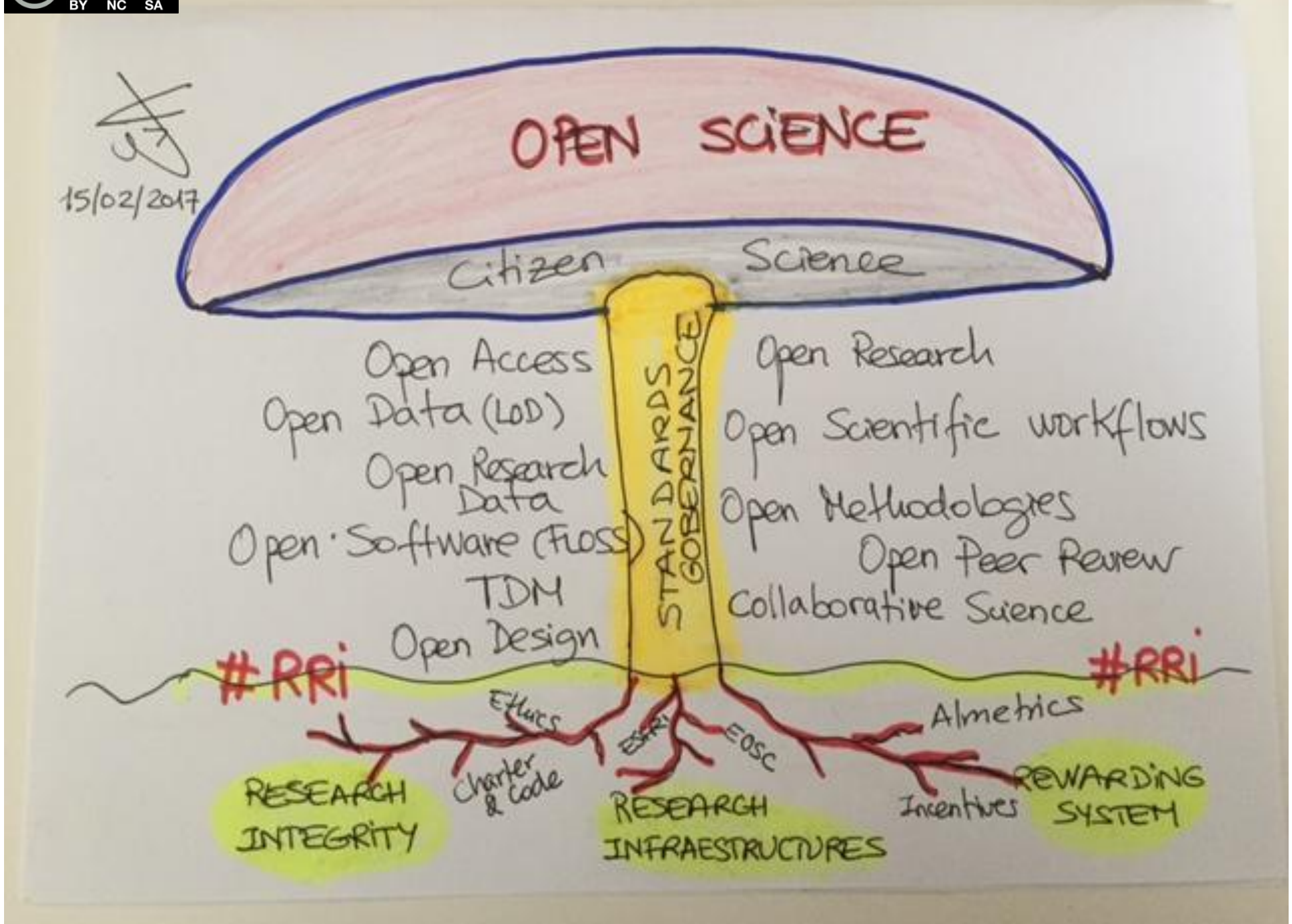
What is open science?

Open science commonly refers to efforts to make the output of publicly funded research more widely accessible in digital format to the scientific community, the business sector, or society more generally … to promote long-term research as well as innovation.

OECD Sept 2015

FOSTER

CC BY NC SA


15/02/2017
OPEN SCIENCE
Citizen Science
Open Access
Open Data (LOD)
Open Research Data
Open Software (FLOSS)
TDM
Open Design
STANDARDS GOBERNANCE
Open Research
Open Scientific workflows
Open Methodologies
Open Peer Review
Collaborative Science
#RRI
#RRI
Ethics
Charter & Code
ESFRI
EOSC
Almetrics
Incentives
RESEARCH INTEGRITY
RESEARCH INFRAESTRUCTURES
REWARDING SYSTEM

What´s Open Science?

Michael Nielsen (2011) "Open science is **the idea** that scientific knowledge of all kinds should be openly shared as early as is practical in the discovery process."

OECD (2015): "Open science commonly refers **to efforts to make** the output of publicly funded research more widely accessible in digital format to the scientific community, the business sector, or society more generally … to promote long-term research as well as innovation."

Research Information Network (2010): "**Science** carried out and communicated **in a manner** which allows others to contribute, collaborate and add to the research effort, with all kinds of data, results and protocols made freely available at different stages of the research process."

Wikipedia (2016): "Open science is **the movement** to make scientific research, data and dissemination accessible to all levels of an inquiring society, amateur or professional".

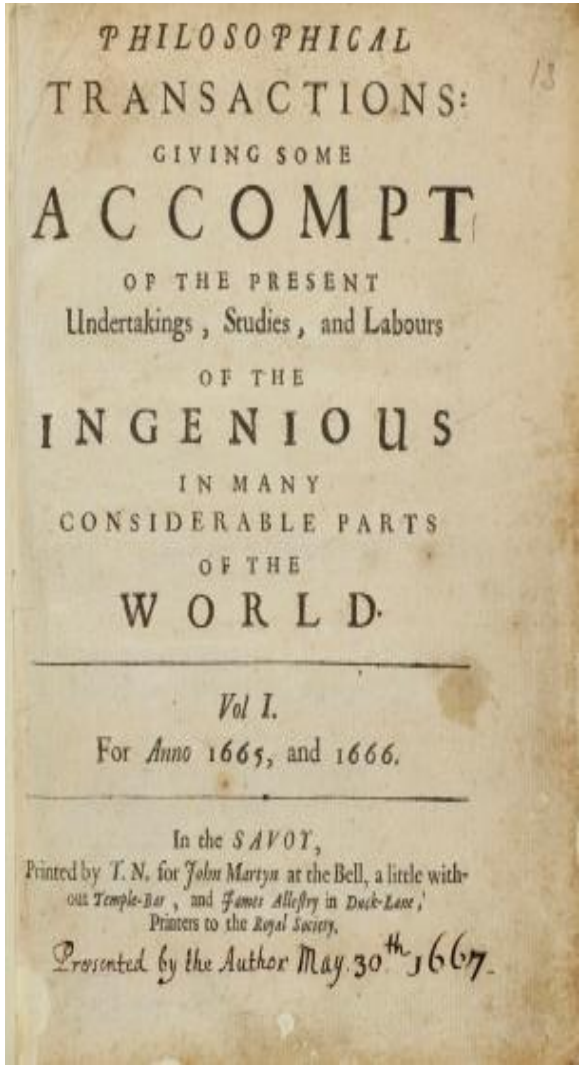
FOSTER Project (2014-2016): "Open Science is the practice of science in such a way that others can collaborate and contribute, where research data, lab notes and other research processes are freely available, under terms that enable reuse, redistribution and reproduction of the research and its underlying data and methods".

Benedikt Fecher & Sascha Friesike (2014): "Open Science is an **umbrella term** encompassing a multitude of assumptions about the future of knowledge creation and dissemination.

A long history…

XVII century: Science revolution

- First science academies
- 1665 Henry Oldenburg first editor of ***Philosophical Transactions of the Royal Society***, the first academic journal devoted to science
- Today over thousands of journals
- …but we need maybe now a 2nd Science Revolution



PHILOSOPHICAL
TRANSACTIONS:
GIVING SOME
ACCOMPT
OF THE PRESENT
Undertakings, Studies, and Labours
OF THE
INGENIOUS
IN MANY
CONSIDERABLE PARTS
OF THE
WORLD.

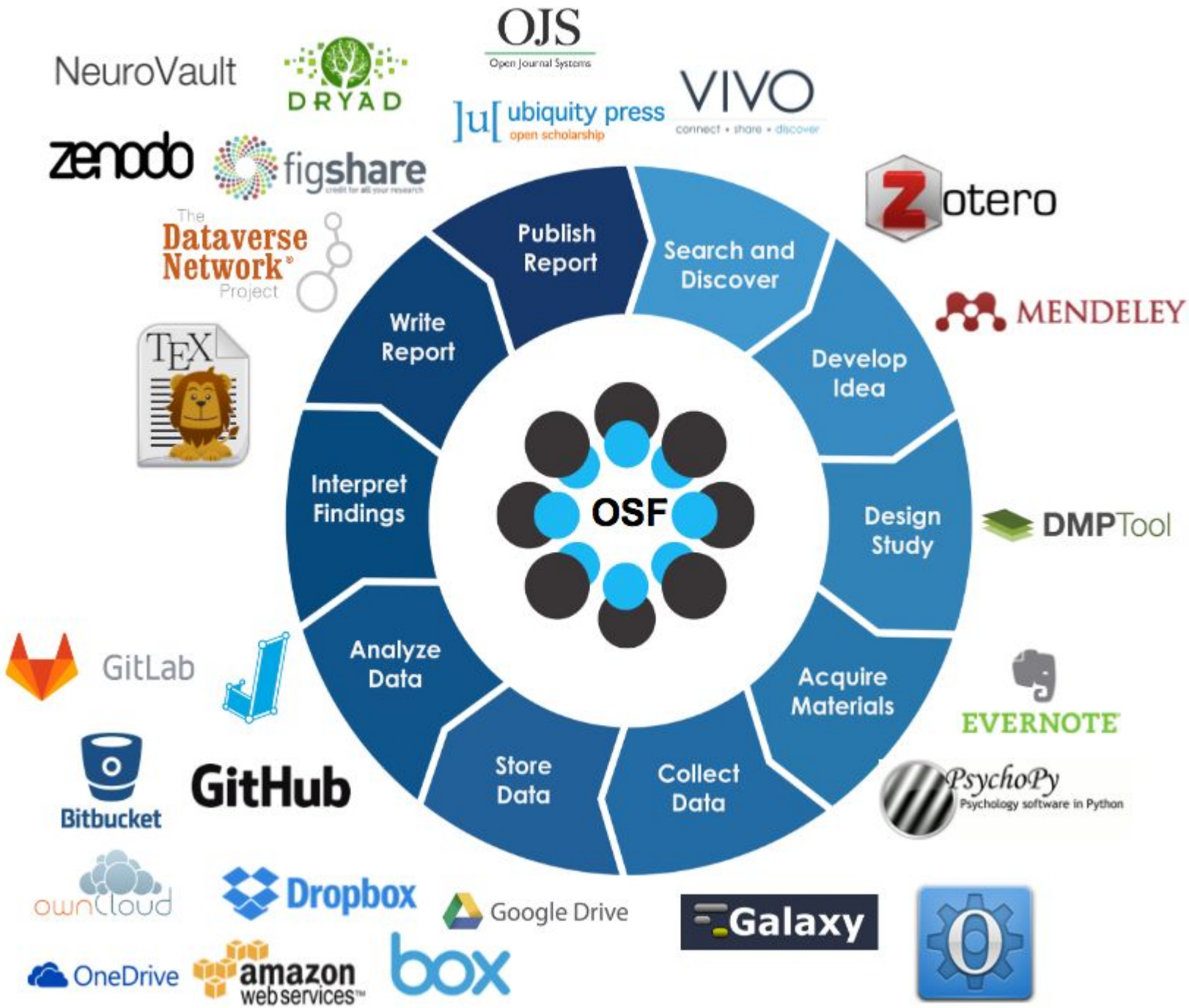
Vol I.
For Anno 1665, and 1666.

In the SAVOY,
Printed by T. N. for John Martyn at the Bell, a little without Temple-Bar, and James Allestry in Duck-Lane,
Printers to the Royal Society.
Presented by the Author May 30th 1667.

Key factors for Open Science

- Digital revolution
- Explosion of new tools to communicate science
- Data deluge
- More “scientific culture” among general public
- More pressure on science to have an impact on society

- Open Software (FOSS)
- Open Access
- Open Education (OERs, MOOCs)
- Open Data and LOD
- Open knowledge
- Creative Commons Licensing
- Open design
- Web 2.0 ▫ Open methods (colaboration, wiki: Open notebook science)
- And… **Open Science/Open Research**


NeuroVault
DRYAD
OJS
Open Journal Systems
ubiquity press
open scholarship
VIVO
connect • share • discover
zenodo
figshare
The Dataverse Network Project
Zotero
MENDELEY
TEX
Publish Report
Search and Discover
Develop Idea
Design Study
Acquire Materials
Collect Data
Store Data
Analyze Data
Interpret Findings
Write Report
OSF
DMPTool
GitLab
EVERNOTE
PsychoPy
Psychology software in Python
Bitbucket
GitHub
ownCloud
Dropbox
Google Drive
Galaxy
OneDrive
amazon web services
box

From Open Access to Open Science… Open Data & Open…ness (Implications)

Retrieved 2014-08-08

The Lancet, Volume 377, Issue 9768, Pages 849 - 862, 5 March 2011
doi:10.1016/S0140-6736(10)60667-8 Cite or Link Using DOI
This article can be found in the following collections: Infectious Diseases (Infectious diseases-other)
Published Online: 16 November 2010

2011

< Previous Article | Next Article >

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Ebola haemorrhagic fever

Dr Heinz Feldmann MD [a] [b], Thomas W Geisbert PhD [c]

Summary

Ebola viruses are the causative agents of a severe form of viral haemorrhagic fever in man, designated Ebola haemorrhagic fever, and are endemic in regions of central Africa. The exception is the species Reston Ebola virus, which has not been associated with human disease and is found in the Philippines. Ebola virus constitutes an important local public health threat in Africa, with a worldwide effect through imported infections and through the fear of misuse for biological terrorism. Ebola virus is thought to also have a detrimental effect on the great ape population in Africa. Case-fatality rates of the African species in man are as high as 90%, with no prophylaxis or treatment available. Ebola virus infections are characterised by immune suppression and a systemic inflammatory response that causes impairment of the vascular, coagulation, and immune systems, leading to multiorgan failure and shock, and thus, in some ways, resembling septic shock.

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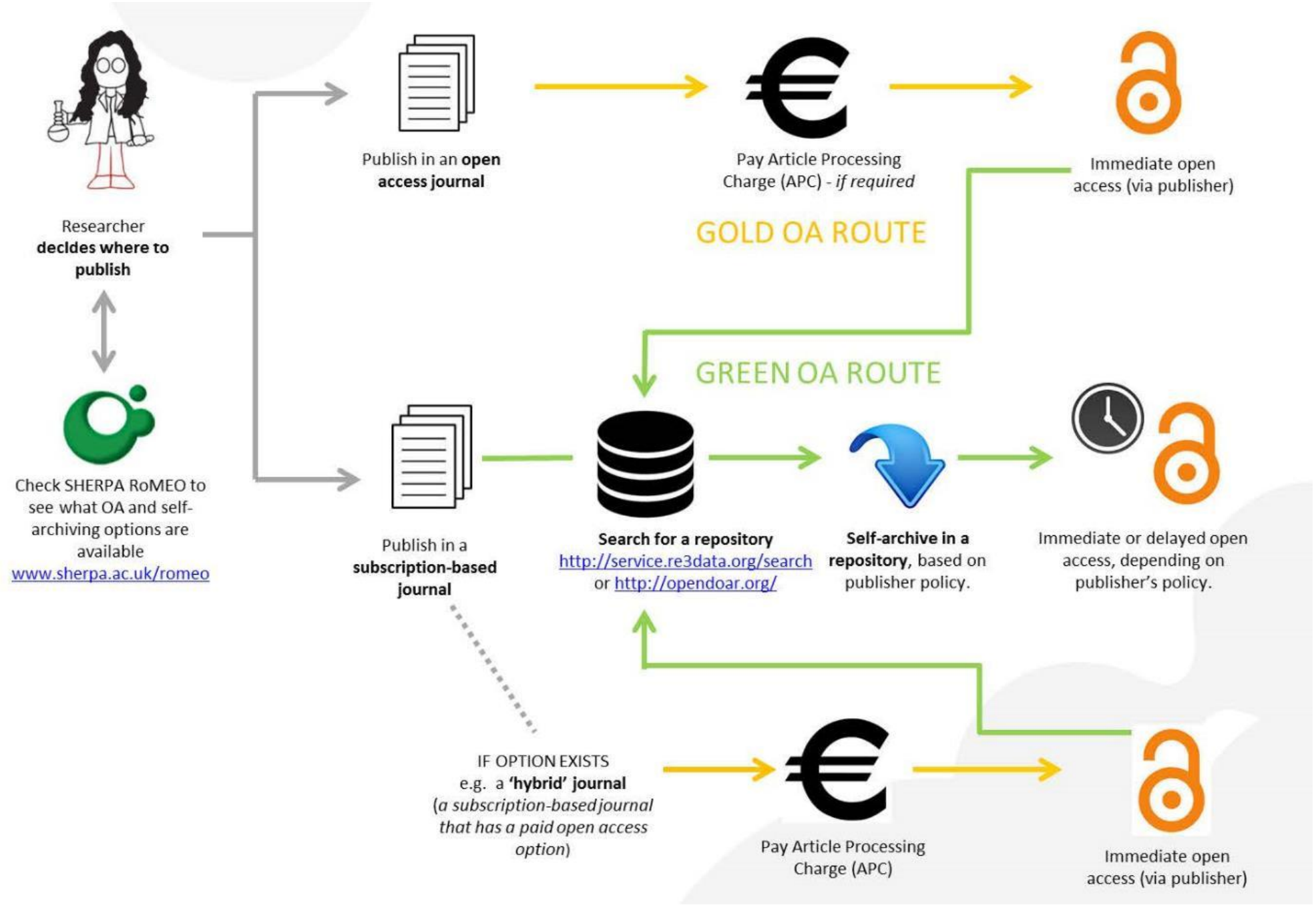
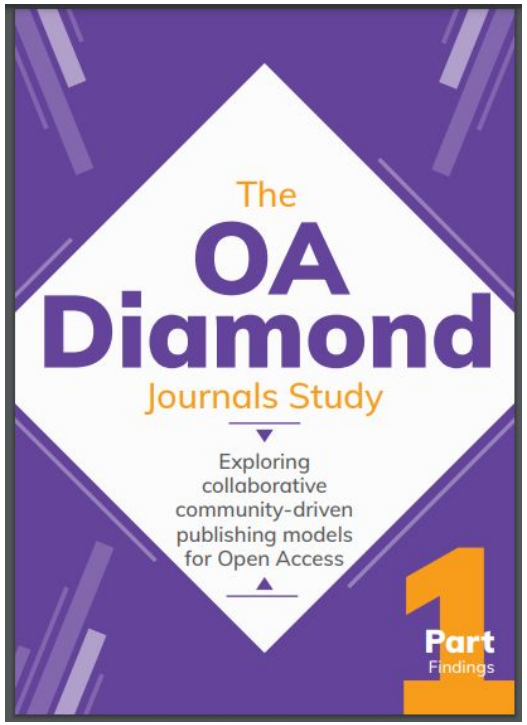
Closed Access Means People Die

Open Access to publications

- Free, immediate, online access to the results of research
- Free to reuse e.g. to build tools to mine the content
- Two options:
  - Green route: self-archiving Open Access copy in repository
  - Gold route: paying APCs to ensure publishers makes copy open
- Journals' OA polices from publishers SHERPA RoMEO www.sherpa.ac.uk/romeo



10.5281/zenodo.4558704



OpenAIRE Factsheets

Then… why Open Science?

- ✔ *Greater **visibility** and **impact** for authors & projects*
- ✔ *Makes research **networked & interconnected***
- ✔ *Networked research **generates serendipity** by default*
- ✔ *Speeds up innovation & discovery, takes ideas to the market & **solutions to societal challenges***
- ✔ You can access relevant literature – not behind pay walls
- ✔ Ensures research is transparent and reproducibl
- ✔ New collaborations and research partnerships
- ✔ Ensure long-term access to your outputs
- ✔ Help increase the efficiency of research
- ✔ *Directly contributes to **ECONOMIC GROWTH** !!!*

REPRODUCIBILITY !!!

Open Data (PSI and research data)

"Open data and content can be freely used, modified and shared by anyone for any purpose"

http://opendefinition.org

Tim Berners-Lee's proposal for five star open data - http://5stardata.info

- make your stuff available on the Web (whatever format) under an open licence
- make it available as structured data (e.g. Excel instead of a scan of a table)
- use non-proprietary formats (e.g. CSV instead of Excel)
- use URIs to denote things, so that people can point at your stuff
- link your data to other data to provide context

Example of debate: Open Access

1. What is open access?

Open access (OA) refers to the practice of providing online access to **scientific information** that is free of charge to the end-user and reusable. 'Scientific' refers to all academic disciplines. In the context of research and innovation, 'scientific information' can mean:

1. peer-reviewed scientific research articles (published in scholarly journals) or
2. research data (data underlying publications, curated data and/or raw data).

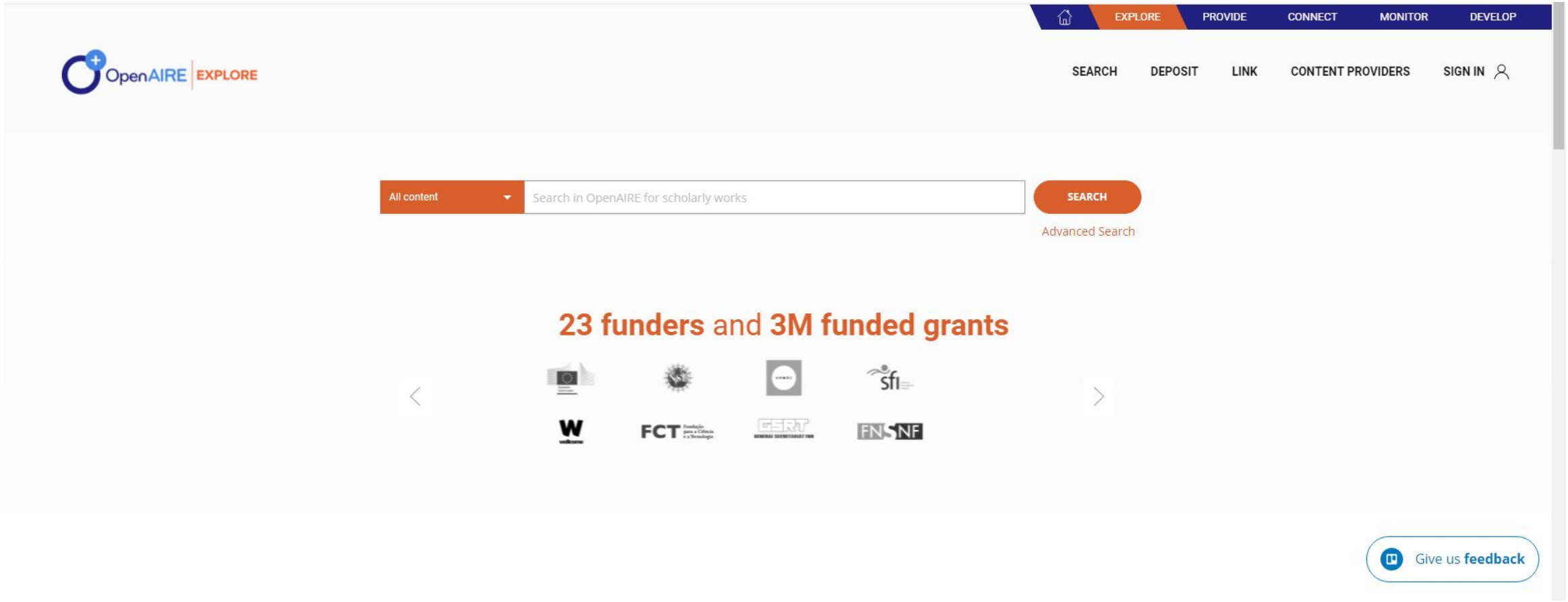
H2020 Guidelines to the Rules on Open Access to Scientific Publications and Open Access to research Data.

What is OPEN ACCESS (whatch the video)

https://www.youtube.com/watch?v=L5rVH1KGBCY

Find Open Access PUBLICATIONS

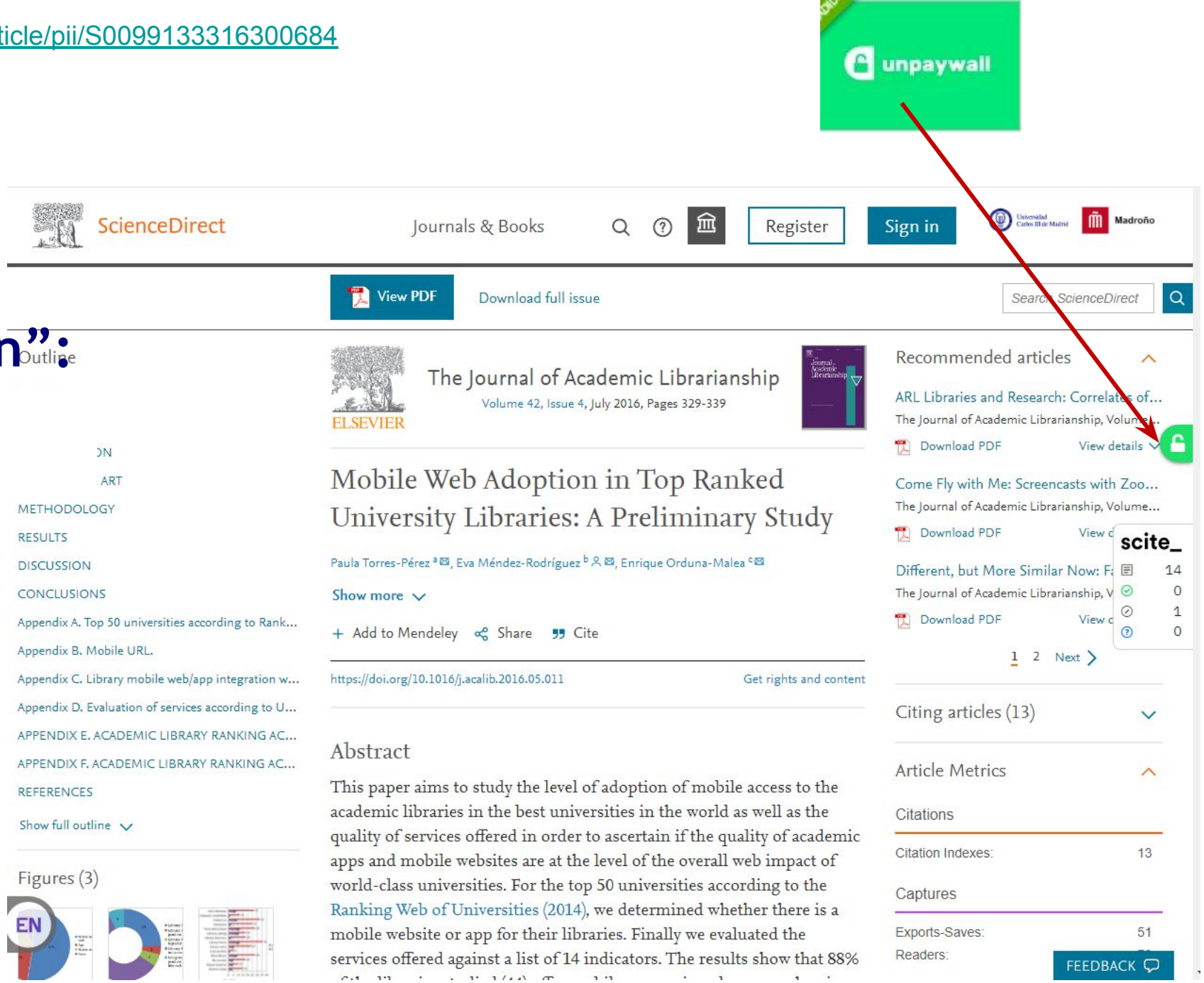
OpenAire (green/gold) https://explore.openaire.eu



https://www.sciencedirect.com/science/article/pii/S0099133316300684

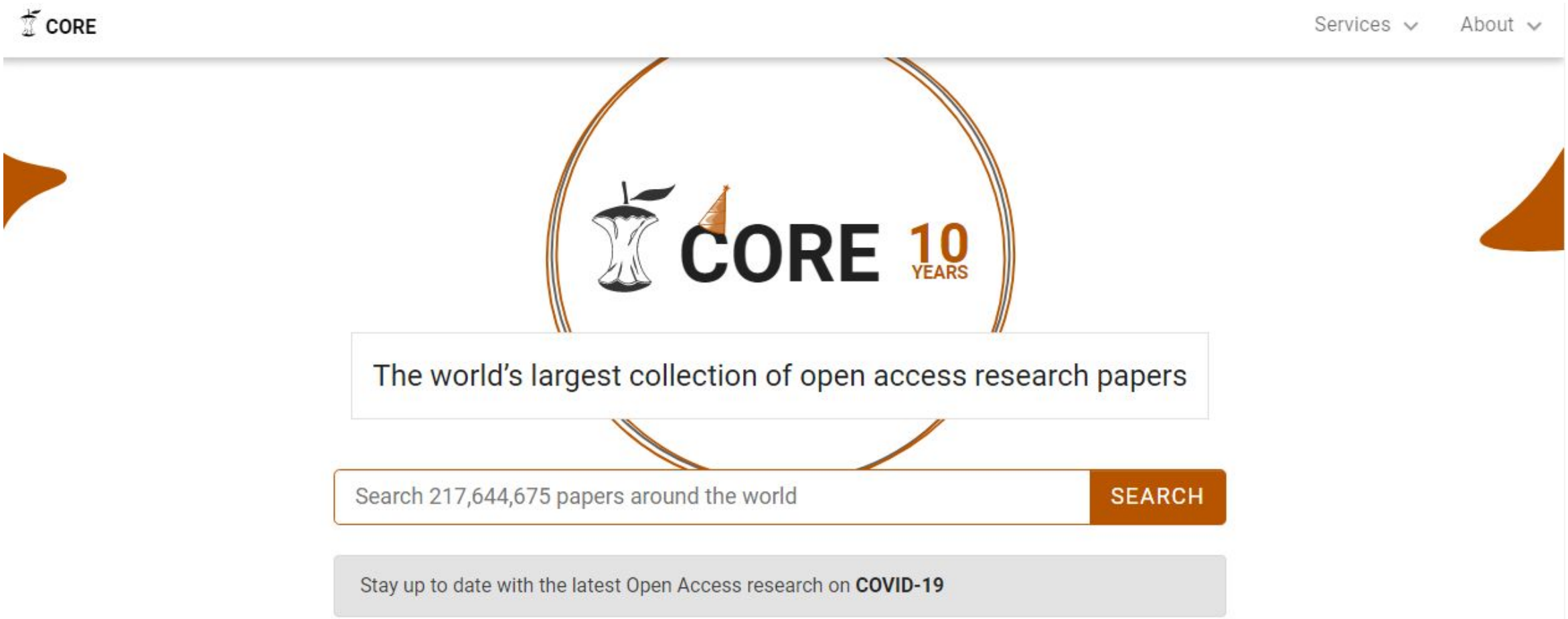
To read “in the Open”: Unpaywall

Chrome extension

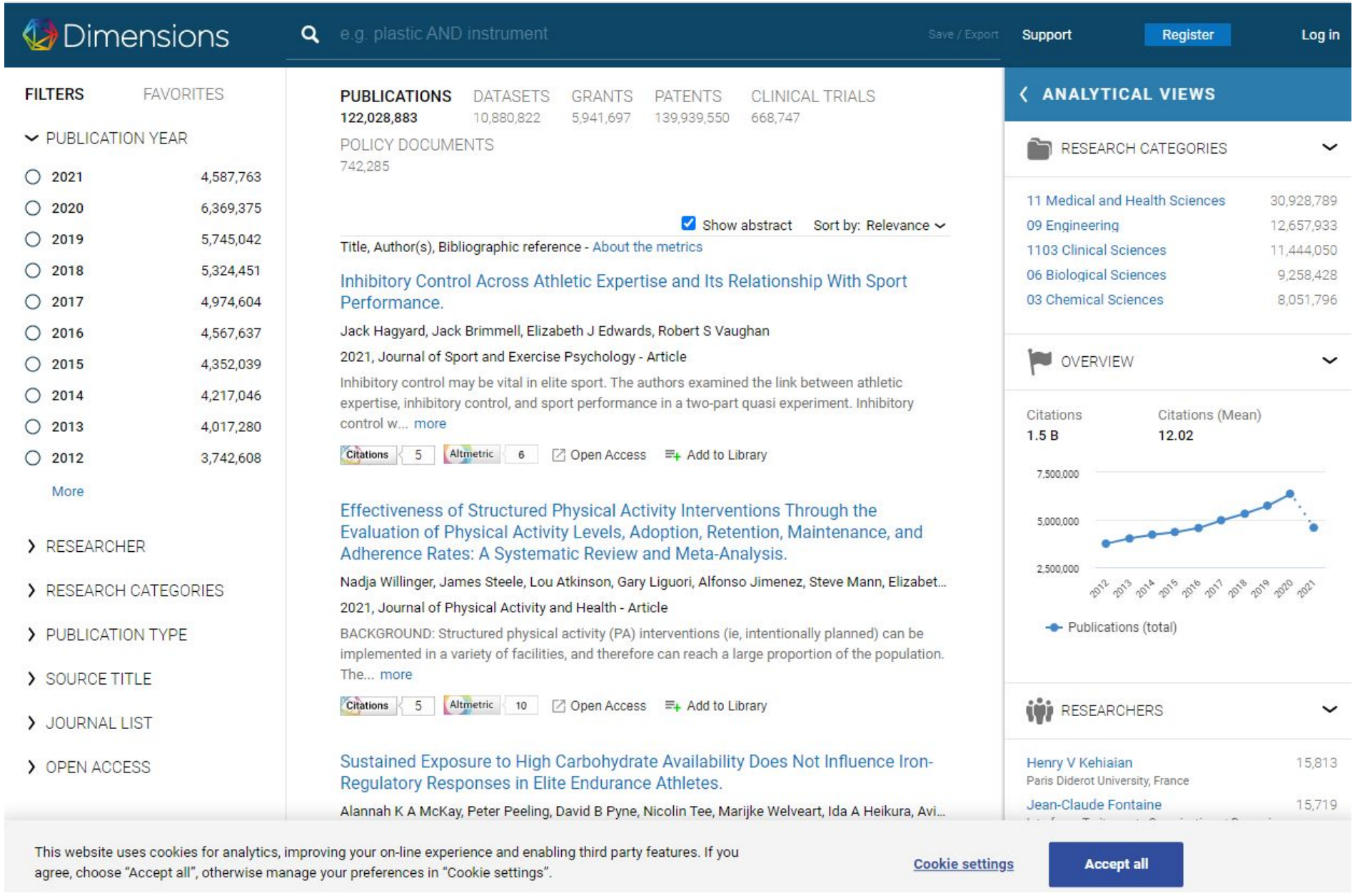


UnpayWall: connects with the free/open version of the paper

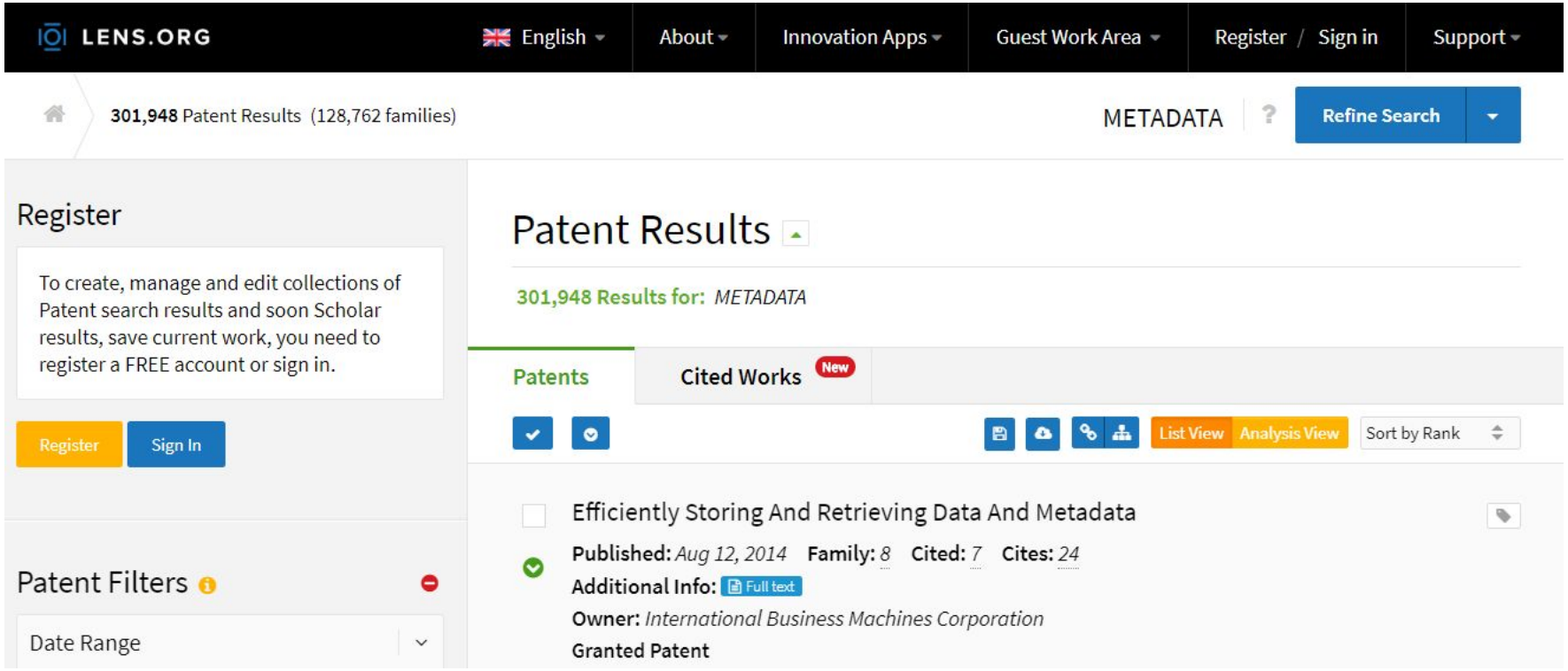
Core: https://core.ac.uk



Dimensions: https://app.dimensions.ai/discover/publication

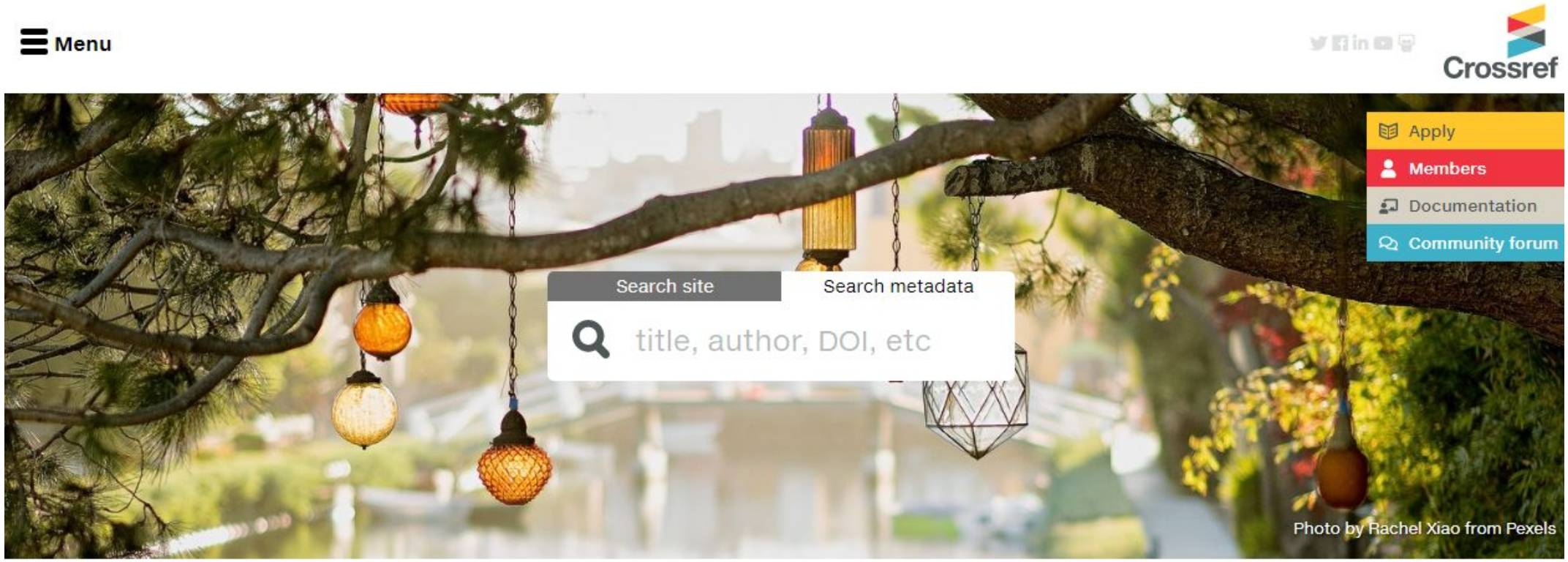


LENS: https://www.lens.org



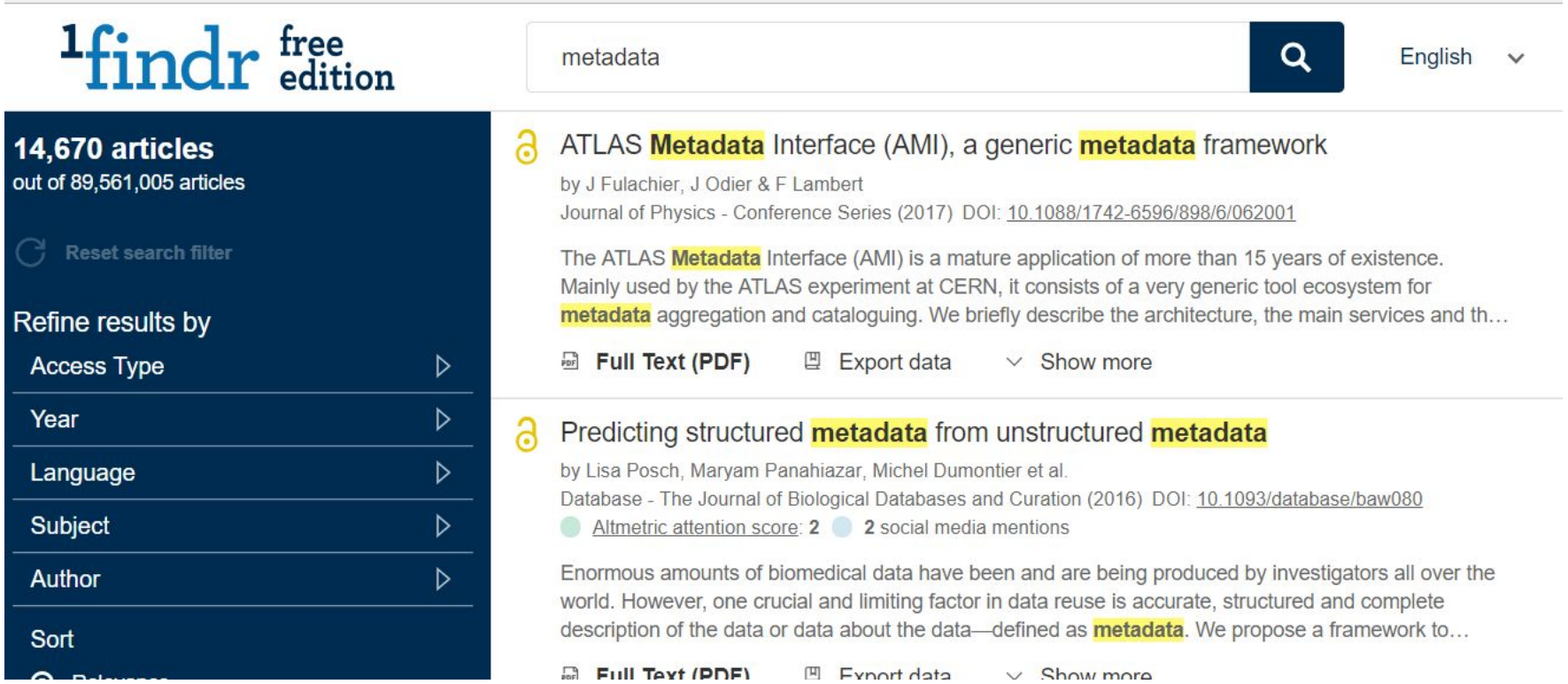
And of course… GOOGLE Scholar: https://scholar.google.com/

All the publications with DOI in Crossref: https://www.crossref.org/



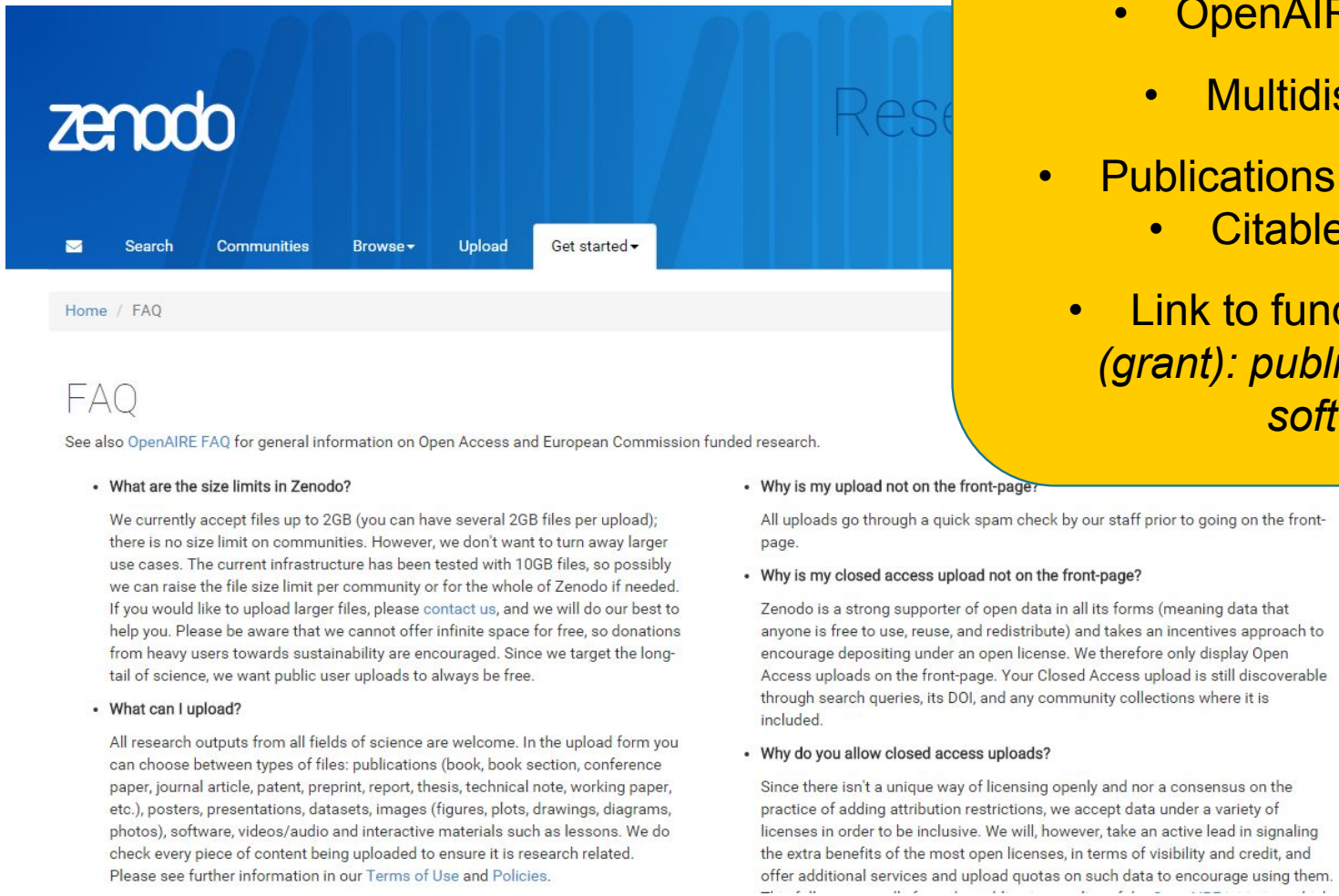
Crossref makes research outputs easy to find, cite, link, assess, and reuse. We're a not-for-profit membership organization that exists to make scholarly communications better.

1Findr: https://1findr.1science.com



Find Open Research Access DATA

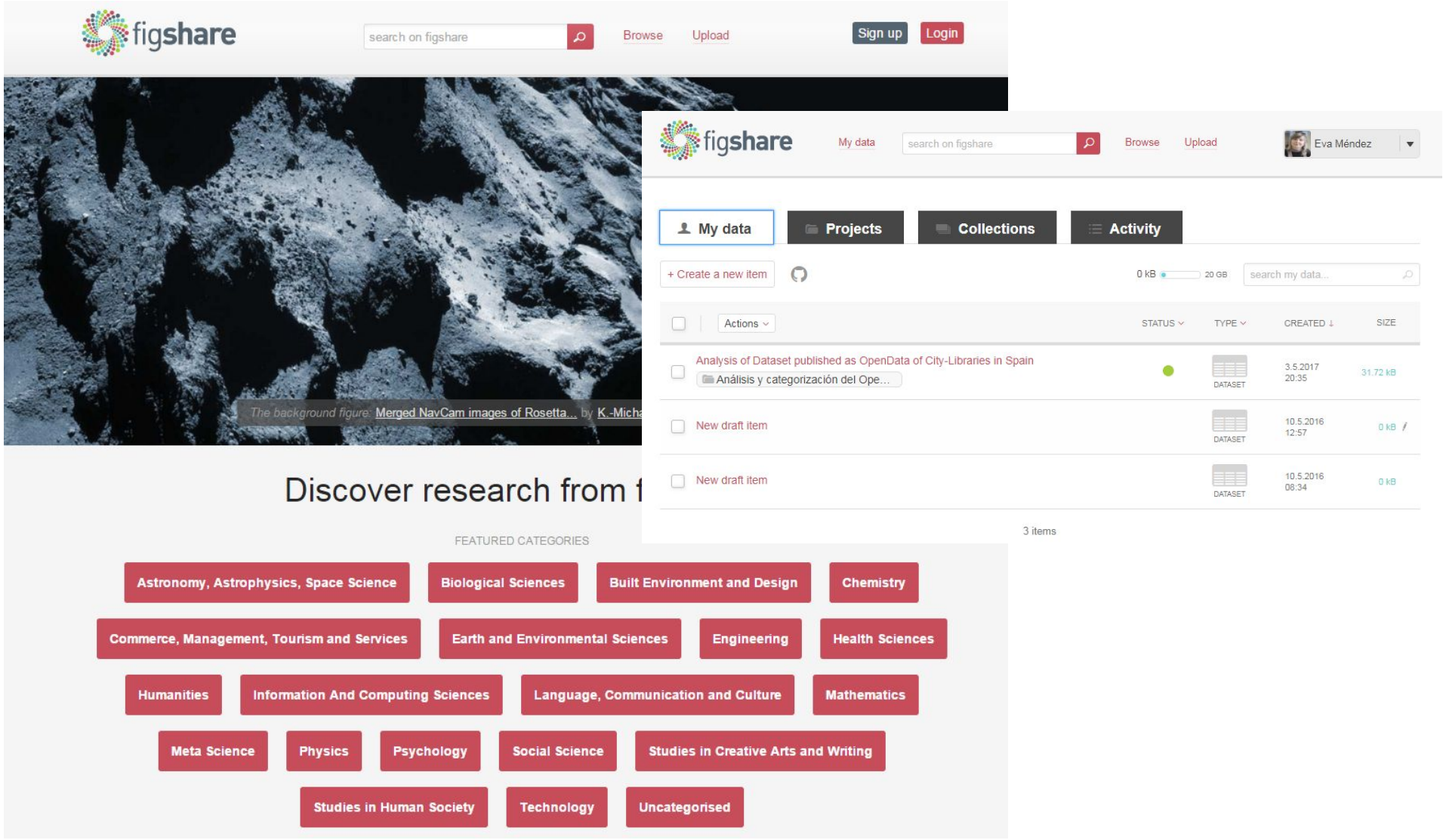
Zenodo: https://zenodo.org



Zenodo.org

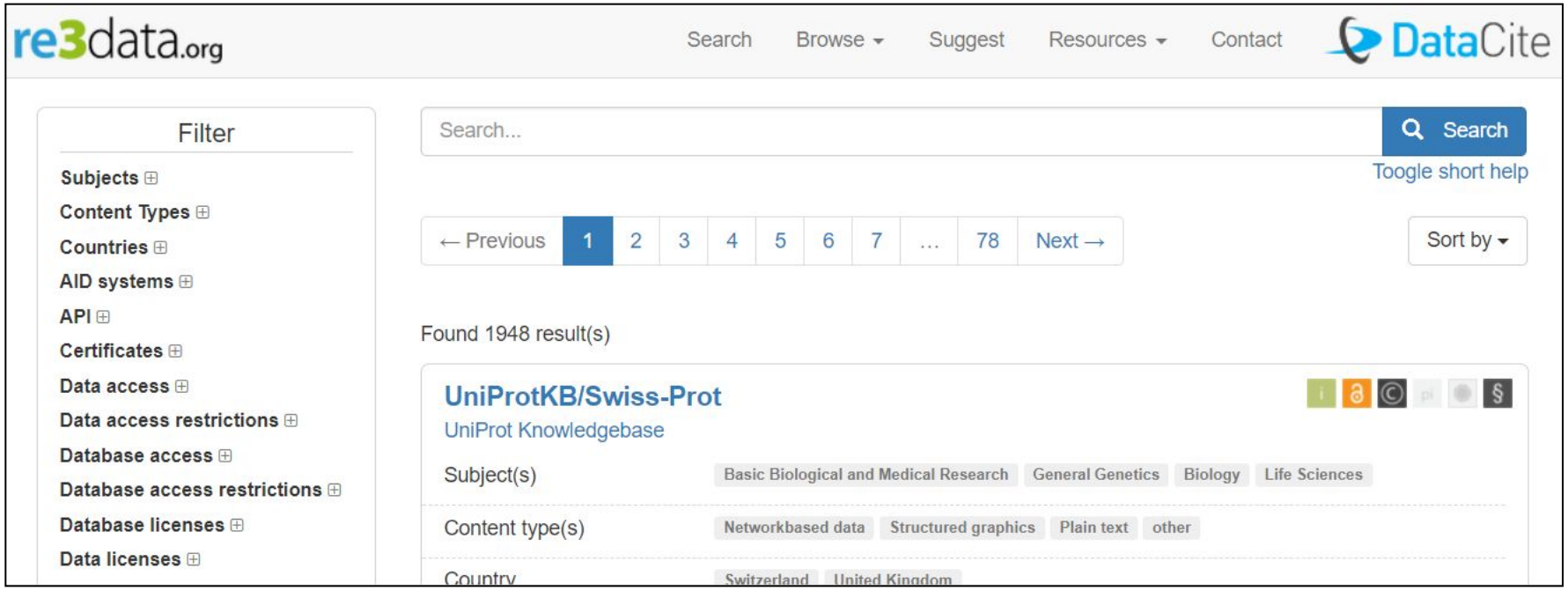
- OpenAIRE-CERN
- Multidisciplinar
- Publications and *datasets*
- Citables (DOI)
- Link to funding agency *(grant): publications, data, software*

Figshare: https://figshare.com



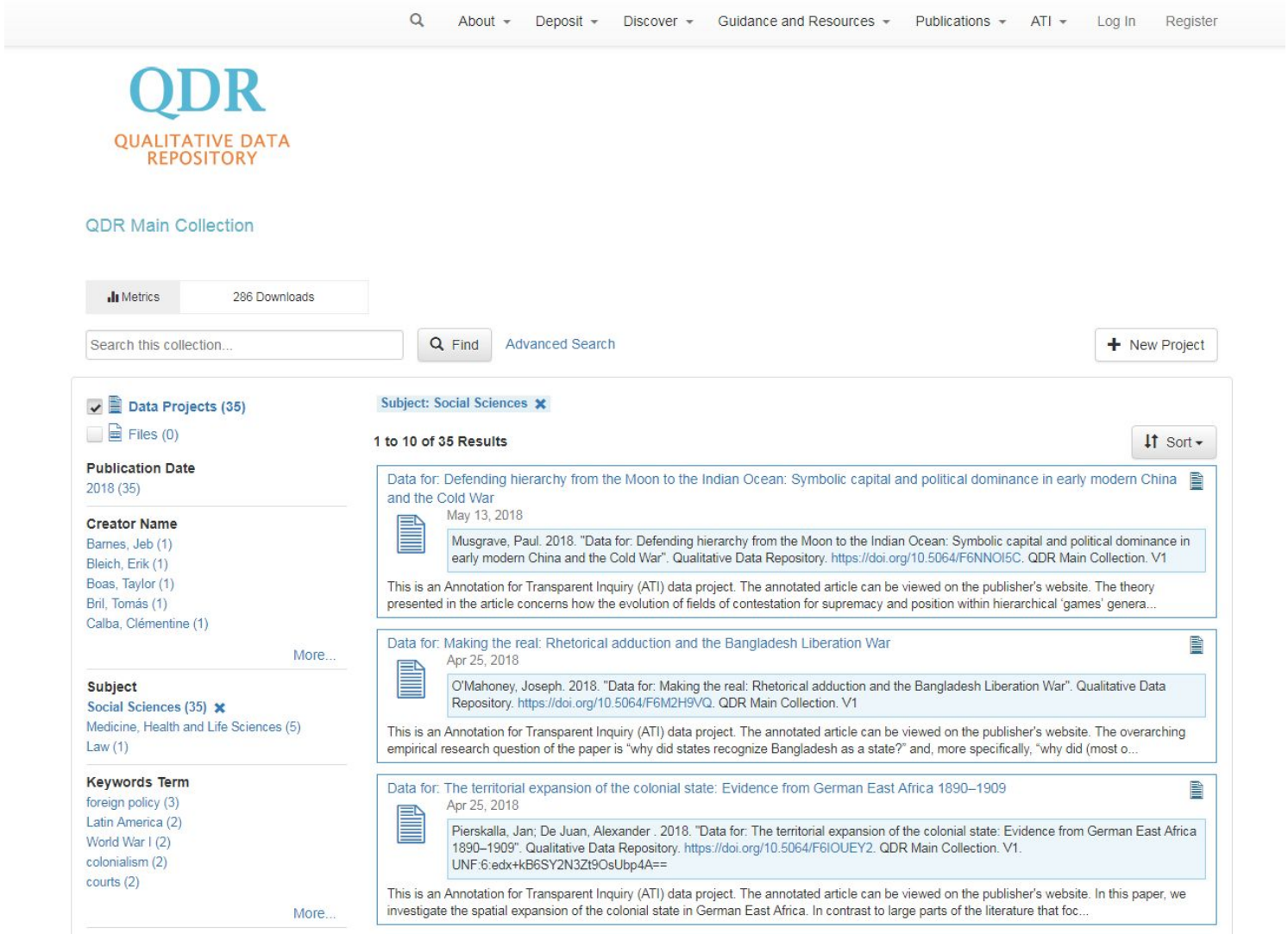
Re3data: http://service.re3data.org

Data repositories by discipline/topic



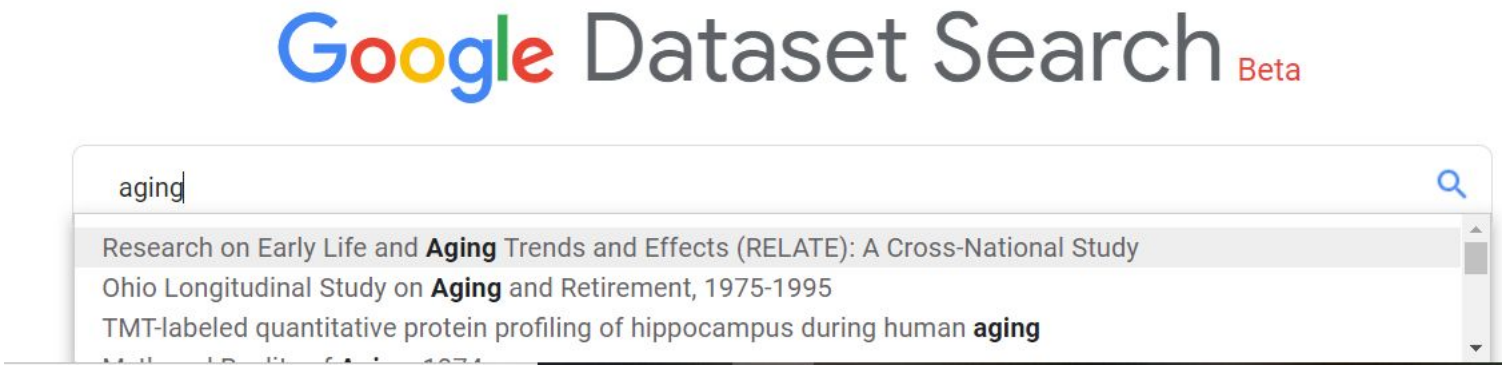
Search for qualitative data

https://qdr.syr.edu



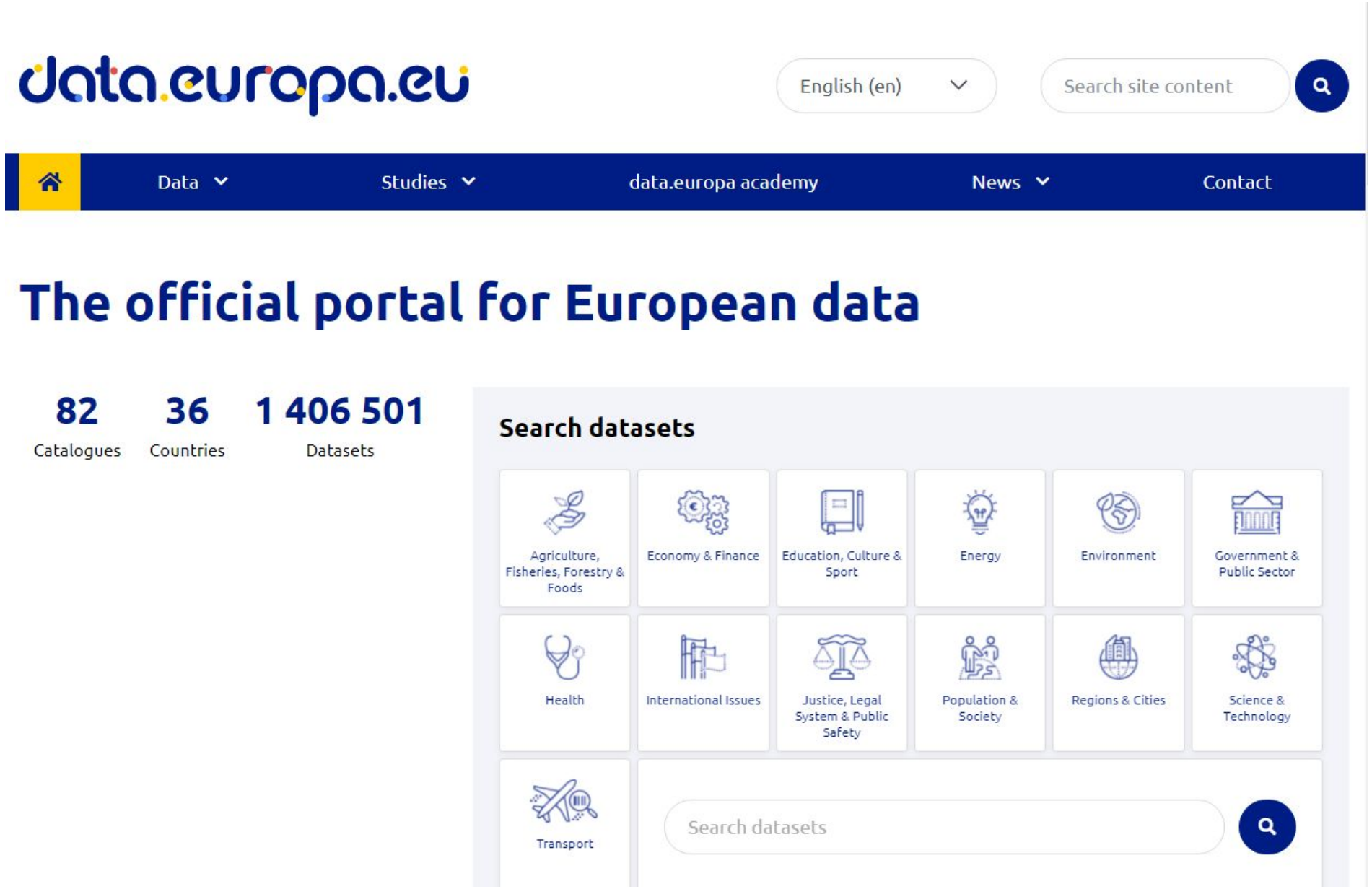
And Google

https://toolbox.google.com/datasetsearch



Find Open public DATA: Transparency (gov)

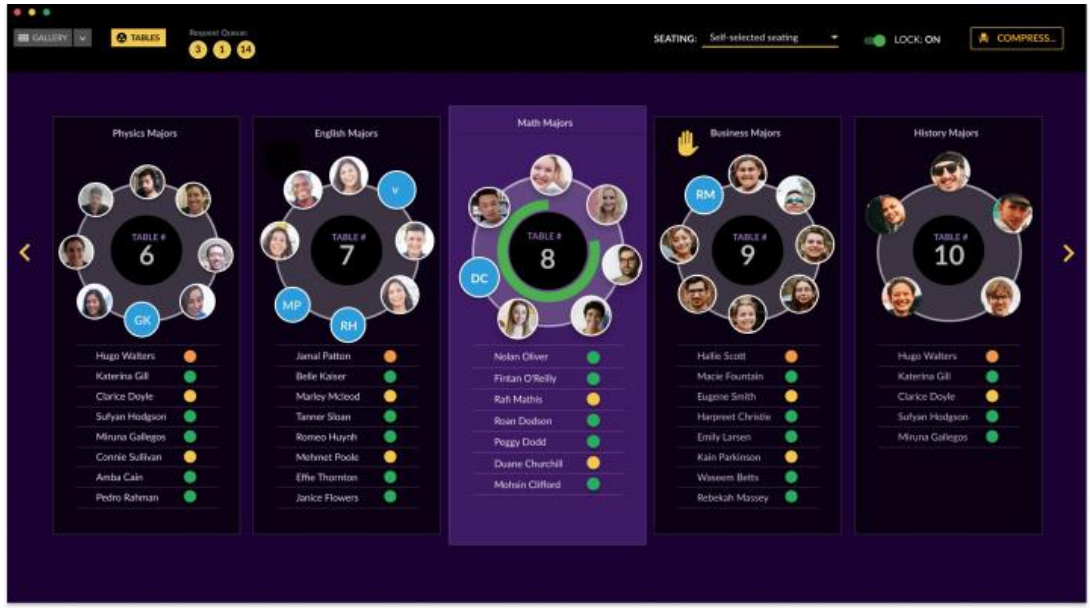
Search for Open Gov Data (Europe) https://data.europa.eu



Search for Open Gov Data (Spain) http://datos.gob.es

Search for Open Gov Data (US) https://www.data.gov

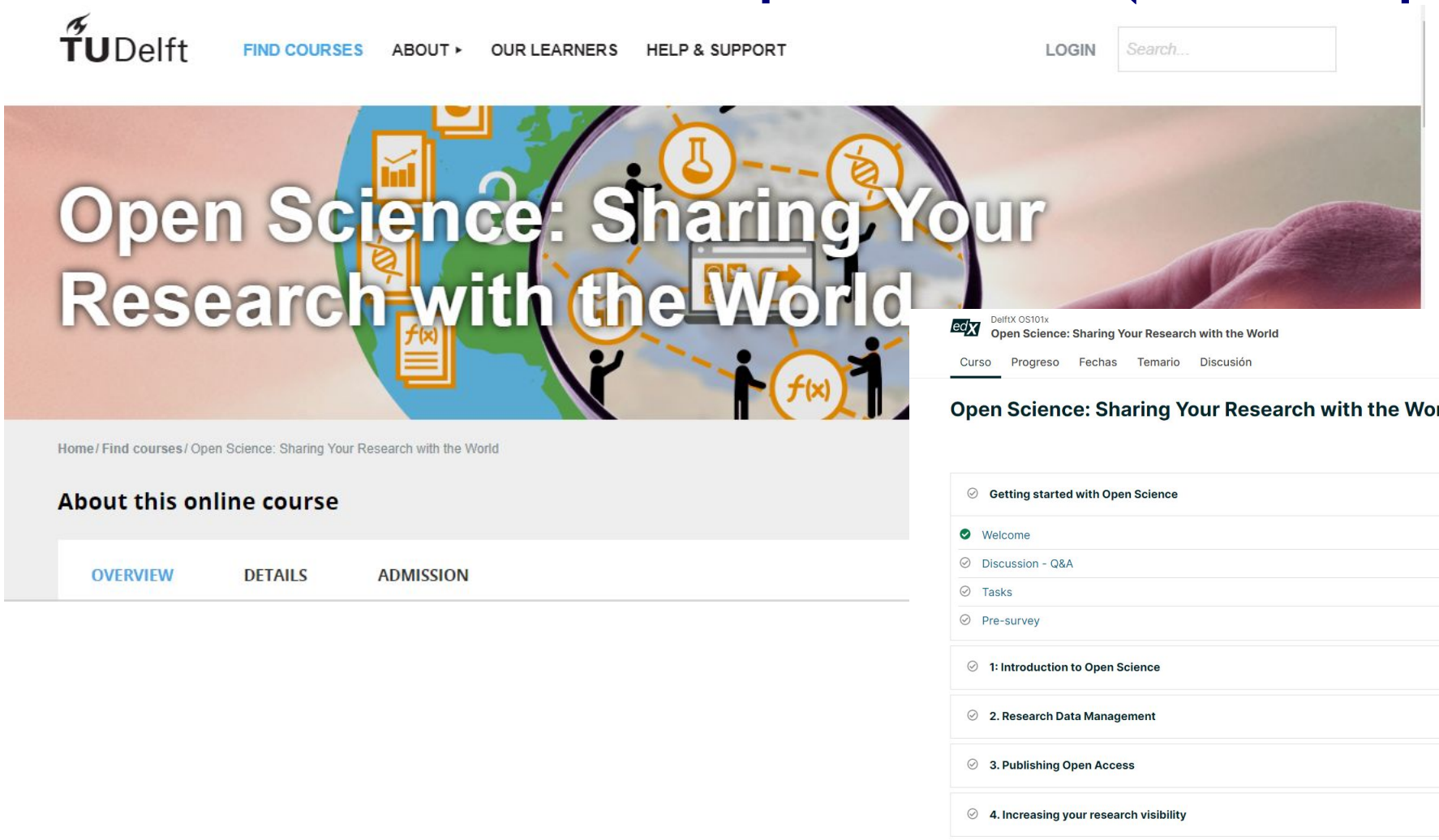
WORK IN YOUR TABLE: Search for Open Information for your essay

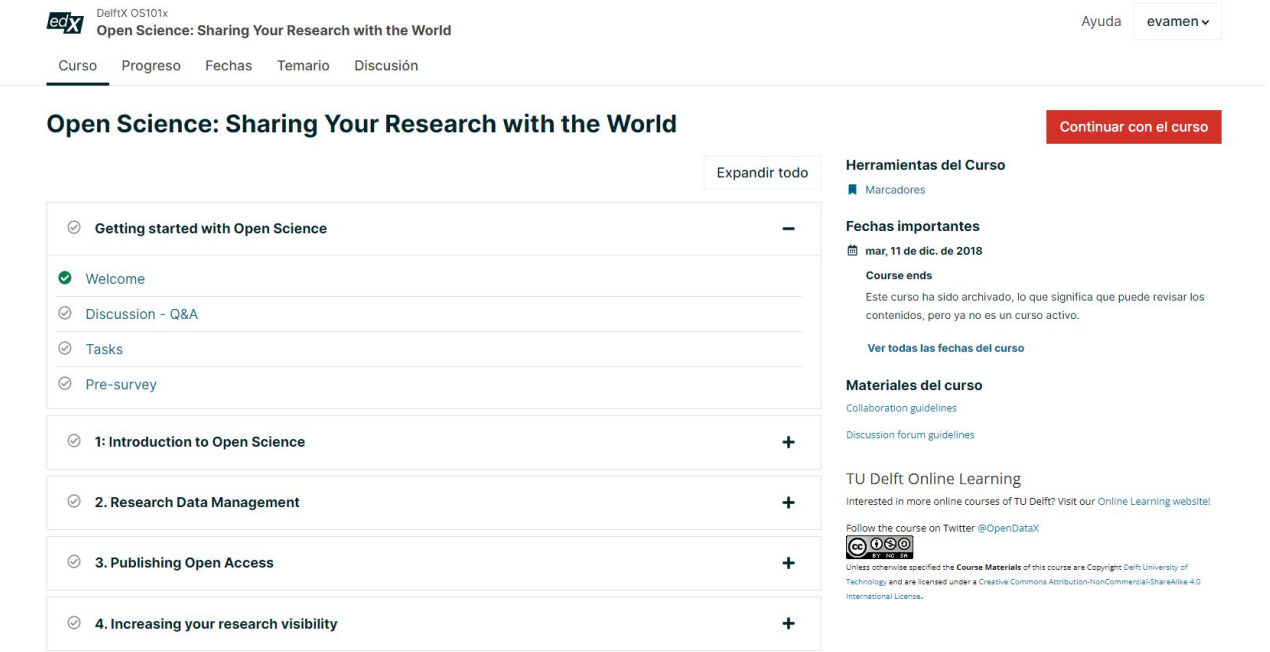


- Use all the resources mentioned in this lesson to find Open/free information about your essay's topic
- Look for reliable Open Data, Open Access publications
- Evaluate them
- Will you use them in your Academic/Scholarly work?

To know more on Open Science…

edX MOOC on Open Science (now self-paced)





https://www.edx.org/course/open-science-sharing-your-research-with-the-world