MSCA UniTo, June 20, 2022

Open Science why and how

Elena Giglia

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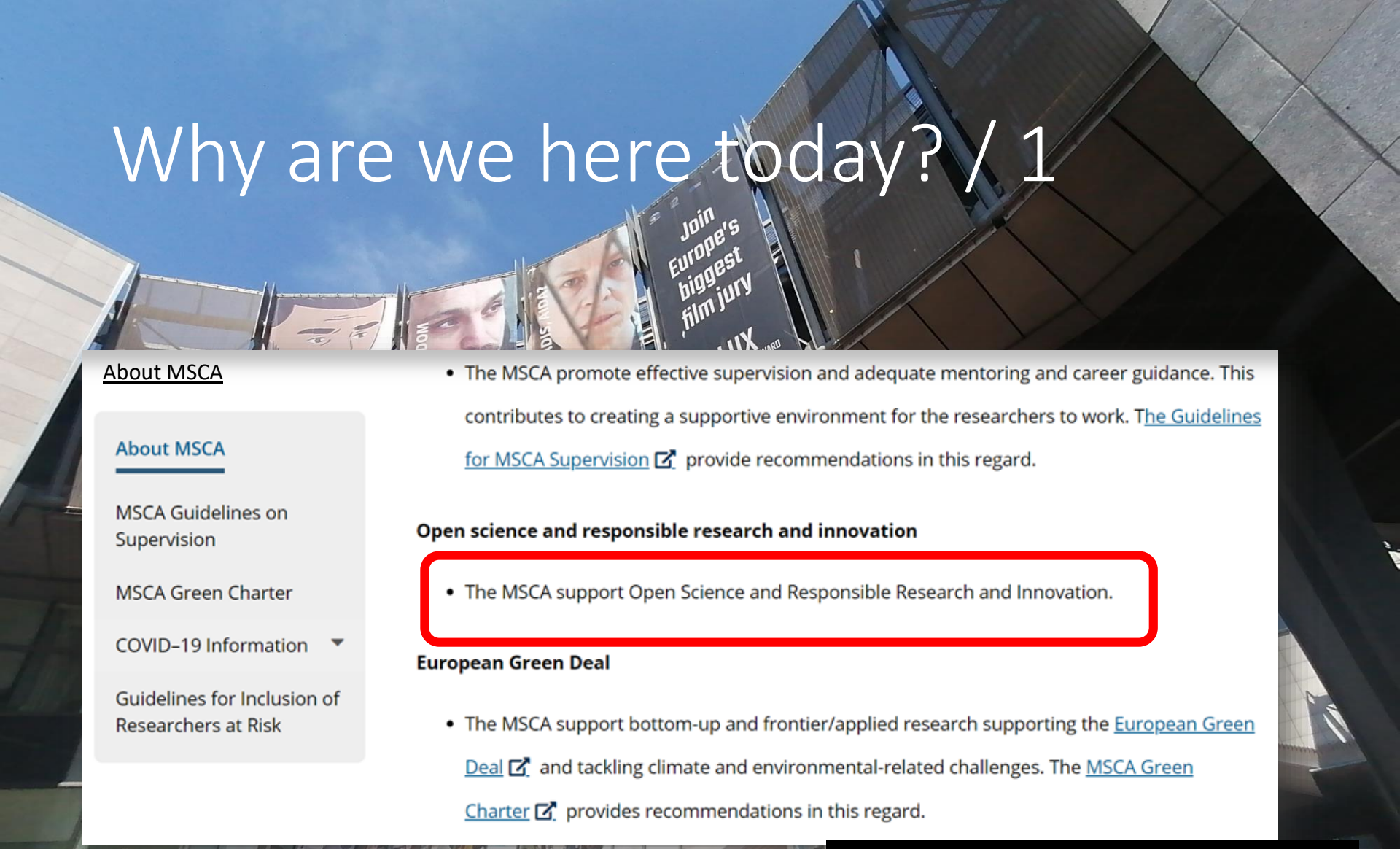
@egiglia

Housekeeping

THERE WILL BE A BREAK AFTER THE FIRST PART

QUESTIONS WILL BE TAKEN AT THE END OF THE FIRST PART, BUT OF COURSE YOU CAN NOTE THEM DOWN WHILE I'LL BE SPEAKING

Why are we here today? / 1



About MSCA

About MSCA

MSCA Guidelines on Supervision

MSCA Green Charter

COVID-19 Information

Guidelines for Inclusion of Researchers at Risk

- The MSCA promote effective supervision and adequate mentoring and career guidance. This contributes to creating a supportive environment for the researchers to work. The Guidelines for MSCA Supervision provide recommendations in this regard.

Open science and responsible research and innovation

- The MSCA support Open Science and Responsible Research and Innovation.

European Green Deal

- The MSCA support bottom-up and frontier/applied research supporting the European Green Deal and tackling climate and environmental-related challenges. The MSCA Green Charter provides recommendations in this regard.

BECAUSE MSCA SUPPORT OPEN SCIENCE AND RESPONSIBLE RESEARCH AND INNOVATION…

Benefits of MSCA:

for organisations

- High-quality research training and supervision offered
- Build up strong research and innovation partnerships
- Strengthened research capacity
- Improved human resources and working conditions to attract the best researchers
- Sustainable knowledge transfer and new international and inter-sectoral collaborations
- Enhanced global visibility and attractiveness

for researchers

- New knowledge and skills in and outside academia
- Increased career prospects and employability
- Innovation-oriented mind-set, to convert ideas into products and services
- Networking and increased visibility in the European R&I community
- International, interdisciplinary and inter-sectoral experience and exposure
- Access to leading organisations and their teams

for European Research and Innovation

- Scientific excellence promoted in all countries
- Attract and retain talents in Europe
- High quality R&I for Europe's sustainable growth
- Increased strategic cooperation and brain circulation between countries, disciplines and sectors
- New links between research, industry and society
- Stronger European Research Area (ERA)

...BECAUSE ALL THESE BENEFITS ARE SOMEHOW RELATED TO OPEN SCIENCE...

MSCA factsheet

Why are we here today? / 3

Webinar Apr. 21, 2021

Excellence – aspects to be taken into account.

- Clarity and pertinence of the project's objectives, and the extent to which the proposed work is ambitious, and goes beyond the state of the art.
- Soundness of the proposed methodology, including the underlying concepts, models, assumptions, interdisciplinary approaches, appropriate consideration of the gender dimension in research and innovation content, and the quality of open science practices, including sharing and management of research outputs and engagement of citizens, civil society and end users where appropriate.

Application template

BECAUSE OF A DIRECT CALL:
OPEN SCIENCE IS A METHODOLOGY.
THAT'S WHY IN HORIZON EUROPE IT HAS BEEN MOVED TO THE
«EXCELLENCE» SECTION OF THE PROPOSAL TEMPLATE…
AND YOU WILL BE EVALUATED
ON HOW YOUR PROPOSAL ADOPTS/ADAPTS OS PRACTICES

Why are we here /

Ministero dell'Università e della Ricerca

PNR 2021-2027

Home | Ministero | Aree tematiche | Atti e normativa | Siti di interess

Home | Aree tematiche | Ricerca | Programmazione | Programma nazionale per la ricerca

Programma nazionale per la ricerca

A NEW PLAYER: MUR!

NATIONAL PLAN OPEN SCIENCE

[PUBLISHED JUNE 15 2022]

5 PILLARS

1. OPEN ACCESS TO PUBLICATIONS
2. FAIR DATA
3. RESEARCH ASSESSMENT
4. COMMUNITY ENGAGEMENT
5. COVID DATA

MUR Ministero dell'Università e della Ricerca

UNIVERSITÀ RICERCA

Home | Atti e normativa | Tutte le disposizioni | Decreto Ministeriale n. 268 del 28-02-2

Decreto Ministeriale n. 268 del 28-02-2022

Programma Nazionale per la Scienza Aperta (PNSA) 2021-2027

June 15, 2022

N° Atto 268

Pubblicato il 15/06/2022 - 13:21

Data di protocollo 28/02/2022 - 18:00

MUR Ministero dell'Università e della Ricerca

UNIVERSITÀ RICERCA

Home | Atti e normativa | Tutte le disposizioni | Decreto Direttoriale n. 42 del 14-03-2023

Decreto Direttoriale n. 42 del 14-03-2023

Tavolo di lavoro per l'implementazione del Programma Nazionale per Scienza Aperta 2021-2027 (D.M. 268/2022) – Nomina componenti

AFTER A LONG LABOUR (3 YEARS…) LET'S SEE ABOUT THE IMPLEMENTATION AND FUNDING

What are we going to see?

Why should we care about Open Science

What is Open Science / and what is not

3 focuses: Open Access, FAIR/EOSC, evaluation

How to: Open Science and DMPs in your Horizon Europe proposal

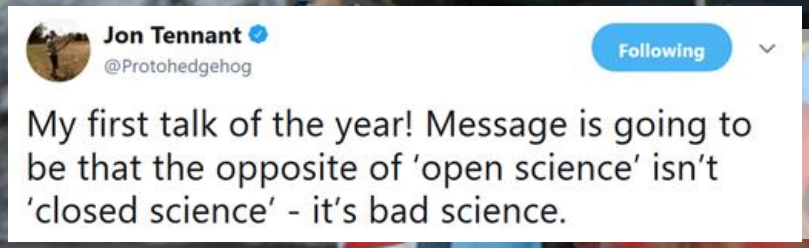
…AND I WOULD SUGGEST A NEXT FULL TRAINING ON FAIR DATA MANAGEMENT

Some starting points

Not only rules: why do we actually need Open Science?
[or: does current scholarly communication work?]

…COVID19 made it clear: sharing is the only way to go

…from «publishing» to «knowledge sharing» TO «CO-CREATING»…



…the opposite of Open Science is «Bad Science», not «Closed Science»

Horizon Europe: what's new on Open Science

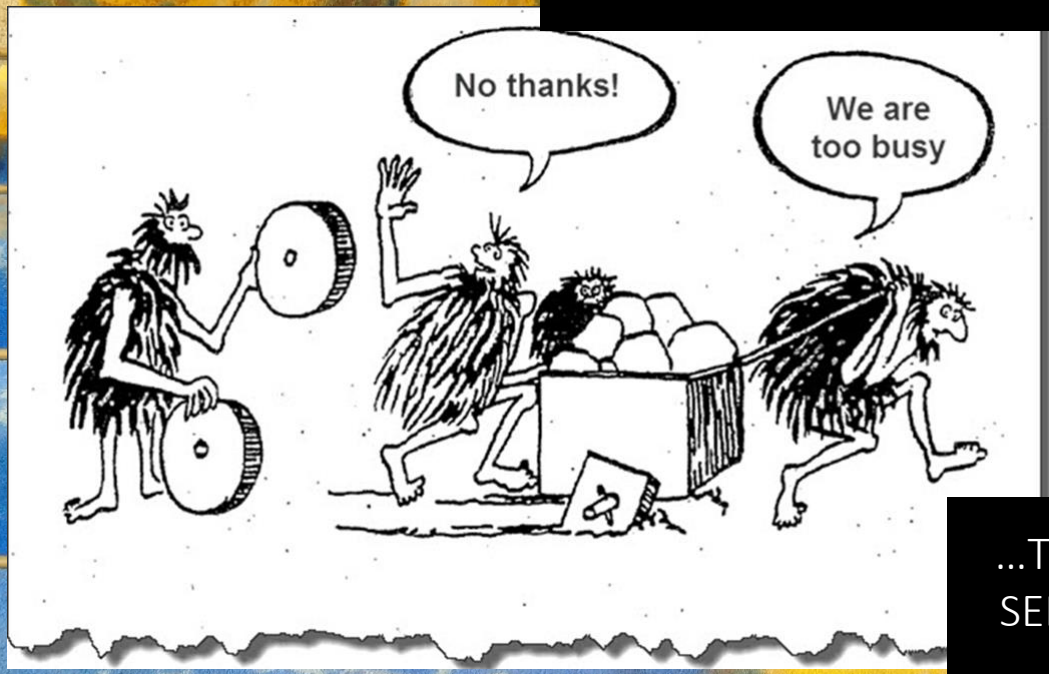
Open Science, Open Innovation, EOSC, FAIR: be ready!

Open Science, Open Data, and Open Scholarship: European Policies to Make Science Fit for the Twenty-First Century

There is value and risk of being a first mover, but there is higher risk of being a follower.

Open Science?

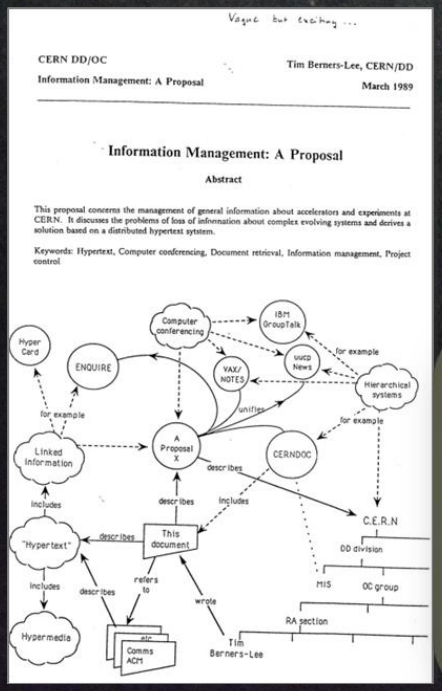
OPEN SCIENCE IS NOT A TARGET PER SE. IT IS A TOOL FOR A SCIENCE WHICH IS MORE TRANSPARENT, SOUNDER, MORE RESPONSIVE TO SOCIETAL NEEDS



…THAT'S WHY WE'LL SEE MORE REASONS THAN RULES

…OPEN SCIENCE HOLDS A HUGE TRANSFORMATIVE POTENTIAL… IF YOU DON'T FOCUS ON ITS REAL VALUE, IT WILL BE SEEN AS THE UNPTEENTH ADMINISTRATIVE BURDEN

Open Science in practice?



Vague but exciting ...

CERN DD/OC

Tim Berners-Lee, CERN/DD

Information Management: A Proposal

March 1989

Information Management: A Proposal

Abstract

This proposal concerns the management of general information about accelerators and experiments at CERN. It discusses the problems of loss of information about complex evolving systems and derives a solution based on a distributed hypertext system.

Keywords: Hypertext, Computer conferencing, Document retrieval, Information management, Project control

…THE HTTP PROTOCOL, WHICH CHANGED OUR LIVES – IT USED TO BE AN INTERNAL TOOL, CERN DECIDED TO OPEN IT UP

Reasons NOT to go Open Science?

Valid reasons not to participate in open science practices

Casper J. Albers*

Abstract

The past years have seen a sharp increase in the attention for open science practices. Such practices include pre-registration and registered reports, sharing of materials, open access publishing and attention to reproducibility of research. Despite the overwhelming amount of evidence highlighting the benefits of open science, some researchers remain reluctant. In this paper, I will outline valid reasons for researchers not to participate in open science practices.

Discussion

There are no valid reasons.

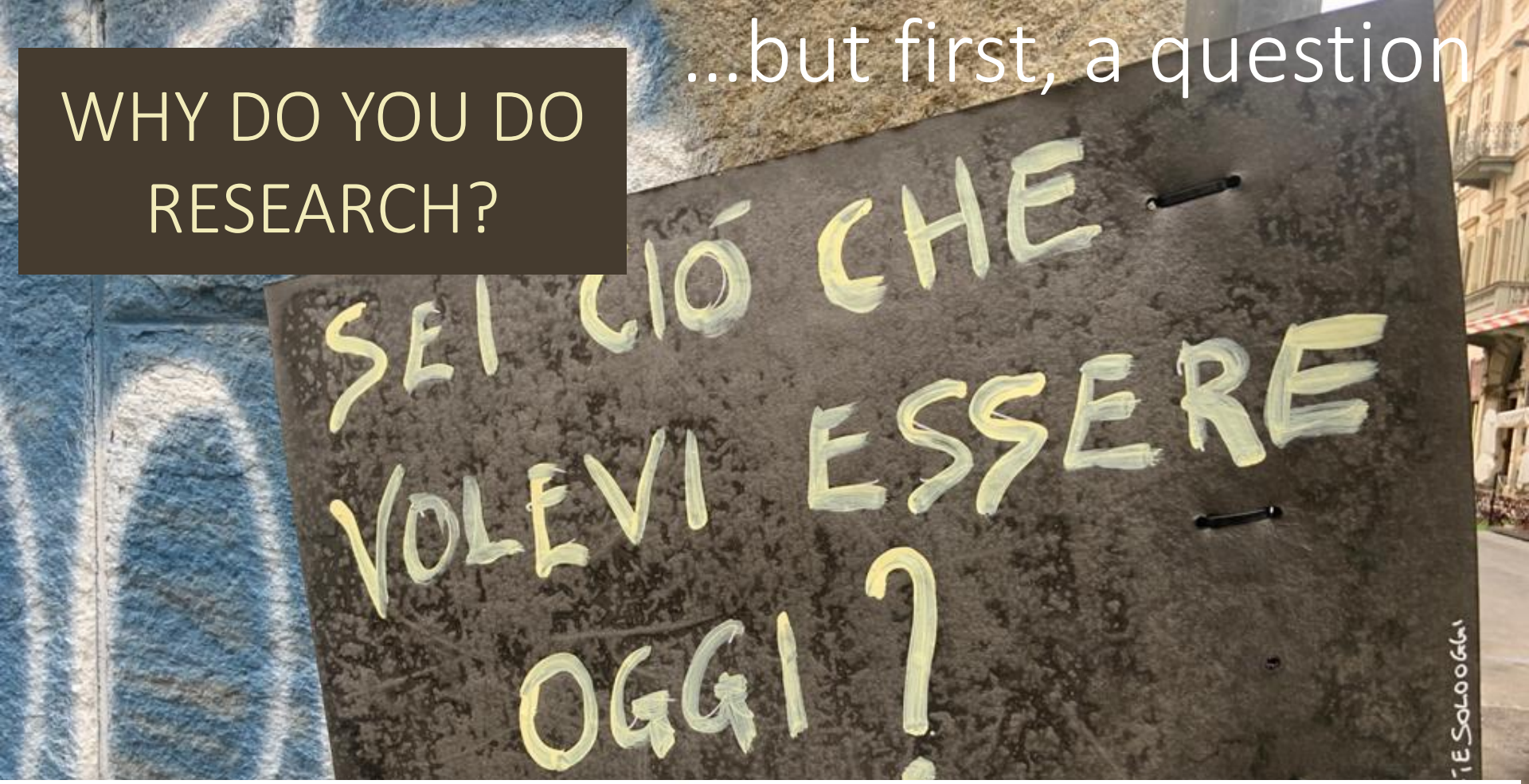
THANK YOU FOR YOUR UNDIVIDED ATTENTION, THAT'S ALL FOR TODAY

*Heymans Institute for Psychological Research, Grote Kruisstraat 2/1, 9712 TS Groningen, The Netherlands. c.j.albers@rug.nl


...JUST KIDDING!
LET'S START

WHY DO YOU DO RESEARCH?

…but first, a question



"I chose to study science because I wanted to publish in Nature," said no undergraduate student ever.

Yet it only takes a few years of working in science before most researchers will be preoccupied with scholarly journal brands—some to the point of obsession. The quest for a coveted spot in a highly selective journal, still the hardest currency of career progress, forces researchers to make compromises with their ideals of scientific practice.

OPINION 11 JAN 2022

How to reclaim ownership of scholarly publishing Jan 11, 2022

By Björn Brembs, Gustav Nilsonne and Toma Susi Share

Let’s start with a video…

https://www.youtube.com/watch?v=8F9gzQz1Pms

It says it all…

Universal Declaration of Human Rights

Article 27

1. Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.
2. Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

RIGHT. IT'S RESEARCH FUNDED BY PUBLIC MONEY SO IT SHOULD BE AVAILABLE FOR ANYONE

«FREE TO THE PUBLIC SO THAT ANYONE CAN APPRECIATE THE LATEST SCIENTIFIC ADVANCEMENTS»

It says it all / 2

«AUTHORS WILL HAVE TO PAY A PUBLISHING FEE… SAY 11.000 DOLLARS FOR AN ARTICLE IN NATURE»

WRONG. HERE YOU ARE PAYING FOR PRESTIGE, NOT FOR SERVICES

WRONG. AUTHORS ARE NOT PAID, REVIEWERS ARE NOT PAID. WHAT DO THEY GET IN RETURN? PRESTIGE, VISIBILITY, CITATIONS

«YOU KNOW, THE COSTS» «REVIEWING THE ARTICLE»

«THE COST OF FORMATTING?»

WRONG. IT'S A PDF ONLINE [IN 2023!!!]

It says it all / 3

«WHO IS GOING TO AFFORD IT?» «PEOPLE WILL PAY BECAUSE THEY HAVE TO»

EVALUATION IS THE KEY. BUT RESEARCHERS ARE EVALUATED ON THE SAME TOOL THEY USE TO DISSEMINATE SCIENCE [WITH AWFUL SIDE EFFECTS]

«PRESTIGIUOS JOURNALS» = HIGHER SUBSCRIPTION RATES. EVERY YEAR IN UNITO 4.4 MILLION EUROS IN SUBSCRIPTIONS

1) TODAY READING IS NOT FOR FREE [CALCULATED 3800/5000 $ PER ARTICLE IN 2017]

2) BUT WE PAY TO CLOSE: ONCE GRADUATED, YOU WILL NO LONGER HAVE ACCESS (ALSO YOUR MD, YOUR NURSE…)

[reminder #1]

Open science needs no martyrs, but we must recognize the need for reform

Oct. 28 2021

28 October 2021

"...the result is also that good, solid science stays behind paywalls, while lots of misinformation is openly accessible."

It says it all / 4

«IN ORDER TO GET PROMOTED RESEARCHERS HAVE TO PUBLISH, AND WE ARE ONE OF THE MOST PRESTIGIUOS JOURNALS. PEOPLE WILL PAY»

«SO, IT'S EXTORTION»

[reminder #2]

PUBLISHING SHOULD SERVE SCIENCE, BUT IT DOESN'T. SCIENCE SEEMS TO SERVE PUBLISHERS

Ivo Grigorov
@OAforClimate

In risposta a @EvaHnatkova, @Eurodoc e altri 8

Challenges for #OpenScience: "Publishing should serve Science, but it doesnt't! Science seems to serve publishers", Kostas Glinos @KGlinos @EU_Commission #KRECon2021

Traduci il Tweet

1:32 PM · 11 nov 2021 · Twitter for iPhone Nov. 11, 2021

It says it all / 4

«SO LET ME GET THIS STRAIGHT. YOU WANT TO CHARGE 11.000 $ TO PUBLISH OA, THEREBY ENSURING THAT ONLY RESEARCHERS WITH THE MOST MONEY GET TO PUBLISH THE ARTICLE, WHICH DEFEATS THE PURPOSE OF HAVING OA IN THE FIRST PLACE»

2022

AISA

Associazione italiana per la promozione della scienza aperta

L'open access ad ogni costo non può essere una opzione.

OPEN ACCESS AT ANY COST IS NOT AN OPTION

[Opening, not patronizing]

The unique opportunity to advance Science as a Global Public Good: Open Science in a world of contrasts

Arianna Becerril García

Autonomous University of the State of Mexico

UNITED NATIONS, NEW YORK | 8-10 FEBRUARY 2023

3rd Open Science Conference

Accelerating the Sustainable Development Goals, Democratizing the Record of Science

#OpenScienceUN

Arianna Becerril, Feb. 2023

On what data is the industry of prestige founded?

Which regions, countries, science fields, journals, institutions or authors are privileged by current strategies? Which ones are excluded?

Which inequalities the current system will continue to perpetuate?

Is openness structural and sustainable?

Who owns and control the knowledge? The research community interests prevail?

The future restrictions on knowledge generation depend on the ownership.

How to achieve systematic participation in science (not patronizing strategies) that enables a global conversation?

WHICH REGIONS ARE EXCLUDED?
WHO OWNS AND CONTROL THE KNOWLEDGE?
HOW TO ACHIEVE SYSTEMIC PARTICIPATION IN SCIENCE?

It says it all / 5

«AND THIS IS GUARANTEEED TO BE PROFITABLE BECAUSE RESEARCHERS LIVELIHOODS ARE DEPENDENT ON A PREDATORY SYSTEM THAT VALUES PUBLISHING IN HIGH IMPACT JOURNALS»
«THIS, OF COURSE, IS INSANE»

Jon Tennant
@Protohedgehog

The smartest business model ever. Have all of your products and services performed for free by researchers, and then sell it back to them with an unholy markup. Try describing the model to a non-researcher, and they mock us for falling for it.

Traduci il Tweet

> **Steven Salzberg** 💙💛 @StevenSalzberg1 · 15 apr 2018
> Nature and other Springer journals make all of their money from free labor provided by scientists, who write all the papers and do all of the peer review. And now they are cashing in: "Springer Nature aims to raise 1.2 billion euros in new money in IPO" reut.rs/2qqhp93

10:46 AM · 15 apr 2018 da Ubud, Indonesia

2018

IT'S ACADEMICS, BABY

.. and there is more…

REPORT
JUN 22, 2020

2020 Update: SPARC Landscape Analysis & Roadmap for Action

This report takes a look at the events of the past year—particularly the global COVID health crisis and its resulting economic impact—and provides updates on the academic publishing market landscape and the status of the key companies involved.

ELSEVIER

About

Elsevier is a leader in information and analytics for customers across the global research and health ecosystems

NO LONGER «PUBLISHERS» EVEN ON THEIR HOMEPAGE

1. A significant deepening in the shift of major companies away from research publishing and towards research assessment;

2. A shift away from individual research distribution to more communal, consolidated models; and

3. The emergence of a "Bigger Deal," where institutional content licensing is directly linked to the purchase of data analytics services.

2020

FROM PUBLICATIONS TO DATA ANALYTICS

THEY «COVERED» THE ENTIRE CYCLE

SURVEILLANCE PUBLISHING: WE ARE THE PRODUCT (AND WE ALSO PAY!)

Surveillance Publishing

Nov. 2021

Jefferson D. Pooley
Muhlenberg College
pooley@muhlenberg.edu
jeffpooley.com

It's a good business for Elsevier. Facebook, Google, and Bytedance have to give away their consumer-facing services to attract data-producing users. If you're not paying for it, the Silicon Valley adage has it, then you're the product. For Elsevier and its peers, we're the product *and* we're paying (a lot) for it. Indeed, it's likely that windfall subscription-and-APC profits in Elsevier's "legacy" publishing business have financed its decade-long acquisition binge in analytics.[3] This is insult piled on injury: Fleece us once only to fleece us all over again, first in the library and then in the assessment office.

[reminder #3]

SPARC update 2021

The fact that Elsevier (and, potentially, other companies) would pursue interests that put them at odds with the interests of the academic community and tolerate internal conflicts of interest should not come as a surprise. The business of publishers is to make money; the "business" of academic institutions is to advance knowledge, not to enable publishers to achieve their commercial goals. Unfortunately, the responsibility for high-lighting and resolving conflicts of interest falls squarely onto the academic community.

THE BUSINESS OF PUBLISHERS IS TO MAKE MONEY;
THE «BUSINESS» OF ACADEMIA IS TO ADVANCE KNOWLEDGE

… so what about the current system?

WE ARE STILL TOO FOCUSED ONLY ON PAPERS (FOR EVALUATION)

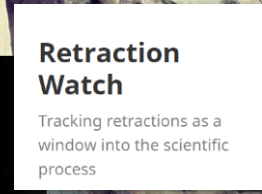
WE PAY 10 BN $ TO LOCK UP BEHIND PAYWALLS A CONTENT PRODUCED WITH PUBLIC MONEY AND GIVEN FOR FREE

…WITH AN AVERAGE PUBLICATION TIME OF 9-18 MONTHS…

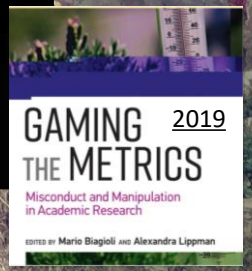
…AND 179% INCREASE IN SELF-CITATIONS…

…AND 70% OF STUDIES WHICH ARE NOT REPRODUCIBLE…

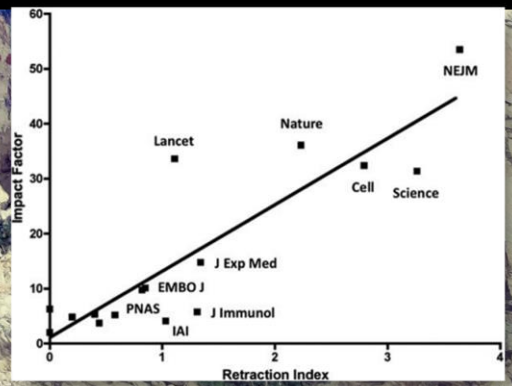
… AND 43% RETRACTIONS FOR FRAUD, WITH A DIRECT CORRELATION BETWEEN THE #RETRACTIONS/JOURNAL IMPACT FACTOR



WHY? BECAUSE EVALUATION BECAME AN OBSESSION, AND PEOPLE GAME THE SYSTEM AT EVERY LEVEL



2019



Retractions

Retraction Watch
Tracking retractions as a window into the scientific process

The Retraction Watch Leaderboard

https://retractionwatch.com/

Who has the most retractions? Here's our unofficial list (see notes on methodology), which we'll update as more information comes to light:

1. Yoshitaka Fujii (total retractions: 183) See also: Final report of investigating committee, our reporting, additional cove
2. Joachim Boldt (175) See also: Editors-in-chief
3. Hironobu Ueshima (123) See also: our covera
4. Yoshihiro Sato (112) See also: our coverage
5. Ali Nazari (96) See als
6. Jun Iwamoto (87) See
7. Diederik Stapel (58) Se
8. Yuhji Saitoh (56) See
9. Adrian Maxim (48) See
10. Chen-Yuan (Peter) Che
11. Shahaboddin Shamshi
12. Fazlul Sarkar (41) See
13. Hua Zhong (41) See als
14. Shigeaki Kato (40) See

Does scientific misconduct cause patient harm? The case of Joachim Boldt

2013

An internal investigation found no evidence of harm to the patients Boldt treated, and the the Cochrane review found "no change in the findings related to the inclusion or exclusion of the studies by Boldt et al.," according to the editorial. But the new meta-analysis found something different:

> *After exclusion of the studies by Boldt et al, Zarychanski et al found that hydroxyethyl starch was associated with a significantly increased risk of mortality (risk ratio [RR], 1.09; 95% CI, 1.02-1.17) and renal failure (RR, 1.27; 95% CI 1.09-1.47).*

Dec. 2020

Elsevier looking into "very serious concerns" after student calls out journal for fleet of Star Trek articles, other issues

An undergraduate stu-

Feb. 2, 202

Researcher to overtake Diederik Stapel on the Retraction Watch Leaderboard, with 61

> *Nazari's publications include falsification of results, plagiarism (including self-plagiarism), and manipulation of authorship. A series of 13 recent retractions by Springer also noted "evidence of peer review manipulation." To date, these issues have resulted in 48 retractions. I have recently compiled a report, summarized by Retraction Watch, which documents how Nazari's works appear to be part of an international research fraud ring.*

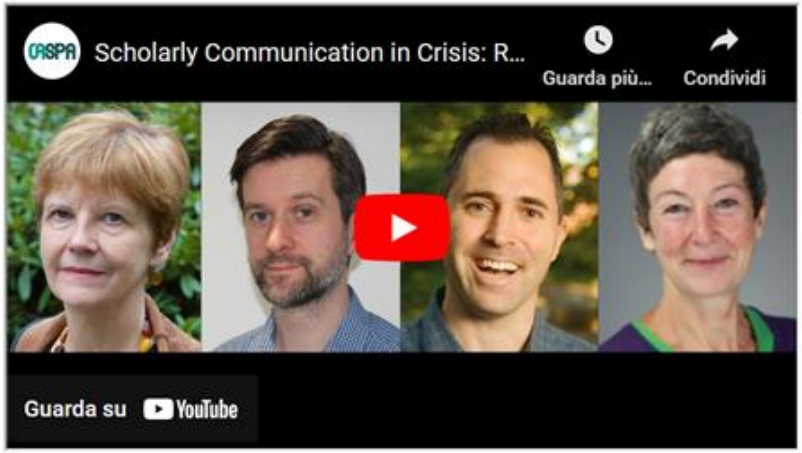
Springer Nature slaps more than 400 papers with expressions of concern all at once

Sept. 29, 2021

Webinar – Scholarly Communication in Crisis: Research Integrity and Open Scholarship

April 25, 2023 by Bernie Folan

2023



How papermills work – Authorship and citations for sale

https://retractionwatch.com/2022/10/25/meet-a-sleuth-whose-work-has-resulted-in-more-than-850-retractions/

Nick Wise

"There's this entire economy, ecosystem of Facebook groups, Whatsapp groups, Telegram channels selling authorship for papers, selling citations, selling book chapters, selling authorship of patents."

Dorothy Bishop

See also: talk by Bernhard Sabel at https://osf.io/47utb/

https://forbetterscience.com/2022/10/19/the-incredible-collaborations-of-renaissance-men-and-women/

Test and Trace

Tracking down papermills – importance of open data/code sharing

"Science should be 'show me', not 'trust me'; …….
If I publish an advertisement for my work (that is, a paper long on results but short on methods) and it's wrong, that makes me untrustworthy.
If I say: "here's my work" and it's wrong, I might have erred, but at least I am honest."

If open data/scripts routinely required, then would make a great deal of work for paper mills

Philip Stark

A moment for recalibration

NEWS FEATURE | 23 March 2021

The fight against fake-paper factories that churn out sham science

Some publishers say they are battling industrialized cheating. A *Nat* analysis examines the 'paper mill' problem – and how editors are tryi to cope.

Holly Else & Richard Van Noorden

July 2022: Hearing at US House Committee on Science, Space and Technology. Paper mills and research misconduct

Exclusive: Hindawi and Wiley to retract over 500 papers linked to peer review rings

After months of investigation that identified networks of reviewers and editors manipulating the peer review process, Hindawi plans to retract 511 papers across 16 journals, Retraction Watch has learned.

WILEY Hindawi

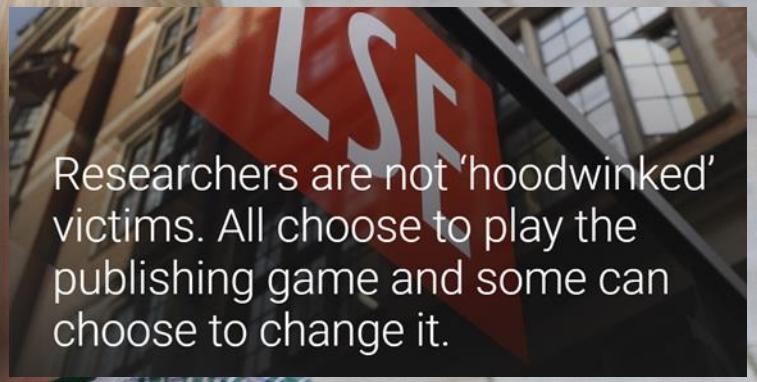
Physics publisher retracting nearly 500 likely paper mill papers

https://retractionwatch.com/2022/09/09/physics-publisher-retr

https://retractionwatch.com/2022/09/28/exclusive-hindawi-and-wiley-to-retract-over-500-papers-linked-to-peer-review-rings/

SELLING AUTHORSHIP? HERE IS WHERE THE CURRENT ASSESSMENT CRITERIA BROUGHT US + SCIENCE SHOULD BE «SHOW ME»: OPEN UP THE PROCESS!

What is a line on a CV worth? Does it make that grant a little more likely? Does it get you past the magic threshold to get on the applicant short list? Is there a shortcut? Researchers are experts at behaviour optimisation and seeing how systems work. I simply don't buy the "hapless victim" stance and a lot of the hand wringing is disingenuous at best. On a harsh economic analysis this is perfectly rational behaviour. Smart people doing dumb things for smart reasons.



2015

In both cases the researcher is presented as a hapless victim, "hoodwinked" as the headline states into parting with money (either directly in the form of APCs or indirectly through their libraries). But really? I've no intent to excuse the behaviour of these publishers, but they are simply serving a demand. A demand created by researchers under immense pressure to demonstrate their productivity. Researchers who know how to play the game.

RESEARCHERS ARE NOT VICTIMS
IT'S NOT PEOPLE GAMING THE SYSTEM. THE SYSTEM IS A GAME. TIME TO SAY GAME OVER

Scott Edmunds perhaps summed it up best at the FORCE2015 meeting in Oxford:

> *It is no longer the case that people are gaming the system, the system has become a game. It's time to say Game Over.*

If we cast ourselves as mere victims we'll never change the rules. The whole narrat is an excuse for doing nothing.

At times it is tempting to suggest that it is not publishers that are predatory, but researchers. But of course the truth is that we are all complicit, from publishers and authors producing content that no-one reads, through to administrators counting things that they know don't matter, and funders and governments pointing to productivity, not to mention secondary publishers increasing the scope of they indices knowing that this leads to ever increasing inflation of the metrics that makes the whole system go round.

We are all complicit. Everyone is playing the game, but that doesn't mean that all the players have the same freedom to change it. Commercial suppliers are only responding to demand. Governments and funders can only respond to the quality assessments of the research community. It is only the research community itself that can change the rules. And only a subset of that.

Predatory??

THE CASE OF MDPI - «PREDATORY REPORTS». IS IT TRUSTWORTHY?

Gianluca Sbardella
@g_sbardella

11 MARZO 2023

MDPI journals have been included in the list of predatory journals. It was about time.

Traduci il Tweet

predatoryreports.org
List of all MDPI predatory journals
MDPI as a publisher of open-access scientific journals was spun off from the Molecular Diversity Preservation ...

8:27 AM · 11 mar 2023 · **2,2 Mln** visualizzazioni

Predatory Reports is an association of scientists and researchers who seek to help researchers identify trusted journals and publishers for their research. Through a variety of practical tools and resources, including the Predatory Publishers List, this international and cross-sectoral initiative aims to educate researchers and students, promote integrity, and build trust in scientific research and publications.

– Show Less

Predatory reports

Characteristics

Complaints that are associated with predatory journals (open-access) publishing include:

- Accepting articles quickly with little or no peer review or quality control, including hoax and nonsensical papers.
- Notifying academics of article fees only after papers are accepted.
- Aggressively campaigning for academics to submit articles or serve on editorial boards.
- Listing academics as members of editorial boards without their permission, and not allowing academics to resign from editorial boards.
- Appointing fake academics to editorial boards.
- Mimicking the name or web site style of more established journals.
- Making misleading claims about the publishing operation, such as a false location.
- Using ISSNs improperly.
- Citing fake or non-existent impact factors.

[Elsevier = predatory]

björn.brembs.blog

Search

Main Menu

‹ Prev Next ›

Dec 11

Elsevier Now Officially A "Predatory" Publisher

2019

In: Science Politics • Tags: Elsevier, predatory publishing, publishing

For a number of years now, publishers who expect losing revenue in a transition to Open Access have been spreading fear about journals which claim to perform peer-review on submitted manuscripts, but then collect the publishing fee of a few hundred dollars (about 5-10% of what these legacy publishers charge) without performing any peer-review at all. Identifying such journals, however, in order to study if they have any actual detrimental effect on scholarship beyond the claims

1. **entities that prioritize self-interest at the expense of scholarship**

Elsevier consistently prioritizes mega-profits over scholarship. Too many examples to list, would need new server, so here is some more.

Check

2. **false or misleading information**

Elsevier published nine fake journals. And, of course, Dezenhall/PRISM and many other FUD campaigns, past and ongoing. Extensive track record.

Check

3. **deviation from best editorial and publication practices**

Chaos, Solitons and Fractals? The recently sold journal "Homeopathy"? Ghostwriting?

Check

4. **lack of transparency**

Widespread use of non-disclosure agreements in subscription contracts.

5. **aggressive and indiscriminate solicitation practices**

Everybody who has received a "call for papers" outside their fields from Elsevier journal raise their hands. Advertising extra products or databa access to authors? Aggressive and misleading negotiation tactics?

ELSEVIER PERFECTLY MATCHES THE DEFINITION OF PREDATORY PUBLISHER

Predatory journals and publishers are entities that prioritize self-interest at the expense of scholarship and are characterized by false or misleading information, deviation from best editorial and publication practices, a lack of transparency, and/or the use of aggressive and indiscriminate solicitation practices

[Elsevier = predatory …]

The fact that Elsevier fits the consensus definition of a "predatory publisher" so well is thus only one of many reasons why data kraken Elsevier is so reviled in the academic community, but a reminder of it seems to have triggered the "we really can be trusted, honestly, this time" wolf-in-sheep-clothing-reflex in the RELX CCO Dr. Abrahams, such that he responded:

14 marzo 2023

1. "Elsevier provides above-average quality…"

Let's pretend, for now, RELX were not chiefly a surveillance platform and data broker enabling ICE mass deportations (some quality!), but instead an academic publisher (via subsidiary Elsevier) with above average overall impact (according to the citation numbers Dr. Abrahams posted himself, see above). In that case, given the negative relation between impact/prestige and quality, the available data suggest that Elsevier actually provides *below average* quality. So the first statement is contradicted by the available evidence. Of course, it may also be that Elsevier journals aren't as impactful as their CCO claims, in which case his previous statement would be false. Either way, both cannot be correct at the same time.

2. "…for below average prices"

From the Q&A on occasion of the release of the latest 2022 RELX financial statement, and from Dr. Abraham's tweet above, we learn that Elsevier published 600,000 articles the past year yielding a revenue of 2,909 £ million. Accordingly, an average article from Elsevier cost the tax payer

… evaluation is the key

EVALUATION
- AFFECTS THE BEHAVIOUR OF RESEARCHERS
- PROMOTES COMPETITION OVER COLLABORATION
- MAINTAINS HIGH JOURNALS PRICES BASED ON PRESTIGE
- FAILS TO RECOGNIZE RESEARCH OUTPUTS LIKE DATA, CODE, BLOGS…

International Science Council

STAY TUNED…GOOD NEWS FROM THE EU!!!

metrics designed to assess the importance and impact of research as an aid to evaluation, with publication outputs in traditional scientific journals being the major focus. These metrics in turn affect the behaviour of researchers, such as their choice of journals, as they seek to maximize their performance as measured by the metrics used. They can contribute to the maintenance of high journal prices, promote intense competition rather than openness and sharing, and fail to recognize research contributions such as the production of datasets, software, code, blogs, wikis and forums. ICSU 2014

It does not work, the way it is

Open Science might help?

Lessons learned from COVID / 1

In only a matter of months, the coronavirus disease of 2019 (COVID-19) has spread around the world. The global impact of the disease has caused significant and repeated calls for quick action towards new medicines and vaccines. In response, researchers have adopted open science methods to begin to combat this disease *via* global collaborative efforts. We summarise here some of those initiatives, and have created an updateable list to which others may be added. Though open science has previously been shown as an accelerator of biomedical research, the COVID-19 crisis has made openness seem the logical choice. Will openness persist in the discovery of new medicines, after the crisis has receded?

OPENNESS=THE LOGICAL CHOICE

Version 1. F1000Res. 2020; 9: 1043. PMCID: PMC7590891
Published online 2020 Aug 25. 2020 PMID: 33145011
doi: 10.12688/f1000research.26084.1

Open science approaches to COVID-19

Edwin G. Tse, Conceptualization, Resources, Writing – Original Draft Preparation, Writing – Review & Editing,[1] Dana M. Klug, Conceptualization

tech economy 2030
Digital transformation for sustainability

2020

Home › #SDG3 › Open Science è una necessità, non una noia burocratica

#SDG3 In Evidenza Sostenibilità Culturale

Open Science è una necessità, non una noia burocratica

By Elena Giglia · 23/03/2020

OPEN SCIENCE IS A MUST

Publishing research openly is not just a 'nice to have' JISC, 2021

by Anne Mills on 18 May 2021

The response to the global pandemic has demonstrated the huge value of open science, and a united front is needed to accelerate the transition toward this new way of working.

Raphaël Lévy
@raphavisses

#OSEC2022 @BoukacemZeg (applauded by @stephen_curry) concludes her talk with a quote from a young research who left science saying "GAME OVER: The pandemic is a life-size experiment that reminded us that the ultimate goal is to advance knowledge, not egos, not numbers"

Traduci il Tweet

5:10 PM · 4 feb 2022 · Twitter Web App

Feb. 4 2022

THE PANDEMIC IS A LIFE-SIZE EXPERIMENT THAT REMINDED US THAT THE ULTIMATE GOAL IS TO ADVANCE KNOWLEDGE, NOT EGOS, NOT NUMBERS

Lessons learned from COVID / 2

Digital Science Report

The State of Open Data 2021

The longest-running longitudinal survey and analysis on open data

Foreword by Natasha Simons, Australian Research Data Commons (ARDC)

Nov. 29 2021

November 2021

Open data saves lives. The global pandemic has highlighted beyond anything that came before it the importance of data sharing in solving the big challenges of our time. COVID-19 data may be the

WE NEED DATA
[FAIR BY DESIGN]
(AND NOT ONLY THE FINAL SYNTHESIS OF THE RESEARCH, I.E. THE ARTICLE)

The Value of RDA for COVID-19

RDA

Home » Get involved » The Value of RDA for... » The Value of RDA for COVID-19

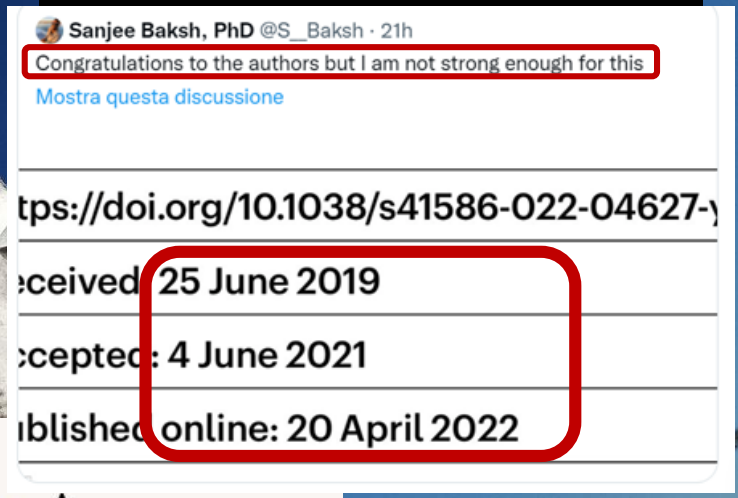
13 July 2020 | 16426 reads | Facebook | Twitter

Under public health emergencies, and particularly the COVID19 pandemic, it is fundamental that data is shared in both a timely and an accurate manner. This coupled with the harmonisation of the many diverse data infrastructures is, now more than ever, imperative to share preliminary data and results early and often. It is clear that open research data is a key component to pandemic preparedness and response.

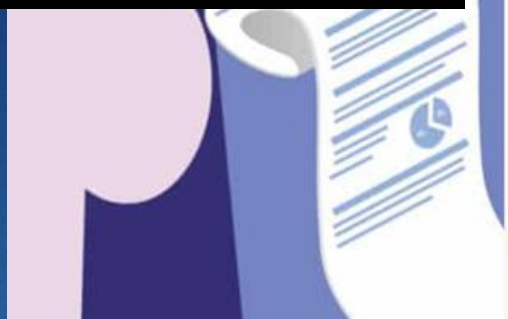
RDA
RESEARCH DATA ALLIANCE

Lessons learned from COV

TRADITIONAL SUBSCRITPION BASED JOURNALS: FIRST ARTICLES (WITH NO DATA) AT THE EARLIEST IN DEC. 2020
(9-18 MONTHS AVERAGE PUBLICATION TIME)



…AND WE NEED RESULTS IMMEDIATELY…
STUDIES SHOULD BE AVAILABLE IMMEDIATELY…NOT SEGREGATED FOR MONTHS WAITING FOR A «PEER REVIEW» WHICH CAN BE DONE IN A FASTER AND MORE EFFECTIVE WAY, OPENLY



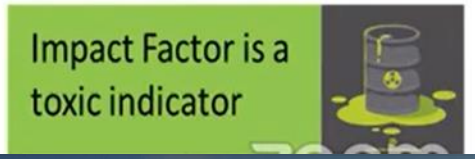
2020

Lessons lear

NEED TO RETHINK THE ORDER
1) PUBLISH
2) OPEN PEER REVIEW
3) EARN IMPACT
FOR REAL, NOT USING THE TOXIC IMPACT FACTOR
(AWARDING MEDALS BEFORE THE RACE HAS RUN)

Implications of pandemic for publications

- Need to rethink publishing
  - 1st Publish
  - 2nd Open (meta) peer review
  - 3rd Earn impact
- Why have impact factors?! - Like awarding the medals BEFORE the race has run
- Traditional publishing model is no longer fit for purpose too slow and no guarantee of quality
- It feels like we're running electric cars on steam train tracks



Use of pre-prints – calling time on subscript

- WHO repository IRIS 150 publications relating to Covid-19 - 25% referencing pre-prints
- NEW development WHO Living Guidelines available online via the MAGICapp
- 3 WHO Living guidelines for Covid-19.
  Therapeutics 6 versions since November 2020.

  Analysis of version 5 March 2021
  - 44% of its references as pre-print
  - 33% unpublished results shared with WHO
  - Therefore < 25% from traditional published literature.....

<25% FROM TRADITIONAL LITERATURE INCLUDED IN WHO GUIDELINES
THEY FAILED US RIGHT WHEN WE NEEDED THEM MORE

Robert Terry OSfair 2021 [min. 16.48-46]

Lessons learned from COVID / 5

Health · **Second Opinion**

'We're opening everything': Scientists share coronavirus data in unprecedented way to contain, treat disease Feb.1, 2020

raise questions about the way science-as-usual is practised.

Vincent Larivière is an information scientist and professor at the University of Montreal, who studies the way science is disseminated. He said the move to speed up publication and share research is a tacit admission that business-as-usual in research slows down science.

"[They say] we're opening everything because it's important that we advance things fast. Well, the flip side of this argument is that your normal behaviour is to put barriers to science."

"This virus is dangerous and deadly, but there's lots of other diseases that are dangerous and deadly, and for which opening could save lives. So if you really want to go in that direction, just open everything."

University of Montreal researcher Vincent Larivière said the c climate of open science suggests that science-as-usual create barriers. (Amélie Philibert)

...SCIENTIST ARE NOW OPENING AND SHARING DUE TO COVID-19...
THE FLIP SIDE IS THAT OUR NORMAL BEHAVIOUR IS TO PUT BARRIERS TO SCIENCE

nature Feb 4, 2020 Subscribe

EDITORIAL · 04 FEBRUARY 2020

Calling all coronavirus researchers: keep sharing, stay open

As the new coronavirus continues its deadly spread, researchers must ensure that their work on this outbreak is shared rapidly and openly.

Open Science – definition

Open Access | Lic. Info | Cite
Qeios
https://doi.org/10.32388/838962

Open Science

'Open Science' stands for the transition to a new, more open and participatory way of conducting, publishing and evaluating scholarly research. Central to this concept is the goal of increasing cooperation and transparency in all research stages. This is achieved, among other ways, by sharing research data, publications, tools and results as early and open as possible.

Open Science leads to more robust scientific results, to more efficient research and (faster) access to scientific results for everyone. This results in turn in greater societal and economic impact.

https://www.accelerateopenscience.nl/what-is-open-science/

NEW WAY OF
- CONDUCTING
- PUBLISHING
- EVALUATING

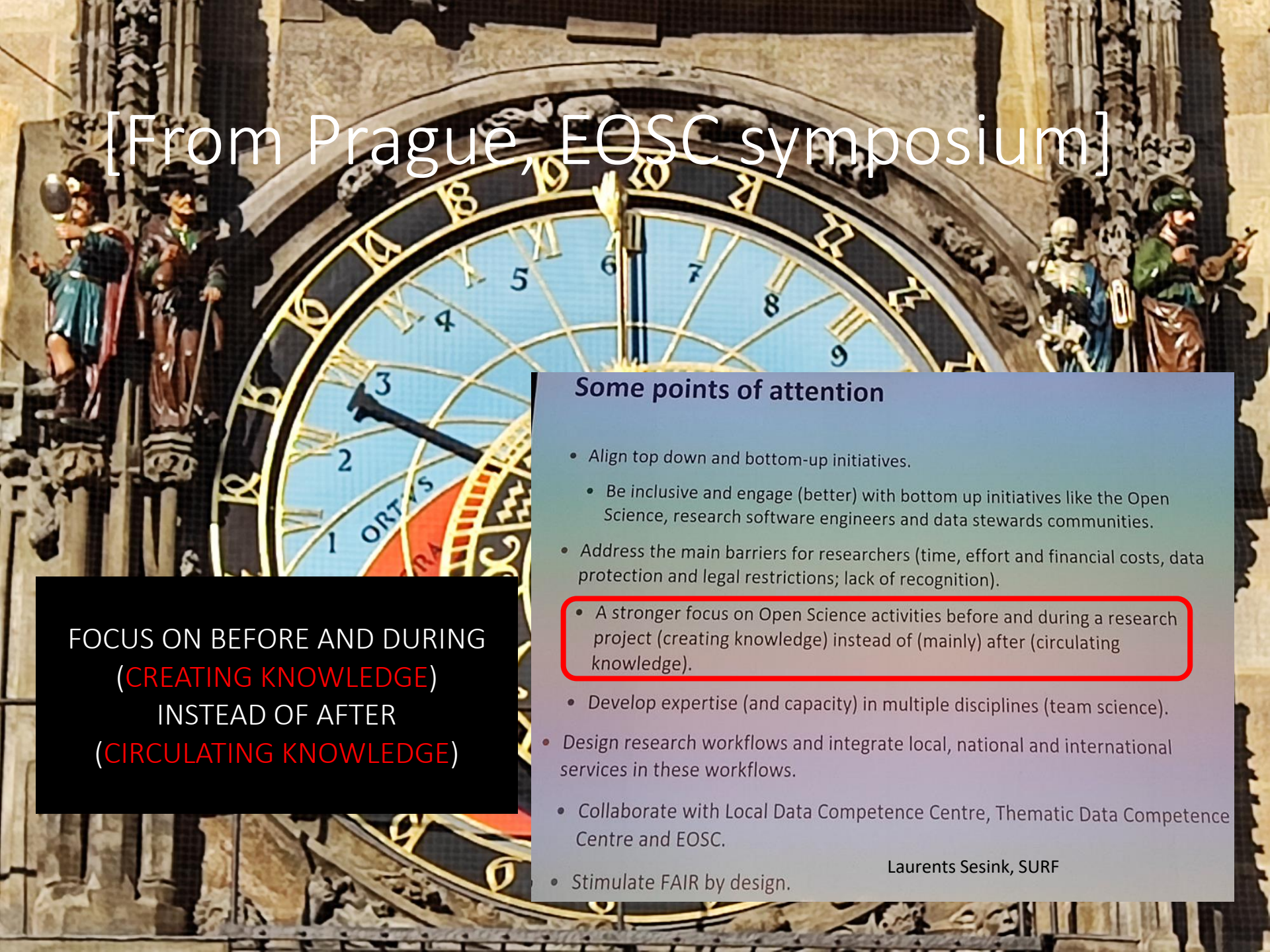
RESEARCH

SHARING
- DATA/TEXTS
- TOOLS
- RESULTS…

AS EARLY AND OPEN AS POSSIBLE

OS LEADS TO MORE ROBUST SCIENTIFIC RESULTS, MORE EFFICIENT RESEARCH AND FASTER ACCESS
+ GREATER SOCIETAL AND ECONOMIC IMPACT

[From Prague, EOSC symposium]



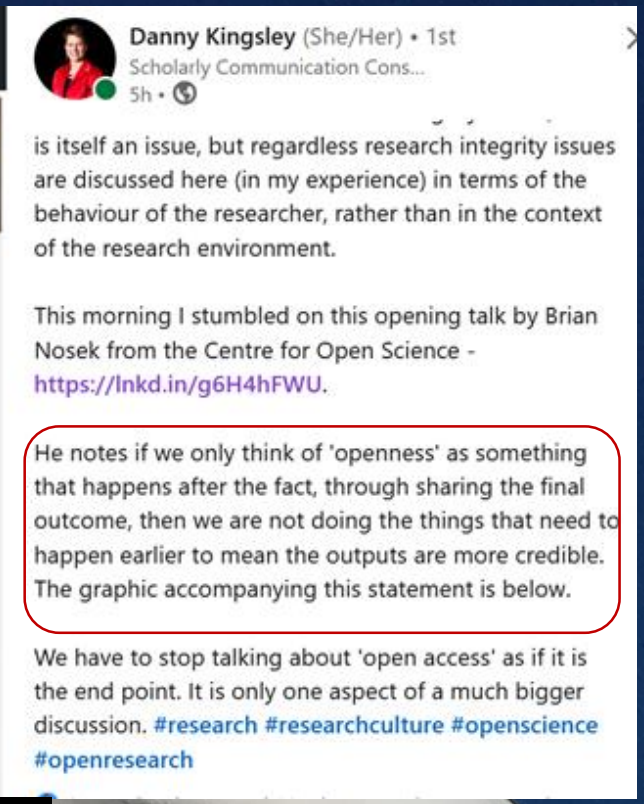
FOCUS ON BEFORE AND DURING
(CREATING KNOWLEDGE)
INSTEAD OF AFTER
(CIRCULATING KNOWLEDGE)

Some points of attention

- Align top down and bottom-up initiatives.
  - Be inclusive and engage (better) with bottom up initiatives like the Open Science, research software engineers and data stewards communities.
- Address the main barriers for researchers (time, effort and financial costs, data protection and legal restrictions; lack of recognition).
- A stronger focus on Open Science activities before and during a research project (creating knowledge) instead of (mainly) after (circulating knowledge).
- Develop expertise (and capacity) in multiple disciplines (team science).
- Design research workflows and integrate local, national and international services in these workflows.
- Collaborate with Local Data Competence Centre, Thematic Data Competence Centre and EOSC.
- Stimulate FAIR by design.

Laurents Sesink, SURF

Open NOT only at the end



Danny Kingsley (She/Her) • 1st
Scholarly Communication Cons...
5h •

is itself an issue, but regardless research integrity issues are discussed here (in my experience) in terms of the behaviour of the researcher, rather than in the context of the research environment.

This morning I stumbled on this opening talk by Brian Nosek from the Centre for Open Science - https://lnkd.in/g6H4hFWU.

He notes if we only think of 'openness' as something that happens after the fact, through sharing the final outcome, then we are not doing the things that need to happen earlier to mean the outputs are more credible. The graphic accompanying this statement is below.

We have to stop talking about 'open access' as if it is the end point. It is only one aspect of a much bigger discussion. #research #researchculture #openscience #openresearch

NOT ONLY WHAT YOU SHARE AT THE END BUT HOW YOU APPLIED OPEN PRACTICES IN BETWEEN, IN DOING YOUR RESEARCH

Open Science – definition

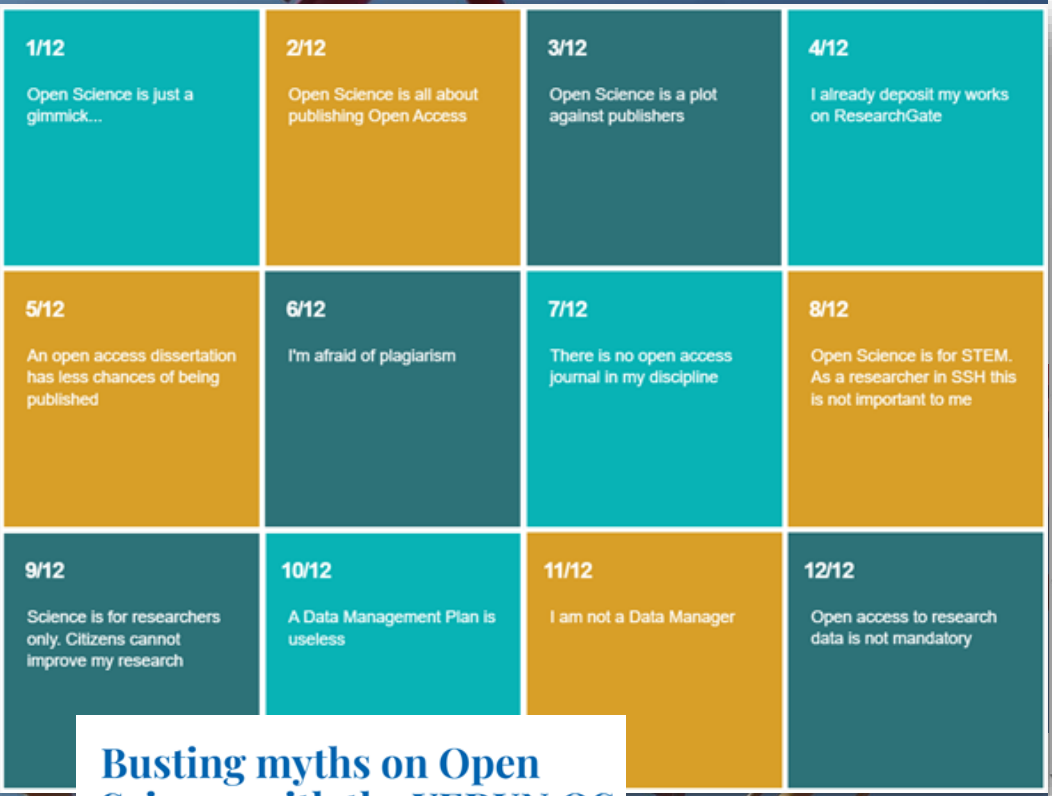
FACT SHEET: Biden-Harris Administration Announces New Actions to Advance Open and Equitable Research

Jan 11, 2023

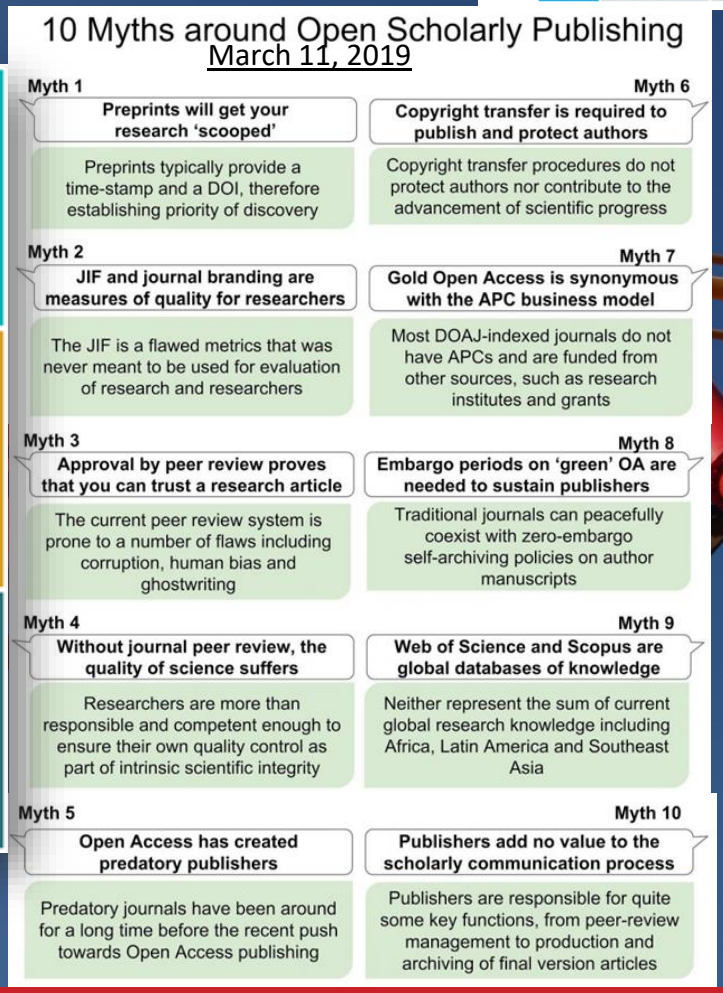
- **OSTP** and **the National Science and Technology Council (NSTC)** today released an official definition of open science for use across the U.S. government: *"The principle and practice of making research products and processes available to all, while respecting diverse cultures, maintaining security and privacy, and fostering collaborations, reproducibility, and equity."* A unified, official definition will galvanize federal efforts, promote interagency collaboration, and drive progress.

- RESEARCH PRODUCTS AND PROCESSES AVAILABLE TO ALL
- RESPECTING DIVERSE CULTURES
- MAINTAINING SECURITY AND PRIVACY
- FOSTERING COLLABORATION, REPRODUCIBILITY, AND EQUITY
- TO DRIVE PROGRESS

[Houston, we have a probl



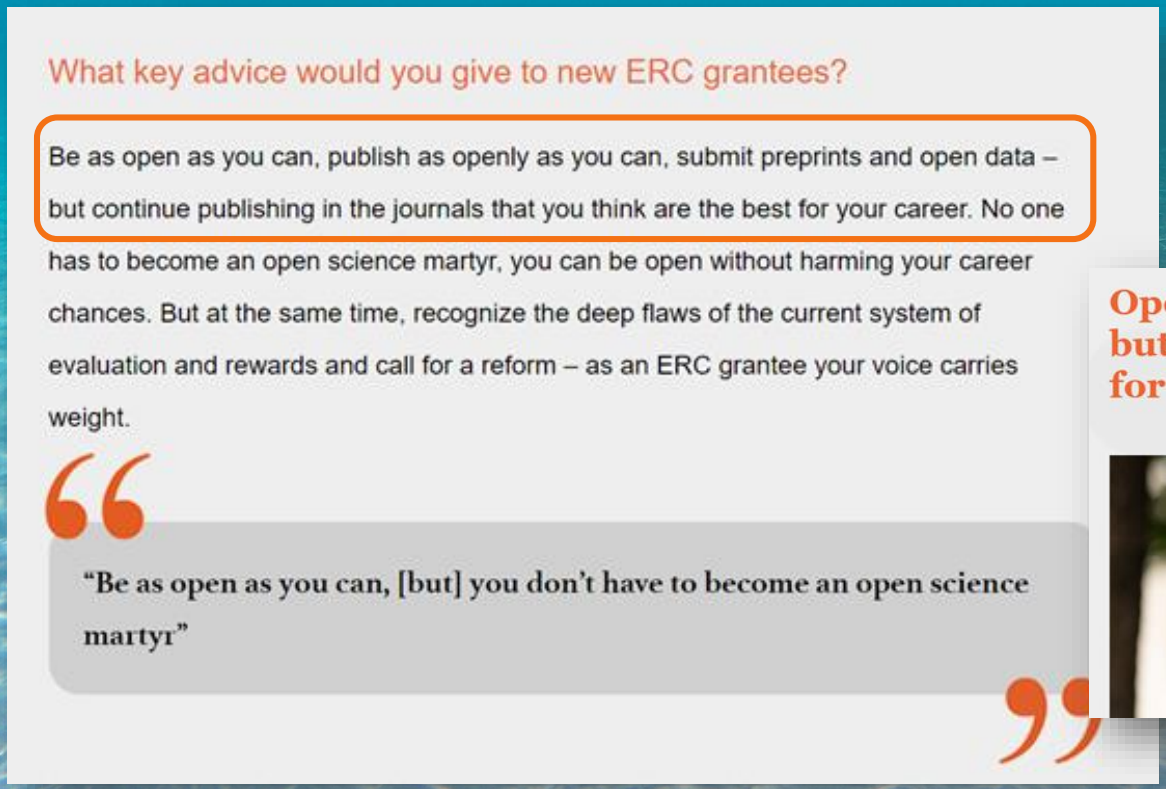
Busting myths on Open Science with the YERUN OS Calendar 2021! Dec. 2021



DIFFUSED MISCONCEPTIONS:

OPEN SCIENCE=OPEN ACCESS, YOU ALWAYS PAY TO PUBLISH, OA= PREDATORY, I CAN'T OPEN MY DATA……

«AS OPEN AS POSSIBLE, AS CLOSED AS NECESSARY»

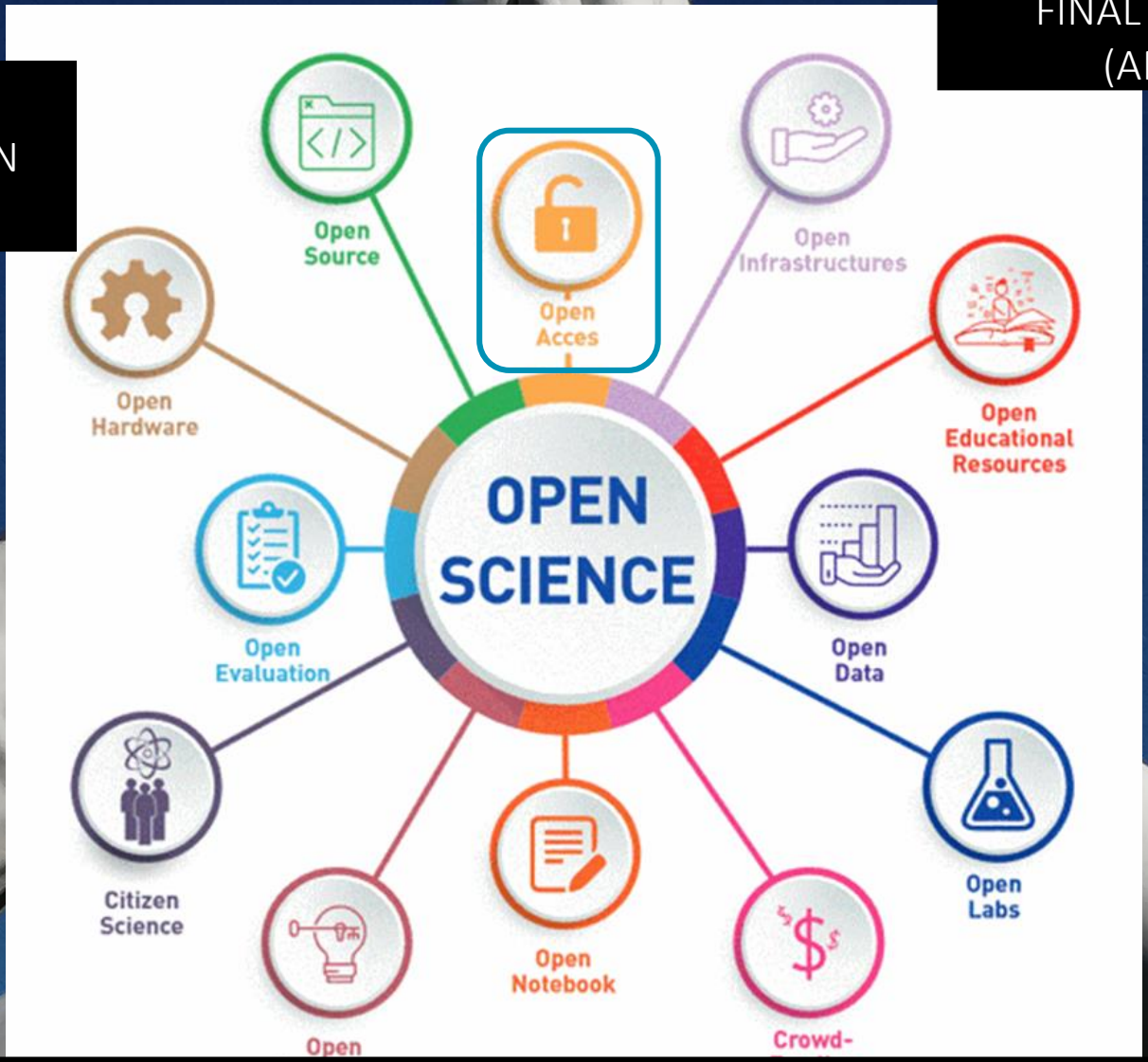


Oct. 2021

Open Science

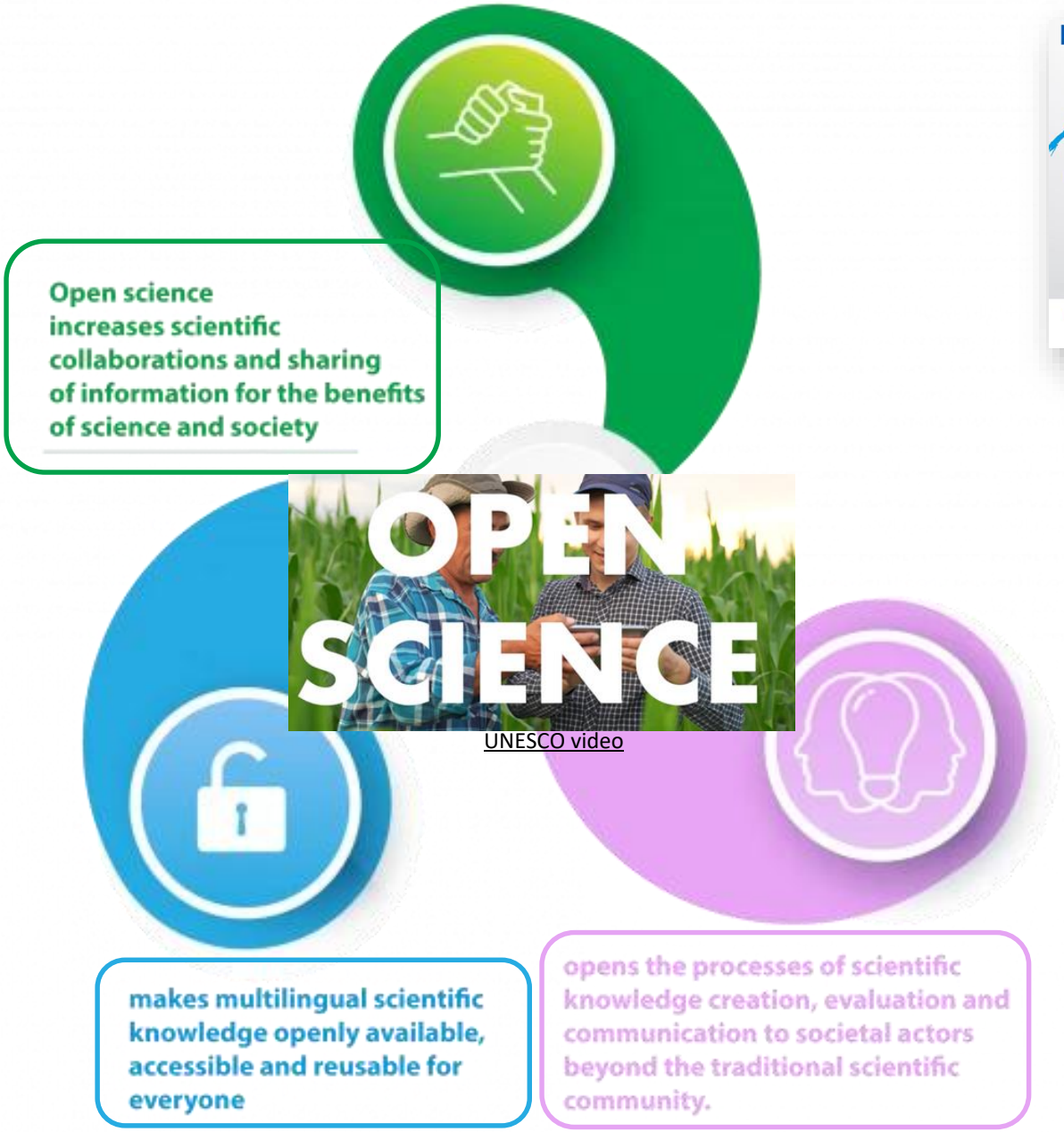
OPEN SCIENCE≠OPEN ACCESS

FOCUS ON THE ENTIRE PROCESS, NOT ONLY THE FINAL SYNTHESIS (ARTICLE)



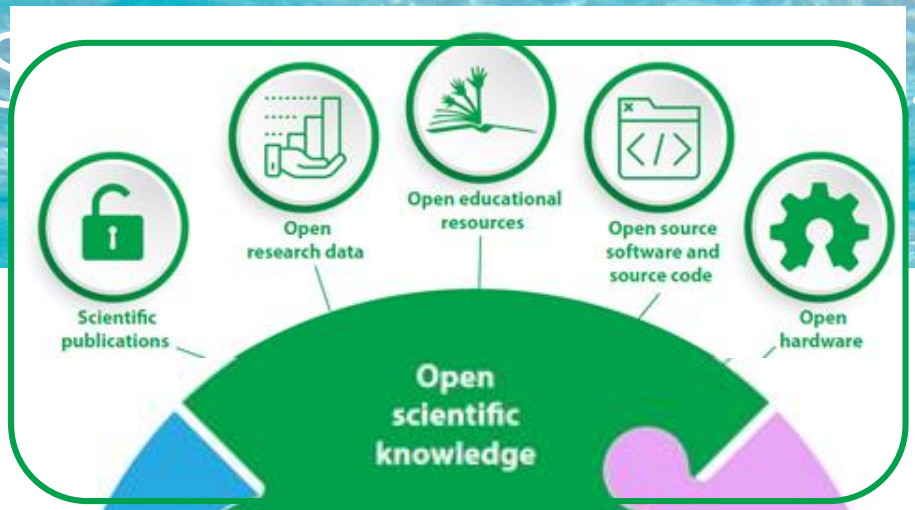
ALL THESE COMPONENTS TO BE EMBEDDED IN THE PROPOSAL TEMPLATE, 1.2 EXCELLENCE-METHODOLOGY AND TO BE EVALUATED UNDER «SCIENTIFIC EXCELLENCE»

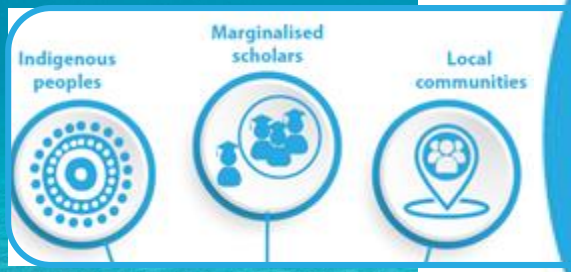
Open Science – definition

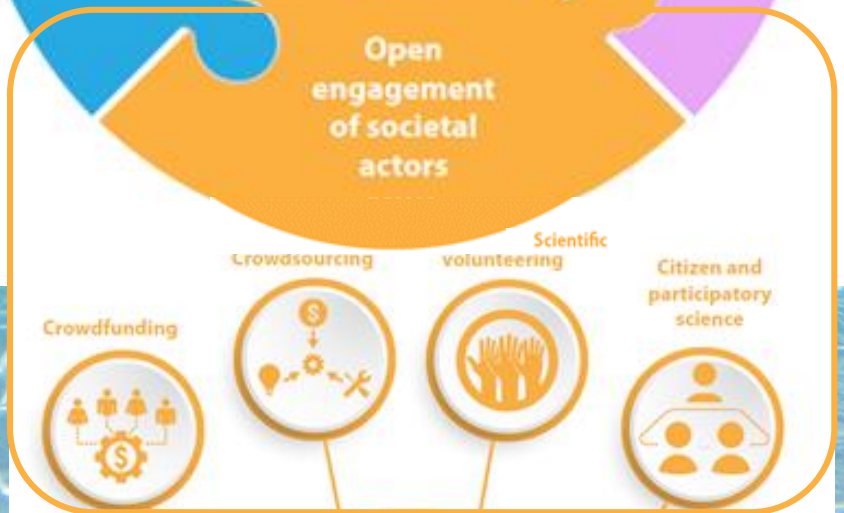


UNESCO video

…Open S…s







NOT ONLY SCIENTIFIC KNOWLEDGE. OPEN DIALOGUE, OPEN ENGAGEMENT OF SOCIETAL ACTORS

Open Science

Video

Jeff Rouder
@JeffRouder

Segui

What is Open Science? It is endeavoring to preserve the rights of others to reach independent conclusions about your data and work.

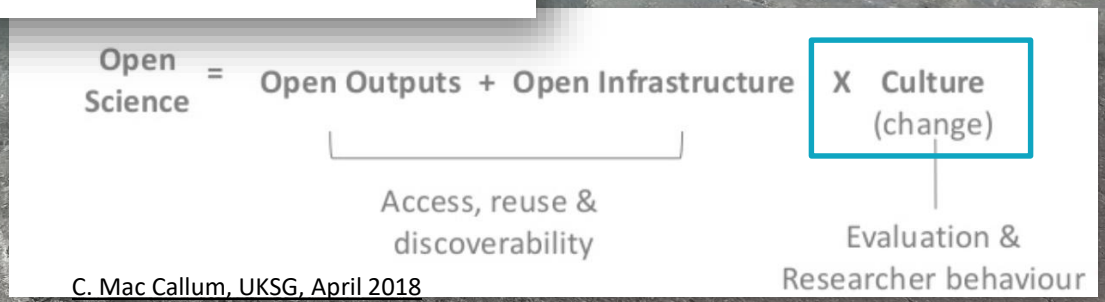
Traduci il Tweet

21:47 -

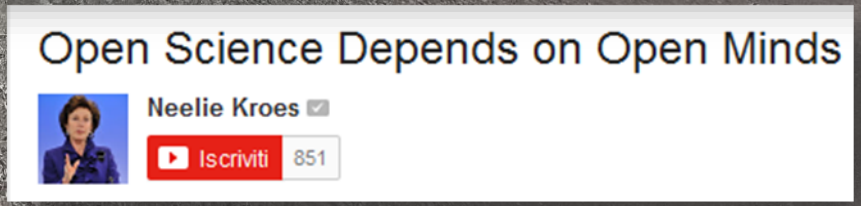
Open Science @openscience · 5 h

"Being open and transparent is an ongoing practice and not a check box at the end." - @biocrusoe #openscience

13 8



C. Mac Callum, UKSG, April 2018



[...cultural change or excuse?]

DON'T WAIT FOR RULES TO CHANGE. YOU CAN CREATE THE CHANGE WITH YOUR BEHAVIOUR

'Devastating career event': scientists caught out by change to Australian Research Council fine print

Aug. 20, 2021

Researchers say a ban on preprint material citations in funding applications is a 'remarkably stupid own-goal for Australian science'

Preprint rule out of line with 'modern publication culture'

In their 41-page document of instructions to DECRA applicants, the ARC asks researchers to "include information about national and international progress" relevant to their application and field of research.

One scientist said
without referring
said.

Another said: "I m
These are two fair
cite them I would

One astrophysicis
comments from A
citing a piece of so
a preprint.

"I was really anno
ruled out on a tech

A Future Fellowship applicant, who described feeling "angry, destroyed,

Aug. 20

Yvonne Nobis @yvonnenobis · 1h

This is bonkers. One of my partner's most highly cited papers (Planck collaboration) is a pre-print. It does not differ in any material way from the final published article, which followed several years later (a special journal ed).

(nb. citations from the preprint don't count)

The Hidden Professor @thehiddenprof · 1h

rdian.com/education/2021...

14 September 2021

Sept. 14, 2021

Australian Government

Australian Research Council

Adjustments to the ARC's position on preprints

For future scheme rounds, the Australian Research Council (ARC) will allow the referencing and inclusion of preprints in a grant application. This includes within the Research Outputs list as well as the body of an application.

This adjustment to ARC's policy position reflects contemporary trends and the emerging significance of preprint acceptance and use across multiple research disciplines as a mechanism to expedite research and facilitate open research, as well as to provide greater equity across disciplines and career stages.

PREPRINT WERE BANNED FROM GRANT PROPOSALS.
PROTESTS AS THE MOST RECENT RESEARCH IN ON PREPRINT. NOW THEY ARE INCLUDED RECOGNIZING THEIR «WIDE ACCEPTANCE»

Beyond the building blocks: ecology of knowledge

- SCIENTIFIC KNOWLEDGE IS JUST «ONE» OF THE KNOWLEDGE PRODUCED BY HUMANS
- OPEN DIALOGUE WITH OTHER KNOWLEDGE SYSTEMS MEANS A TWO-WAY COMMUNICATION [NOT ONLY «ACCESS», «SHARING» FROM ACADEMIA]

Munin Conference on Scholarly Publishing

Connecting the building blocks of Open Science: an ecological approach Nov. 2022

Pierre Mounier (EHESS)

Beyond the building blocks: towards an ecology of knowledge

In many texts about open science, starting with the definitions, there is often a versatile usage of "science" and "knowledge" that can be mentioned as if they were perfect synonyms. The UNESCO definition of open science is on the contrary very precise on this, considering science (or "scientific knowledge" as they put it) as one of the many types of knowledge that are produced in human societies. Hence, this challenging objective to "open dialogue with other knowledge systems", which touches upon several dimensions of scientific communication: citizen science, DEI (Diversity, Equity and Inclusivity), education, societal engagement. If everyone agrees that open science is ultimately for the benefit of society, it is often conceived as a basic right for non-academic actors to access the results of academic research, or as an active action to disseminate the outputs of research to the society through various channels. But, by no means this is what we could consider as "an open dialogue" that would require, at least, bidirectional communication. It thus implies to consider science on an equal footing with other types of knowledge (produced by practitioners, journalists, educators, amateurs, communities for example) to contribute to a common good that extends beyond the borders of academia (Okune et al., 2019). In my

…but / 2

- FOCUS ON THE INTERACTIONS, NOT ON THE BLOCKS

- HOW DO THEY MOVE IN THE ECOSYSTEM? DO THEY NURTURE? DO THEY FERTILISE?

…THESE ARE THE CRITERIA, NOT «EXCELLENCE»

"Connecting the building blocks" of open science is thus much more than just creating connections: it is more than ensuring technical interoperability between different systems, more than coordinating various stakeholders, more than disseminating science in society: it is to create a *milieu* of knowledge, to build the community that supports it and to open it beyond the limits of academia. In other words, it is to consider that the sum is superior to the addition of its parts, and to adopt an encompassing approach that supports open knowledge as a whole. That is why I would like to submit to discussion the relevance of adopting an ecological approach to open science. The main consequence of it would be to focus primarily not on the "blocks" taken individually, and not even primarily on the individual interactions between them, but on the systems of interactions that structure open science. The proposition would be to start from open science considered as an ecosystem supporting the creation of open knowledge, and then look at the elements from that perspective. What is in focus then, is the web of communications and interactions that compose the ecosystem. The objective is no more to "connect the building blocks" of open science, as bricks are assembled in a wall, but to support symbiotic systems of relations between initiatives, platforms, tools, communities and practices that thrive for and by open knowledge.

Winch means, when considering or even evaluating open science initiatives, projects, services and tools, to flip the order or priorities and to pay attention first to the way they move in their ecosystem: how do they nurture from it, how do they fertilise it, how do they cooperate with others, rather than other criteria that are usually considered as more important; such as innovation, efficiency, excellence. And then, when we have a comprehensive representation of the full web of interactions and interdependencies maybe we could start asking the right questions: is it sustainable? Is it inclusive? Is it creative? Is it alive?

Munin Conference on Scholarly Publishing

Nov. 2022

Connecting the building blocks of Open Science: an ecological approach

Pierre Mounier (EHESS)

…but / 1

Jan. 2022

IT'S NOT JUST PUTTING «OPEN» BEFORE THAT WE ARE DONE…

frontiers

Mission statement Conversations Commentaries Evidence snapshots

Commentaries

Members of the Open Science community react to the UNESCO Recommendation

We asked 11 leading experts and advocates of the Open Science and Open Access movement to share their views on the significance of the UNESCO Recommendation on Open Science adopted in late 2021. Here are their responses and their own recommendations for how to achieve the objectives set by UNESCO.

recommendations. But, so far, most continue to put this still-fermenting new wine into the old wineskins of their current reward systems and publishing requirements. Ultimately, the escape from the 17th-century scholarly communication prison is *not* about blaming the publishers, but about facing our own, dried-out, elitist, and anachronistic ivory-tower scholarly communication practice (from which the publishers live lavishly).

IT'S US TO BLAME!

Barend Mons

primarily communicated via human-readable narrative. However, we must realise that the evidence on which we base our knowledge should be centered on data and relevant, reproducible, observations and patterns that lead to precise claims[2], rather than on storytelling. Narrative is necessary but is *supplementary* to data and actual claims.

ly

the Global North can have our electric cars and cleaner cities? Why would science be different? The (almost) universally agreed-upon (among intellectuals) new wine, *although wonderful and tasty*, goes quickly into the old wineskins of the current, journal-based scholarly communication and reward system, which *will resist until it finally bursts*. Many

DON'T PUT NEW WINE IN OLD WINESKINS (THE CURRENT JOURNAL SYSTEM)

[still, the focus is on a one-way communication]

PERFECT. AGREED 100%. BUT…
IT'S STILL «DISSEMINATION»
[ONE WAY FROM ACADEMIA]

UNITED NATIONS, NEW YORK | 8–10 FEBRUARY 2023

3rd Open Science Conference

Accelerating the Sustainable Development Goals, Democratizing the Record of Science

#OpenScienceUN

What we have	What we need
Predominantly pay to access, pay to publish scholarly publishing system	A universal, quality-controlled research communications system
Focus on the "article"	All valuable research outputs
Lengthy lag times from submission to publication	Rapid sharing of preprints with open peer review
(Excessively high) 'pay to access"' fees or 'pay to publish' fees (APCs)	Public infrastructure for dissemination of research with no transaction fees
Consolidation and centralization	Distributed ecosystem to support bibliodiversity
Closed collections	Open content (AI and TDM)
Print legacy systems	Utilize the potential of the open web

K.Shearer, Feb. 2023

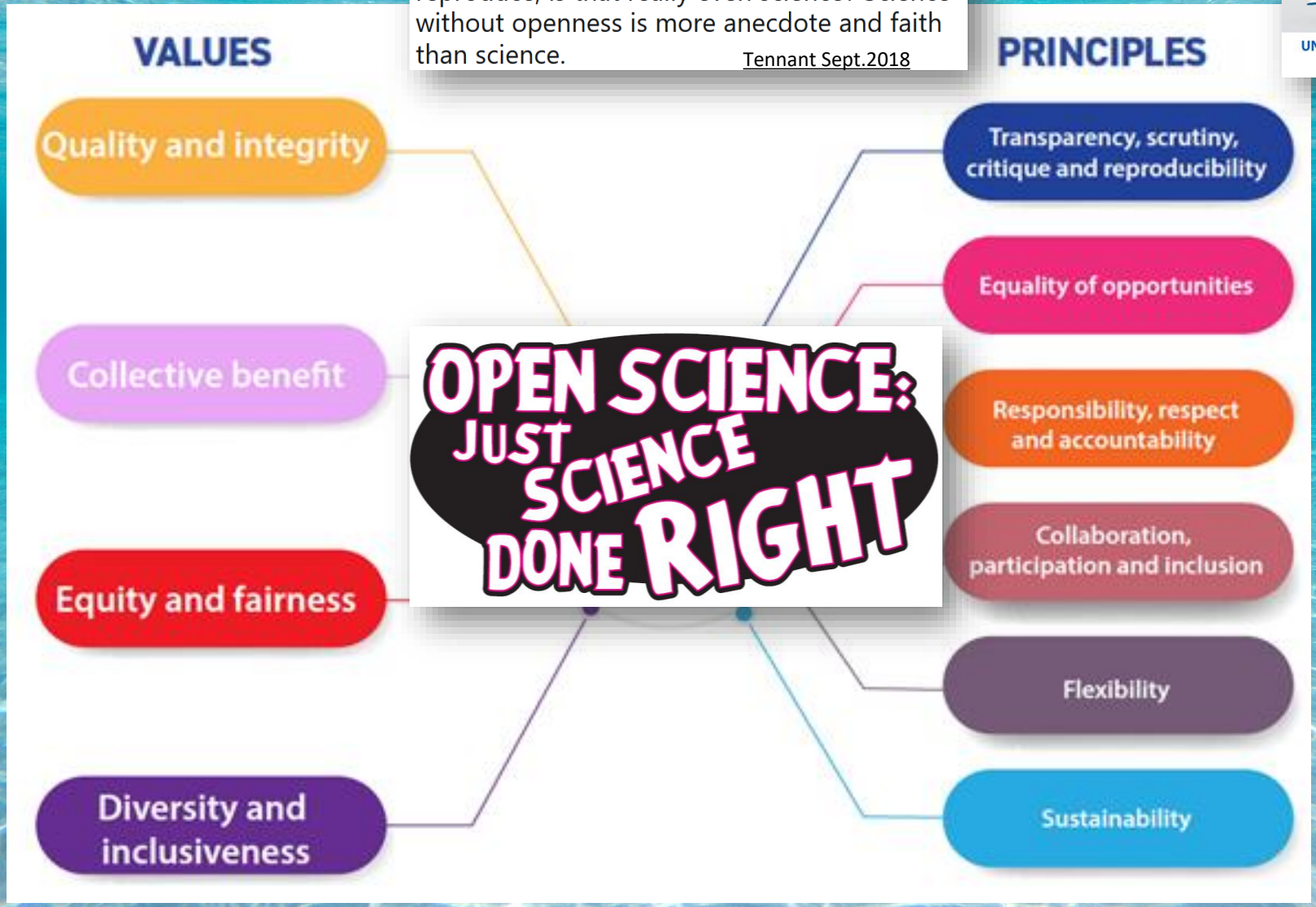
…Open Sc…es

Jon Tennant
@Protohedgehog
Following

What is the difference between open science and good science? If research papers are inaccessible, with no code or data, cherry picked results, inability to even attempt to reproduce, is that really even science? Science without openness is more anecdote and faith than science.

Tennant Sept.2018

Nov. 23, 2021



Open Science

OPEN SCIENCE HAS THE POTENTIAL OF INCREASING QUALITY AND MAKING THE ENTIRE PROCESS MORE TRANSPARENT

Open Science has the potential of increasing the quality of science and making the entire scientific process more transparent, collaborative and inclusive.

Open Science can accelerate progress towards SDGs and it can be a true game changer in bridging the science, technology and innovation gaps between and within countries and fulfilling the human right to science.

OPEN SCIENCE AS AN ACCELERATOR TOWARDS SGDs – A GAME CHANGER

unesco

Ana Persic, Sept.10 #OAI12

Open Science

- OPEN SCIENCE IS A HUMAN RIGHT
  - LEAVE NO ONE BEHIND

Jon Tennant ✓
107.241 Tweet

Following

[Open] Science is a Human Right

Article 27

1) Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to **share in scientific advancement and its benefits**.
2) Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

1) Toda persona tiene derecho a participar libremente en la vida cultural de la comunidad, a gozar de las artes y a participar en el **progreso científico y en los beneficios que de él resulten**.
2) Toda persona tiene derecho a la protección de los intereses morales y materiales que le correspondan por razón de las producciones científicas, literarias o artísticas de que sea autora.

s://www.un.org/en/universal-declaration-human-rights/ @protohedgehog

Sept. 21, 2019

Also noting that the global COVID-19 health crisis has proven worldwide the urgency of and need for fostering equitable access to scientific information, facilitating the sharing of scientific knowledge, data and information, enhancing scientific collaboration and science- and knowledge-based decision making to respond to global emergencies and increase the resilience of societies,

Committed to leaving no one behind with regard to access to science and benefits from scientific progress by ensuring that the scientific knowledge, data, methods and processes needed to respond to present and future global health and other crises are openly available for all countries, in accordance with the rights and obligations, including the exceptions and flexibilities, under applicable international agreements,

Affirming the principles of the Universal Declaration of Human Rights, notably those contained in Articles 19 and 27 and also affirming the 2007 United Nations Declaration on the Rights of Indigenous Peoples,

unesco

Nov. 23, 2021

UNESCO Recommendation on Open Science

OPEN SCIENCE + RESEARCH INTEGRITY ARE COMPLEMENTARY TOWARDS EXCELLENT RESEARCH AND MORE SOCIETAL IMPACT
KEYWORD: TRANSPARENCY

Recommendations (summary)

1. **Communicate about Open Science and Research Integrity in a positive way, as two fundamental and complementary pathways towards excellent science and greater social impact of research.** Indeed Open Science and Research Integrity both ultimately relate to the need to foster responsibility and trust in research and innovation.
2. **Commit to reforming the research assessment system to provide the right recognition, incentives and rewards** for methodological rigour, for enabling the wider uptake of open science practices, and to move at the same time towards a system that supports integrity and that rewards the plural characteristics of highquality research.
3. **Journals and publishing platforms should be transparent about their editorial processes**, including peer reviewing, and promote reproducibility of research through support of FAIR data and, whenever possible, by facilitating open access to data, codes and methodologies.
4. **Make sure that researchers** (at every stage of their career), **as well as other involved stakeholders** (like university lawyers or funders), **receive adequate training on research integrity and Open Science.**

BMC Research Notes 2022

Home About Articles Submission Guidelines Collections Submit manuscript

Commentary | Open Access | Published: 20 September 2022

Promoting trust in research and researchers: How open science and research integrity are intertwined

Tamarinde Haven, Gowri Gopalakrishna, Joeri Tijdink, Dorien van der Schot & Lex Bouter

Library Element Report

SWG OSI Guideline Report on Research Integrity and Ope Science

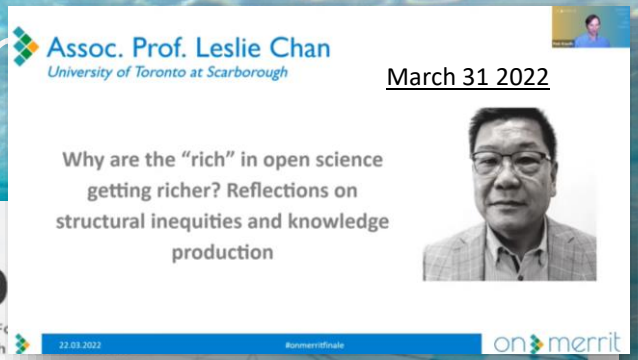
Uploaded by RRI Tools on January 26, 2022

2021

9. **Promote cooperation between Open Science and Research Integrity offices at a national and institutional levels.** This is essential to develop training and materials that contribute to supporting researchers in practicing open science and ensure that high standards of research integrity are complied with. It would also help ensuring that fast pace developments in the area of Open Science are taken into account and appropriately reflected in codes of conduct for Research Integrity.
10. **Publicize information and enhance visibility about main Open Science and Research Integrity policies/documents/guidelines at a national and institutional level**, notably through websites that could be considered as general knowledge hubs in this regard.

Open [collaborative] Scier

INCLUSION ALSO MEANS MULTILINGUALISM

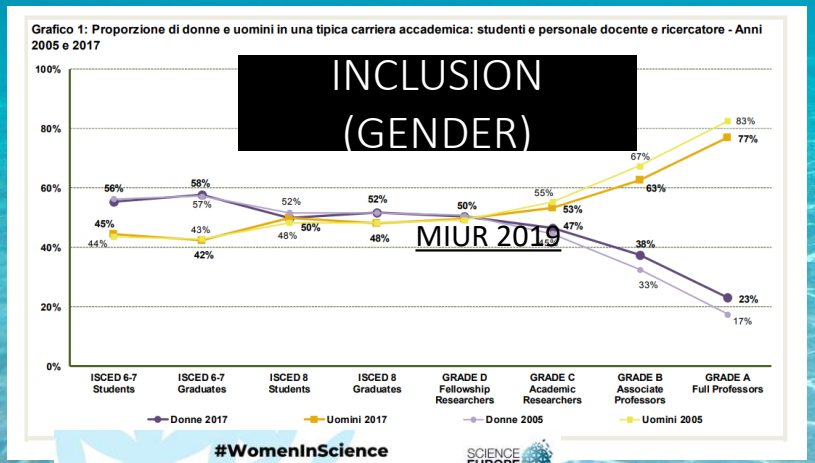


March 31 2022

Dec.2021

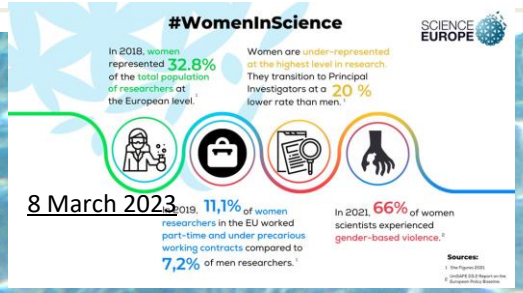
Beyond Diversity and Inclusion: Challenging Structural Racism and Systemic Biases in Academic Knowledge Production

Leslie Chan
Global Development Studies
Knowledge Equity Lab
University of Toronto Scarborough
@lesliekwchan @knowequitylab



INCLUSION (GENDER)

MIUR 2019



8 March 2023

Main points

Contemporary inequity in knowledge production has deep historical roots – tracing back to colonialism and the spread of imperial science

Addressing compositional diversity doesn't address the underlying problems of structural racism and systemic biases rooted in whiteness

Structural racism is about the maintenance and reproduction of power

Uncritical acceptance of "openness" risks reproducing and amplifying existing inequities

Design principles based on epistemic justice and knowledge equity are possible – Centering Human Relations and Solidarity

UNCRITICAL ACCEPTANCE OF «OPENNESS» RISKS REPRODUCING AND AMPLIFYING EXISTING INEQUITIES

Open Science

ARTICLES? ALSO DATA, CODE, PROTOCOLS…

REDEFINE «EXCELLENCE»…

recognize that formal papers and manuscripts are not the only units of scientific knowledge

redefine research excellence towards *values*: leadership, diversity work, mental health support

put science back at the heart of society

invest in tools, services, and community-driven initiatives to help make science better by engaging more people to participate in the process

tell it like it is: redefine failure, nurture slower, responsible science, shift the focus from the outputs to the practice

@pcmasuzzo
Oct.5, 2020

TAKE BACK CONTROL, ENGAGE PEOPLE…

TELL IT LIKE IT IS: TAKE BACK YOUR RIGHT TO BE WRONG, REDEFINE «FAILURE», FOCUS FROM OUTPUTS TO PRACTICE

...in a nutshell...

It was really helpful to have in mind there is an alternative way [Open Science] that gives us the chance **of being treated with dignity and truly focus on the essence of our work**

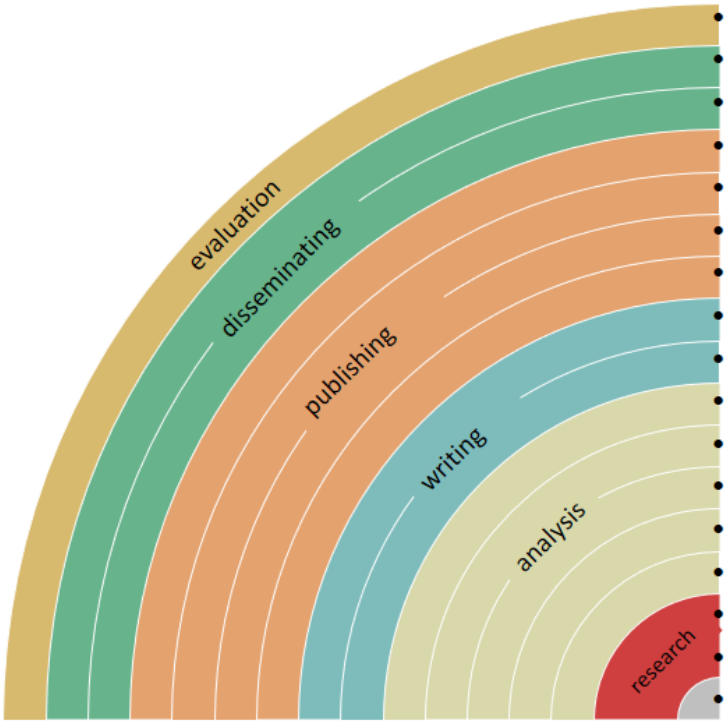
[Petra, PhD, May 2020]

Going Open

Oper

ANY COMPONENT OF THIS RAINBOW SHOULD COUNT AS «RESEARCH OUTPUT»

YOU CAN MAKE YOUR WORKFLOW MORE OPEN BY...



- adding alternative evaluation, e.g. with. altmetrics
- communicating through social media, e.g Twitter
- sharing posters & presentations, e.g. at FigShare
- using open licenses, e.g. Creative Commons BY
- self archiving in archives or publishing on Open journals
- using open peer review, e.g. at PubPeer o F1000
- sharing preprints, e.g. at OSFpreprint, arXiv o biorXiv
- using actionable formats, e.g. with Jupyter o CoCalc
- open XML-drafting, e.g. at Overleaf o Authorea
- sharing protocols & workflows, e.g. at Protocols.io
- sharing notebooks, e.g. at OpenLabNotebook
- sharing code, e.g. at GitHub licensing GNU/MIT
- sharing data, e.g. at Dryad, Zenodo o Dataverse
- pre-registering, e.g. at OSFregistry o AsPredicted
- commenting openly, e.g. with Hypothes.is o Pund.it
- using shared reference libraries, e.g. with Zotero
- sharing (grant) proposals, e.g. with RIO Journal

Interactive rainbow 2021

TECHNICALLY, IT'S THERE.
WHAT IS STILL NEEDED IS THE CULTURAL SHIFT...
AND YOUR FIRST STEP!


YES, BUT…
WE ARE STILL
EVALUATED BY
IMPACT FACTOR

Focus 1 – Research assessment

MATRIX NOT METRICS

CAREER DIVERSIFICATION
RESPECT OF INDIVIDUALS AND TEAM WORK
QUALITY
OPEN SCIENCE
LEADERSHIP

THE WORLD IS CHANGING, OUT THERE

YOU EVALUATE WHAT YOU VALUE

ACKNOWLEDGE DIVERSITY

OS-CAM, the Career Assessment Matrix

Research output
Research Process
Service & Leadership
Research Impact
Teaching and supervision
Professional Experience

2022

HANDBOOK ON
Research Assessment in the Social Sciences
Edited by
Tim C.E. Engels & Emanuel Kulczycki

2017

Evaluation of Research Careers fully acknowledging Open Science Practices

Rewards, incentives and/or recognition for researchers practicing Open Science

Room for everyone's talent
towards a new balance in the recognition and rewards of academics

2020

START
- Not with what others' value (external drivers)
- Not with available data sources (the 'Streetlight Effect')

CONTEXT considerations
- WHO are you evaluating? (Entity size)
- WHY are you evaluating?
- Do you need to evaluate at all?

OPTIONS for ev
- Consider bo
- Be careful w
- Evaluate wi

PROBE deeply
- WHO might your evaluation approach discriminate against?
- HOW might your evaluation approach be gamed?
- WHAT might the unintended consequences be?
- Does the cost outweigh the benefit?

EVALUATE your evaluation
- Did your evaluation achieve its aims?
- Was it formative as well as summative?

1 Start with what you value
2 Context considerations
3 Options for evaluating
4 Probe deeply
5 Evaluate

HuMetricsHSS
HUMANE METRICS INITIATIVE

VALUES FRAMEWORK

Live your values. Transform the academy.

EQUITY
Accessibility | Equitable Access | Inclusivity | Public Good | Social Justice

OPENNESS
Accountability | Candor | Learning From Failure | Open Process | Open Source | Transparency

COLLEGIALITY
Ethical Imagination | Kindness | Generosity | Empathy | Self Care | Respect

SOUNDNESS
Knowledge Advancement | Creativity | Integrity | Intentionality | Originality | Boundary Pushing | Reproducibility

COMMUNITY
Attunement | Connection | Engagement | Holism | Leadership | Preservation

humetricshss.org

DORA

The Declaration Signers Case Studies Resources Blog

Reimagining academic assessm
stories of innovation and chan

Case studies of universities and national consortia highlight key elements of institutional change to improve academic career as

Tampere University
FINLAND

University College London
UNITED KIN

Univer
CHINA

Ghent
BELGIUM

Univer
NORWAY

TRIPLE: Team Spirit as the default approach to working in academia
2021

IMPACT
PROFESSIONAL PERFORMANCE
RESEARCH
EDUCATION
LEADERSHIP
TEAM

STEPS FOR REALISING THE VISION FOR FAIReR ASSESSMENTS 2021

1 MAKE IT MEANINGFUL
2 MAKE IT POSSIBLE
3 MAKE IT REWARDING

FAIReR ACADEMIC ASSESSMENTS

Recognise and value diversity and disciplinary differences of academic work

Diversity needs to be represented in information supporting assessment

Diversity of outputs, activities and missions need to be included among assessment criteria

EXAMPLE RESEARCH DATA

Identify practices (e.g.):
- Sharing research data
- Creating FAIR data
- Using open data
- FAIR expertise

Develop eInfrastructures for:
- Publishing and sharing research data
- Integrating metadata and indicators for research data practices

Reward researchers for (e.g.):
- Sharing datasets
- FAIR datasets
- Data citations
- Data stewardship

…chang

V.1.1 July 2021

Horizon Europe

Programme Guide

Finally, in **part A of their proposals**, proposers are asked to list up to five relevant publications, widely used datasets or other achievements of consortium members that they consider significant for the action proposed. Open access is expected for publications, in particular journal articles, while datasets are expected to be FAIR and 'as open as possible, as closed as necessary'. If publications are not open access, proposers are strongly encouraged to deposit them retroactively in repositories and provide open access to them when possible. The significance of publications will not be evaluated on the basis of the Journal Impact Factor of the venue they are published in, but on the basis of a qualitative assessment provided by the proposers for each publication.

HORIZON EUROPE DOES NOT CONSIDER IMPACT FACTOR

nature

June 2021

Explore content

DUTCH UNIVERSITIES ABANDON IMPACT FACTOR

nature > career news > article

CAREER NEWS | 25 June 2021

Impact factor abandoned by Dutch university in hiring and promotion decisions

Faculty and staff members at Utrecht University will be evaluated by their commitment to open science.

ERC ABANDONED IMPACT FACTOR

DORA

About DORA

The Declaration Signers Case Studies Resources Blog

RESOURCE

July 2021

European Research Council (ERC)

The number of peer reviewed publications and preprints that can be listed is limited to ten (five for Starting Grant applicants). While it is expected that the publications have a significant reach, applicants are explicitly asked not to include the Journal Impact Factor.

I believe in a research culture that recognises a diversity of contributions to science and society; that celebrates high quality and impactful research; and that values sharing, collaboration, integrity and engagement with society, transmitting knowledge from generation to generation.

Mariya Gabriel

Commissioner for Innovation, Research, Culture, Education and Youth

CoARA

https://coara.eu/

Coalition for Advancing Research Assessment

Our vision is that the assessment of research, researchers and research organisations recognises the diverse outputs, practices and activities that maximise the quality and impact of research. This requires basing assessment primarily on qualitative judgement, for which peer review is central, supported by responsible use of quantitative indicators.

Nov 2022

EUROPEAN COMMISSION INITIATIVE TOWARDS A REFORM OF RESEARCH ASSESSMENT (UNITO JOINED THE COALITION, AS WELL AS ANVUR)

- SIGNATURE OF THE AGREEMENT
- IN 1 YEAR SHOW A ROADMAP
- IN 5 YEARS SHOW THE EFFECTS

NEWS | 18 January 2022 | Brussels, Belgium | Research and Innovation

Process towards an agreement on reforming research assessment

EC process

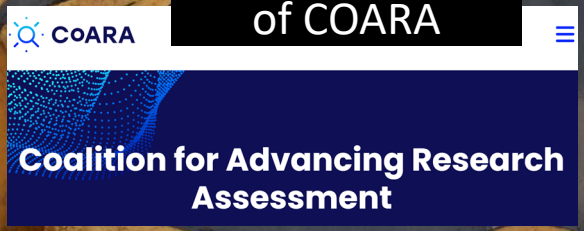
The Commission has called for organisations to express their interest in being part of a coalition on reforming research assessment.

COARA, the timeline

Nov. 2021
Scoping report

July 2022 Text of the Agreement

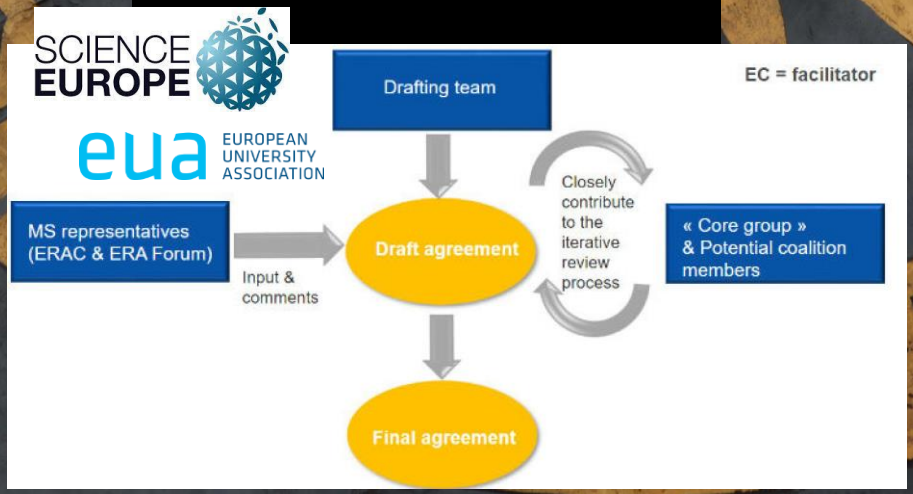
Sept. 2022
official launch
of COARA



2021 | 2022 Jan. | 2022 July | 2022 Sept. | 2022 Dec.

SURVEY/
BILATERAL
MEETINGS

COLLABORATIVE WRITING



STEERING BOARD ELECTED
DEC. 2

- 12/02/2022

Coalition for Advancing Research Assessment (CoARA) launched, Steering Board elected

Why / 1

- THE RESEARCH PROCESS IS CHANGING
- DATA INTENSIVE
- PUBLICATIONS ARE NO LONGER THE ONLY «OUTPUT»
- MORE COLLABORATION
- MORE INTERISCIPLINARITY
- NEEDS FOR REPRODUCIBILITY AND INTEGRITY

The research and innovation process is undergoing major evolutions, largely due to the digitalisation of the research and discovery process: the diversity of research tasks and required skills has increased, the volume of previous findings and datasets is often staggering, and desired outputs are no longer restricted to scholarly publications; sharing knowledge and tools, and openness to contributions from other stakeholders in the system (open collaboration) have become essential to efficiency and impact; and there is a growing need of multi-, inter-, and trans-disciplinary approaches and collaboration to tackle ever more complex scientific questions and societal challenges in collaboration with societal stakeholders. There is also a continuous need to make research outputs accessible and re-usable by other researchers and the whole of society and to ensure sound methodologies that increase the reliability and reproducibility (where applicable) of research outputs.

Why / 2 [distorting science]

- CURRENT INDICATORS (MOSTLY IMPACT FACTOR) ARE NO LONGER ALIGNED TO THIS NEW WAY OF DOING RESEARCH
- PUBLISH OR PERISH CULTURE COMES AT THE EXPENSE OF QUALITY, INTEGRITY, AND TRUST IN RESEARCH

These major evolutions are not aligned with the metrics that often dominate assessment: the number of publications and citations, and the quantity of publications in journals with high Journal Impact Factor (JIF). The race for publications – the so-called publish-or-perish culture – comes at the expense of quality, integrity, and trust in research. Also, using the JIF as a proxy for quality of research is shown to be inappropriate. Despite this, moving away from the use of JIF is non-trivial because it is easy to use and is engrained in academic culture, conferring prestige to authors and their institutions publishing in high JIF journals; whereas additional efforts may be required by alternatives such as more qualitative assessment methods.

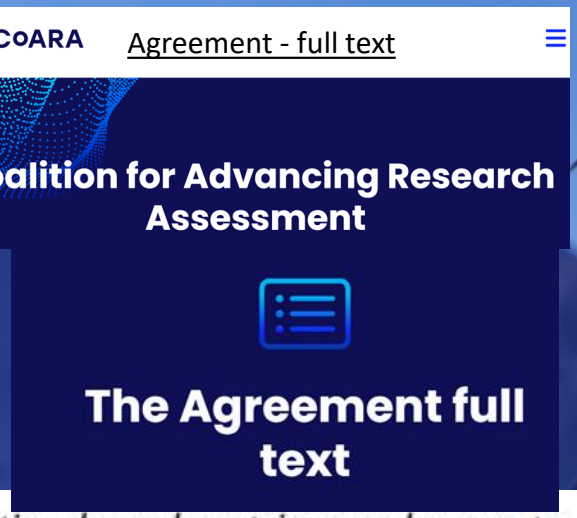
Why / 3

THE CURRENT SYSTEM RELYING ON JOURNALS

- DOES NOT RECOGNISE THE DIVERSITY OF CONTRIBUTIONS
- NEGATIVELY AFFECTS QUALITY AND INTEGRITY
- BOOSTERS PREDATORY PUBLISHING
- SUPPORT THE SUBSCRIPTION SYSTEM IN PRESTIGIOUS JOURNALS

[REMINDER: WE ARE TALKING PUBLIC MONEY]

- REDUCE INNOVATIVE IDEAS AS «RISKY»
- IT'S A WASTE OF TIME AND MONEY AS THEY DON'T PUBLISH NEGATIVE RESULTS



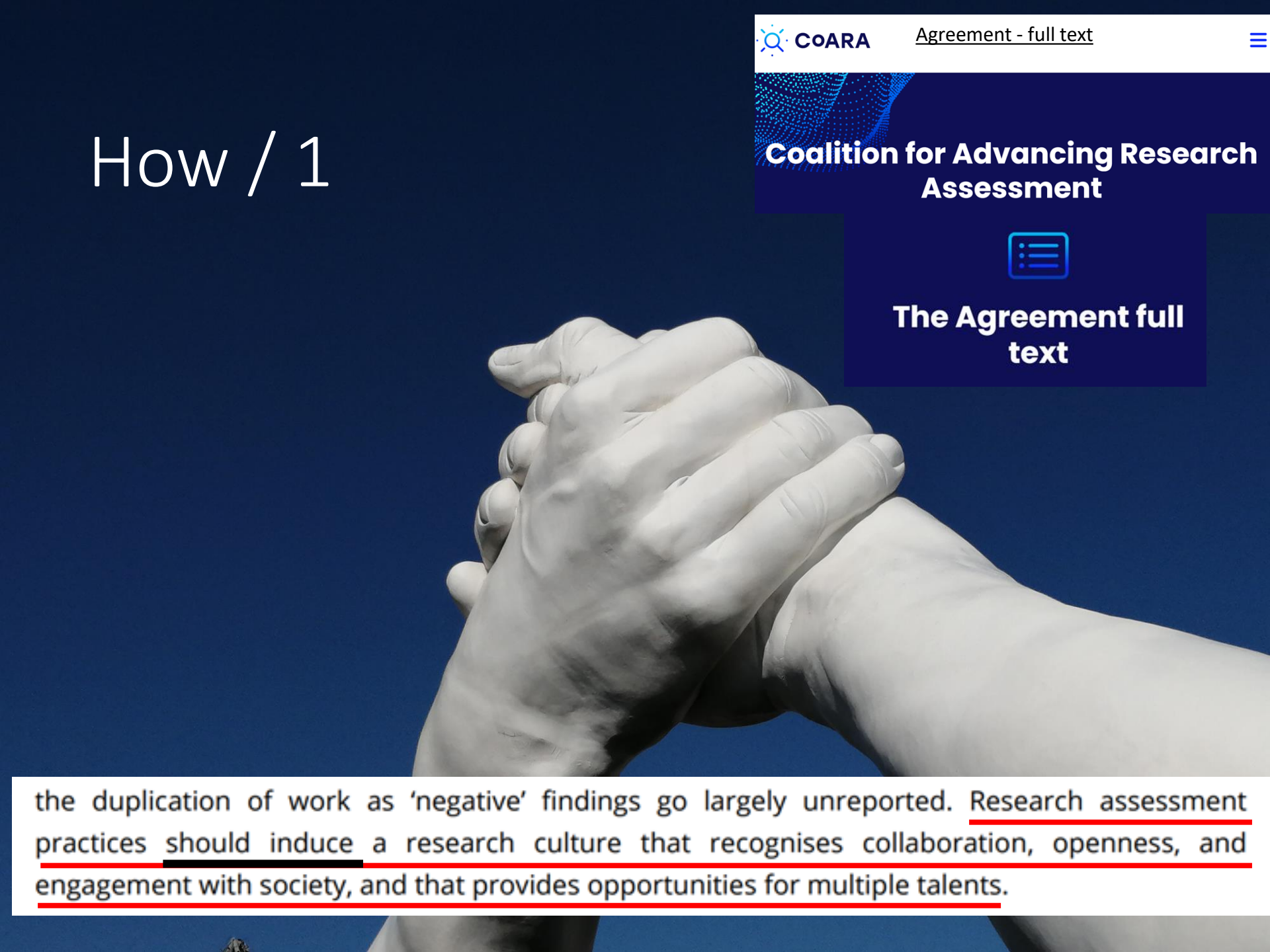
Assessment processes relying predominantly on journal- and publication-based metrics are known to result in a 'publish or perish' culture that falls short of recognising diverse approaches and could come at the expense of quality – The dominance of narrow journal- and publication-based metrics, which are often used inappropriately in research assessment, can be a hurdle to the recognition of diverse contributions and may negatively affect the quality and impact of research. For example, this dominance can: promote quantity and speed at the expense of quality and rigour; lead to the emergence of predatory journals and conferences; encourage publishing in paywalled journals because of their high impact factors, despite the availability of open access alternatives; lead to risk-aversity because taking risks may reduce the chances of publication; generate excessive attention to rankings that hinders collaboration; and waste efforts, time and resources through the duplication of work as 'negative' findings go largely unreported. Research assessment

How / 1

CoARA Agreement - full text

Coalition for Advancing Research Assessment

The Agreement full text



the duplication of work as 'negative' findings go largely unreported. Research assessment practices should induce a research culture that recognises collaboration, openness, and engagement with society, and that provides opportunities for multiple talents.

The pillars / 1

- COMPLY WITH ETHICS AND ITEGRITY RULES
- SAFEGUARD FREEDOM OF SCIENTIFIC RESEARCH

The Agreement full text

I. Base our actions on the following Principles:

Principles for overarching conditions

- Comply with ethics and integrity rules and practices, and ensure that ethics and integrity are the highest priority, never compromised by any counter-incentives. Verify before or during assessment that the highest standards of general and research- specific ethics and integrity are met. Value methodological rigour to guard against sources of bias, and promote extended forms of professional and scientific integrity, showing adherence to moral standards of conduct, and include behaviours such as early sharing of research data and results, building on the work of others, and subjecting oneself to critical external validation.
- Safeguard freedom of scientific research. By putting in place assessment frameworks that do not limit researchers in the questions they ask, in their research implementation, methods or theories. By limiting the assessment frameworks to only those necessary, as assessment must be useful for researchers, institutions and funders.

Agreement

The pillars / 2

- RESPECT THE AUTONOMY OF RESEARCH ORGANISATIONS
- ENSURE INDEPENDENCE AND TRANSPARENCY OF THE DATA, INFRASTRUCTURE AND CRITERIA

The Agreement full text

- Respect the autonomy of research organisations. By safeguarding the independence of research performing organisations in the evaluation of their researchers while implementing the present principles, yet striving to prevent contradictions between the assessment of research, researchers and institutions, and between institutions, to avoid fragmentation of the research and innovation landscape and to enable the mobility of researchers.
- Ensure independence and transparency of the data, infrastructure and criteria necessary for research assessment and for determining research impacts; in particular by clear and transparent data collection, algorithms and indicators, by ensuring control and ownership by the research community over critical infrastructures and tools, and by allowing those assessed to have access to the data, analyses and criteria used.

Agreement

The principles / 1

- FOCUS ON QUALITY
- QUALITY MEANS TRANSPARENCY, REPRODUCIBILITY, REUSE
- …HENCE A STRONG LINK TO OPEN SCIENCE, CO-CREATION, OPEN COLLABORATION
- STRIVE FOR (AND MEASURE) A REAL IMPACT ON SOCIETY

The Agreement full text

Principles for assessment criteria and processes

Agreement

Quality and impact

- Focus research assessment criteria on quality. Reward the originality of ideas, the professional research conduct, and results beyond the state-of-the-art. Reward a variety of research missions, ranging from basic and frontier research to applied research. Quality implies that research is carried out through transparent research processes and methodologies and through research management allowing systematic re-use of previous results. Openness of research, and results that are verifiable and reproducible where applicable, strongly contribute to quality. Openness corresponds to early knowledge and data sharing, as well as open collaboration including societal engagement where appropriate. Assessment should rely on qualitative judgement for which peer review is central, supported by responsibly used quantitative indicators where appropriate.
- Recognise the contributions that advance knowledge and the (potential) impact of research results. Impact of research results implies effects of a scientific, technological, economic and/or societal nature that may develop in the short, medium or long-term, and that vary

The principles / 2

- RECONGIZE THE DIVERSITY OF RESEARCH ACTIVITIES AND OUTPUTS
- REWARD EARLY SHARING AND OPEN COLLABORATION
- CONSIDER THE FULL RANGE OF TASKS (PEER REVIEW, MENTORSHIP, LEADERSHIP…)
- CONSIDER ALL THE OUTPUTS (NOT ONLY PUBLICATIONS)
- REWARD INTERACTION WITH SOCIETY

The Agreement full text

Diversity, inclusiveness and collaboration

Agreement

- Recognise the diversity of research activities and practices, with a diversity of outputs, and reward early sharing and open collaboration. Consider tasks like peer review, training, mentoring and supervision of Ph.D candidates, leadership roles, and, as appropriate, science communication and interaction with society, entrepreneurship, knowledge valorisation, and industry-academia cooperation. Consider also the full range of research outputs, such as scientific publications, data, software, models, methods, theories, algorithms, protocols, workflows, exhibitions, strategies, policy contributions, etc., and reward research behaviour underpinning open science practices such as early knowledge and data sharing as well as open collaboration within science and collaboration with societal actors where appropriate. Recognise that researchers should not excel in all types of tasks and provide for a framework that allows researchers to contribute to the definition of their research goals and aspirations.

The principles / 3

- RESPECT THE VARITEY OF DISCIPLINES
- VALORISE THE DIVERSITY ON ROLES
- ACKNOWLEDGE MULTI AND TRANS DISCIPLINARITY
- VALUE OPEN SCIENCE SKILLS AND TEAM SKILLS
- ENSURE GENDER EQUALITY AND INCLUSIVENESS

The Agreement full text

- Use assessment criteria and processes that respect the variety of scientific disciplines, research types (e.g. basic and frontier research vs. applied research), as well as research career stages (e.g. early career researchers vs. senior researchers), and that acknowledge multi-, inter-, and trans-disciplinary as well as inter-sectoral approaches, when applicable. Research assessment should be conducted commensurately to the specific nature of scientific disciplines, research missions or other scientific endeavours.
- Acknowledge and valorise the diversity in research roles and careers, including roles outside academia. Value the skills (including open science skills), competences and merits of individual researchers, but also recognise team science and collaboration.
- Ensure gender equality, equal opportunities and inclusiveness. Consider gender balance, the gender dimension, and take into account diversity in the broader sense (e.g. racial or ethnic origin, sexual orientation, socio-economic, disability) in research teams at all levels, and in the content of research and innovation.

Agreement

How / 2

The Agreement full text

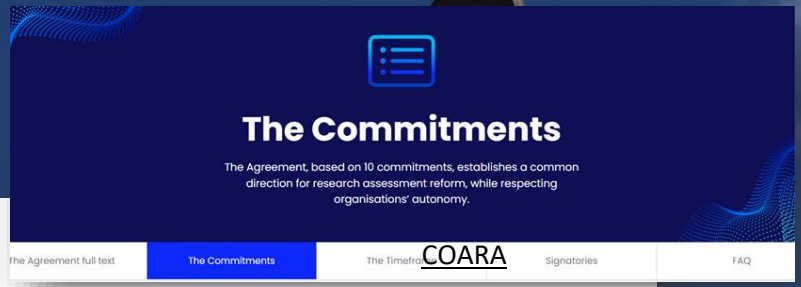
- ENGAGE THOSE BEING ASSESSED
- SHARE BEST PRACTICES
- COORDINATE

Annex 3 – Reform journey: a suggested process for achieving the Commitments

Agreement

1	**Allocate resources,** whether in terms of capacity or budget, to actively engage in the reform journey
2	**Communicate your intention to reform**, explain how you have started the process of reviewing or developing criteria, tools and processes in line with the core commitments
3	**Evaluate current assessment practices** in terms of alignment with the Principles and Commitments, consider also what currently works well and how this can be retained in parallel to any new practice - *Re-evaluate at fixed intervals, whenever broad reforms to*
4	**Engage those being assessed in the development and design of assessment criteria and processes**, work with researchers to enable consideration of differences between disciplines and career levels
5	**Develop existing and design new assessment criteria, tools, and processes** with assessors and those that are assessed; consider the diversity of contributions including: diverse outputs beyond journal publications and in different languages; diverse practices including those that contribute to robustness, openness, transparency, and inclusiveness of research and the research process including peer review, teamwork and collaboration; and diverse activities including teaching, leadership, supervision, training, and mentoring, according to the nature of each research discipline
6	**Interrogate developed and new approaches** by working with assessors and those that are assessed (e.g. who might new approaches discriminate against; how might they be gamed; what are the potential unintended consequences)
7	**Implement developed and new assessment criteria, tools, and processes** according to the Principles and Commitments; consider awareness raising, rewards, policies, training, infrastructure, and capacity building and include data collection to support monitoring, evaluation and mutual learning
8	**Evaluate developed and new assessment criteria, tools, and processes**
9	**Share data / information, participate in mutual learning within and beyond the Coalition**, supported by mechanisms developed by the Coalition
10	**Coordinate with other organisations at national and international level, and promote international coordination and harmonisation**
11	**Continue to evolve assessment criteria, tools, and processes based on learning from own evaluations and those of others**

Commitments / 1



COARA

The Commitments

1. Recognise the diversity of contributions to, and careers in, research in accordance with the needs and nature of the research

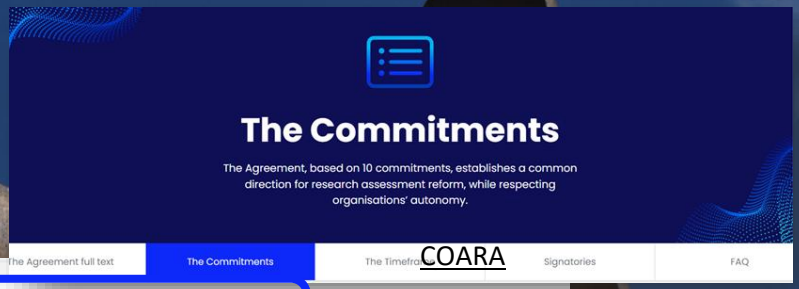
2. Base research assessment primarily on qualitative evaluation for which peer review is central, supported by responsible use of quantitative indicators

3. Abandon inappropriate uses in research assessment of journal- and publication-based metrics, in particular inappropriate uses of Journal Impact Factor (JIF) and h-index

4. Avoid the use of rankings of research organisations in research assessment

5. Commit resources to reforming research assessment as is needed to achieve the organisational changes committed to

Commitments / 2



COARA

6. Review and develop research assessment criteria, tools and processes

7. Raise awareness of research assessment reform and provide transparent communication, guidance, and training on assessment criteria and processes as well as their use

8. Exchange practices and experiences to enable mutual learning within and beyond the Coalition

9. Communicate progress made on adherence to the Principles and implementation of the Commitments

10. Evaluate practices, criteria and tools based on solid evidence and the state-of-the-art in research on research, and make data openly available for evidence gathering and research

Commitments / 3

ACTION PLAN IN 1 YEAR
FIRST RESULTS IN 5 YEARS

The Timeframe

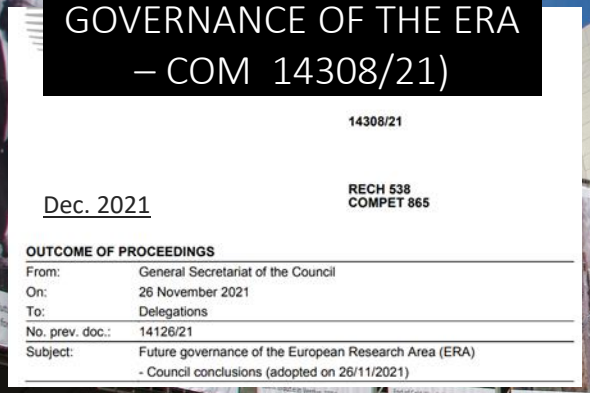
- The signatories of this Agreement agree to share with each other and with their community how their organisation has started the process of reviewing or developing criteria, tools and processes in line with the core Commitments and according to an action plan with defined milestones, **by the end of 2023 or within one year of signing the Agreement**.
- Signatories of this Agreement agree to regularly demonstrate progress towards reviewing, developing and evaluating criteria, tools and processes that fulfil the core Commitments, with a touch point **at end of 2027 or within five years of signing the Agreement**, by which time they will have worked through at least one cycle of review and development of their assessment criteria, tools and processes.

Signatories that are not assessing research projects, researchers, research units or research performing organisations commit to contribute to the reform and share progress with each other and the community respecting the same timeframe.

Timeframe

[there are legal basis]

A REFORM OF RESEARCH ASSESSEMENT IS A NEED (COUNCIL CONCLUSIONS ON THE FUTURE GOVERNANCE OF THE ERA – COM 14308/21)



14308/21

RECH 538
COMPET 865

Dec. 2021

OUTCOME OF PROCEEDINGS

From:	General Secretariat of the Council
On:	26 November 2021
To:	Delegations
No. prev. doc.:	14126/21
Subject:	Future governance of the European Research Area (ERA) - Council conclusions (adopted on 26/11/2021)

Open data directive

RESEARCH ASSESSMENT HAS TO CHANGE (RECOMMENDATION 790/2018)

2018

EUROPEAN COMMISSION

Brussels, 25.4.2018
C(2018) 2375 final

COMMISSION RECOMMENDATION

of 25.4.2018

on access to and preservation of scientific information

COUNCIL CONCLUSIONS ON RESEARCH ASSESSEMENT (10126/2022 JUNE)

Council of the European Union

June 2022

Brussels, 10 June 2022
(OR. en)

10126/22

RECH 371
TELECOM 267
COMPET 491
IND 227
MI 468
EDUC 245

OUTCOME OF PROCEEDINGS

From:	General Secretariat of the Council
On:	10 June 2022
To:	Delegations
No. prev. doc.:	9515/22
Subject:	Research assessment and implementation of Open Science - Council conclusions (adopted on 10 June 2022)

[ERA policy agenda]

FIRST 3 ACTIONS OF THE NEW EUROPEAN RESEA
AREA (ERA) ARE ABOUT OPEN SCIENCE

Priority Area: Deepening a truly functioning internal market for knowledge

ERA Actions	Outcomes
1. Enable the open sharing of knowledge and the re-use of research outputs, including through the development of the European Open Science Cloud (EOSC)	• Deploy Open Science principles and identify Open Science best practices • Deploy the core components and services of EOSC and federate existing data infrastructures in Europe, working towards the interoperability of research data • Establish a monitoring mechanism to collect data and benchmark investments, policies, digital research outputs, open science skills and infrastructure capacities related to EOSC
2. Propose a EU copyright and data legislative and regulatory framework fit for research	• Identify barriers and challenges to access and reuse of publicly funded R&I results and of publications and data for scientific purposes, and identify potential impacts on research, through an analysis of relevant provisions under EU copyright and data legislation and related regulatory frameworks, and of relevant institutional and national initiatives • Propose legislative and non-legislative measures to improve the current EU copyright and data legislative and regulatory frameworks
3. Advance towards the reform of the Assessment System for research, researchers and institutions to improve their quality, performance and impact	• Analysis of legal and administrative barriers at national and trans-national level for a modern research assessment system • Create a coalition of European research funders and research performers who agree on a new approach for research assessment, following wide and inclusive consultations at European and international level • Implementation plan of the coalition to roll-out the new approach, including pilots in different domains

[Open Science in EU]

COUNCIL RECOMMENDATION (EU) 2021/2122

of 26 November 2021 Nov.2021

on a Pact for Research and Innovation in Europe

COUNCIL RECOMMENDATION 2021 «PACT FOR RESEARCH AND INNOVATION»

Working better

(d) Free circulation: Free circulation of researchers and support staff, scientific knowledge and technology should be promoted, attracting talent and avoiding potential talent drain. This involves sharing scientific knowledge, data and tools as early as possible, in particular through open science practices, attractive and merit-based careers, the recognition of researchers' and support staff's skills throughout their careers, enhancing framework conditions for researchers' mobility, contributing to the circulation of researchers across the Union, encouraging exchanges between academia and industry (as well as other sectors), diffusing innovation and supporting open access to research infrastructures, technology infrastructures and their services;

Deepening a truly functioning internal market for knowledge

(a) Open science: Support and reward a true open science culture across the Union, including mainstreaming open access to scholarly publications and research data (i.e. following the 'as open as possible, as closed as necessary' principle) and the diffusion and uptake of open science principles and practices, whilst considering differences between disciplines and cultural differences, including multilingualism, supporting the development of open science skills, and further developing and integrating the underpinning digital infrastructure and services;

(b) Research infrastructures: Develop further the open access to, and better exploitation and connection of existing and new European and national research infrastructures, including e-infrastructures, in all the fields of science; exploit better their integrative function in the knowledge and innovation ecosystem and their potential in providing solutions to global challenges, in forming partnerships and pooling resources and connection to the European Open Science Cloud; improve their connection and interaction with technology infrastructures and industry to increase their impact; promote the creation of new infrastructural capacities on a European scale. Doing so will provide foundations for scientific excellence and help European science

[Open Science in EU]

COUNCIL CONCLUSIONS ON RESEARCH EVALUATION (2022)

Council of the European Union

June 2022

Brussels, 10 June 2022
(OR. en)

10126/22

RECH 371
TELECOM 267
COMPET 491
IND 227
MI 468
EDUC 245

OUTCOME OF PROCEEDINGS

From:	General Secretariat of the Council
	10 June 2022
	Delegations
c.:	9515/22
	Research assessment and implementation of Open Science
	- Council conclusions (adopted on 10 June 2022)

2. ACKNOWLEDGES that in order to accelerate the implementation and the impact of Open Science policies and practices across Europe, action has to be taken to move towards a renewed approach to research assessment, including incentive and reward schemes, to put in place a European approach in accordance with the Pact for Research and Innovation in Europe, and strengthen capacities for academic publishing and scholarly communication of all research outputs, and encourage where appropriate, the use of multilingualism for the purpose of wider communication of European research results;

I. Reform of research assessment systems in Europe

3. ACKNOWLEDGES that research assessment systems should focus on quality and impact, and RECALLS that the current research assessment systems are nowadays to a great extent too focused on the use of some quantitative journal- and publication-based indicators and the evaluation of a narrow range of research outputs; CONSIDERS that such an approach may lead to negative biases in terms of research quality, reproducibility and integrity; STRESSES that research assessment should include other research outcomes and processes and promote early knowledge sharing and collaboration to accelerate the implementation of Open Science policies and practices;

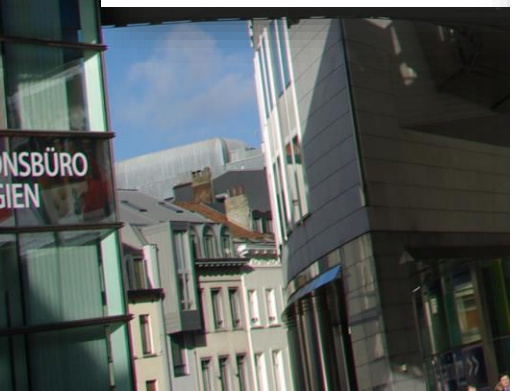
ACKNOWLEDGES THAT THE CURRENT ASSESSMENT LEAD TO NEGATIVE BIASES IN TERMS OF INTEGRITY AND QUALITY

8. SUGGESTS that the evolution of the research assessment systems in Europe should be guided by the following principles, while respecting the autonomy of research institutions and the freedom of scientific research, as well as the diversity of national and disciplinary contexts, and taking into account their consistency with international initiatives:

a. moving to a more balanced approach between the quantitative and the qualitative evaluation of research, by strengthening the qualitative research assessment indicators while developing the responsible use of quantitative indicators;

b. recognising all forms of research and innovation output and processes, including *inter alia*, datasets, software, codes, methodologies, protocols and patents, and not only publications; STRESSES that data should be findable, accessible, interoperable and re-usable, in line with the FAIR principles;

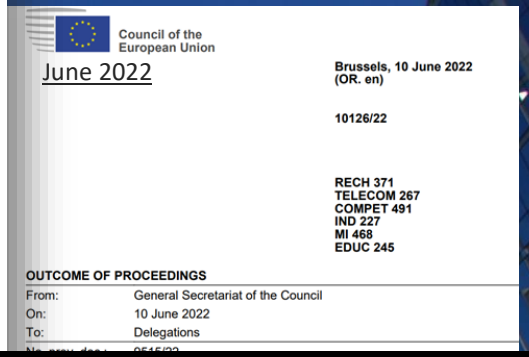
c. taking into consideration diverse career pathways and all research and innovation activities, including mentoring, leadership roles, entrepreneurship, data management, teaching, knowledge valorisation, industry-academia cooperation, support for evidence-informed policy making, interaction with society, including citizen science and public engagement;



d. taking into consideration the specificities of the various research disciplines, the range from basic to applied research, the stages of research careers and the missions of research institutions;

e. ensuring that ethics and integrity are accorded the highest priority and are not compromised by counter-incentives;

f. ensuring diversity, gender equality, and actively promoting women in science;



Council of the European Union

June 2022

Brussels, 10 June 2022
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10126/22

RECH 371
TELECOM 267
COMPET 491
IND 227
MI 468
EDUC 245

OUTCOME OF PROCEEDINGS

From:	General Secretariat of the Council
On:	10 June 2022
To:	Delegations

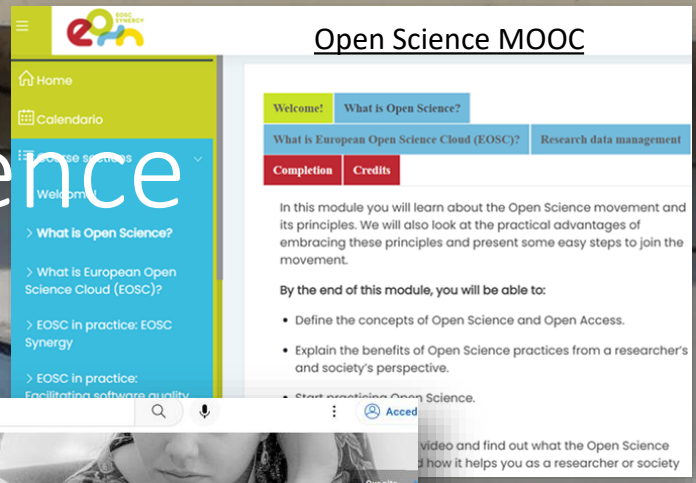
COUNCIL CONCLUSIONS ON RESEARCH EVALUATION (2022)

PRINCIPLES OF THE NEW EVALUATION

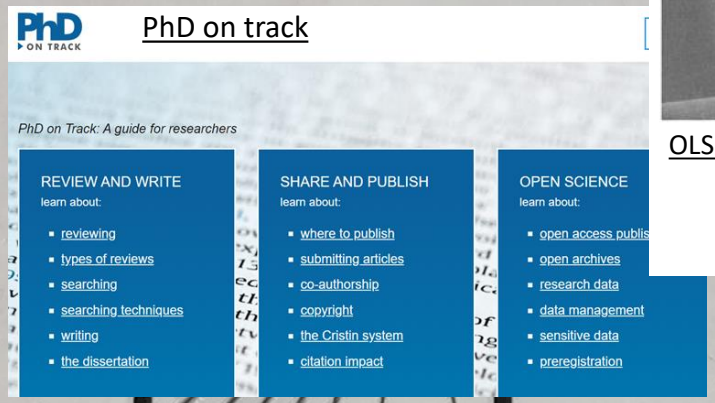

BREAK ...
QUESTIONS?

…it's time for Open Science

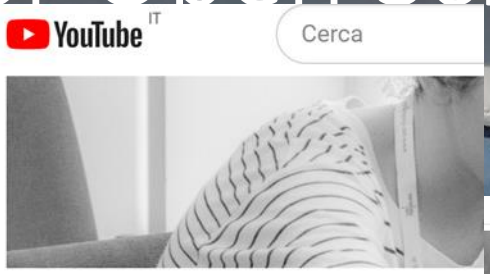
Open Science MOOC



PhD on track



OLS openlifescience full course online



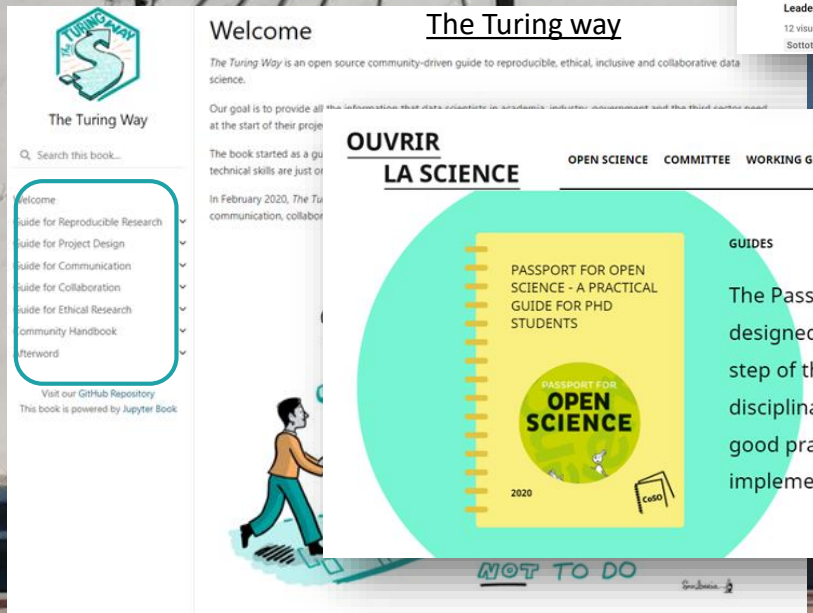
A new guide on open science especially for beginning researchers

2023

17 May 2023

What should I pay attention to when it comes to open science? How do I set up my research openly and transparently? Where can I publish? NWO, in collaboration with UNL, DANS-KNAW and UKB (the partnership of university libraries and the KB) has published a guide on open science. The guide answers some frequently asked questions that (young) researchers have when getting started with open science.

The Turing way

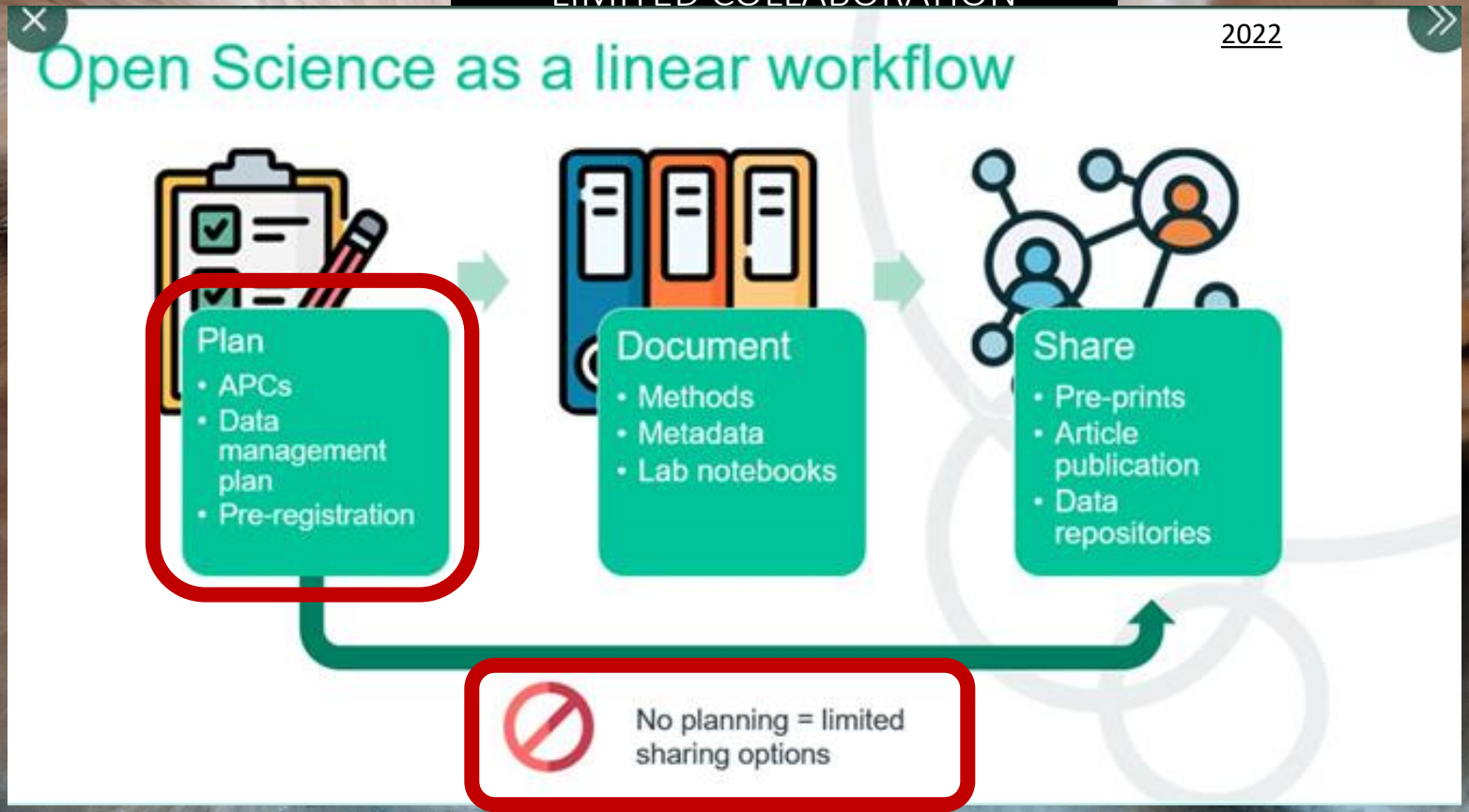


202

2018

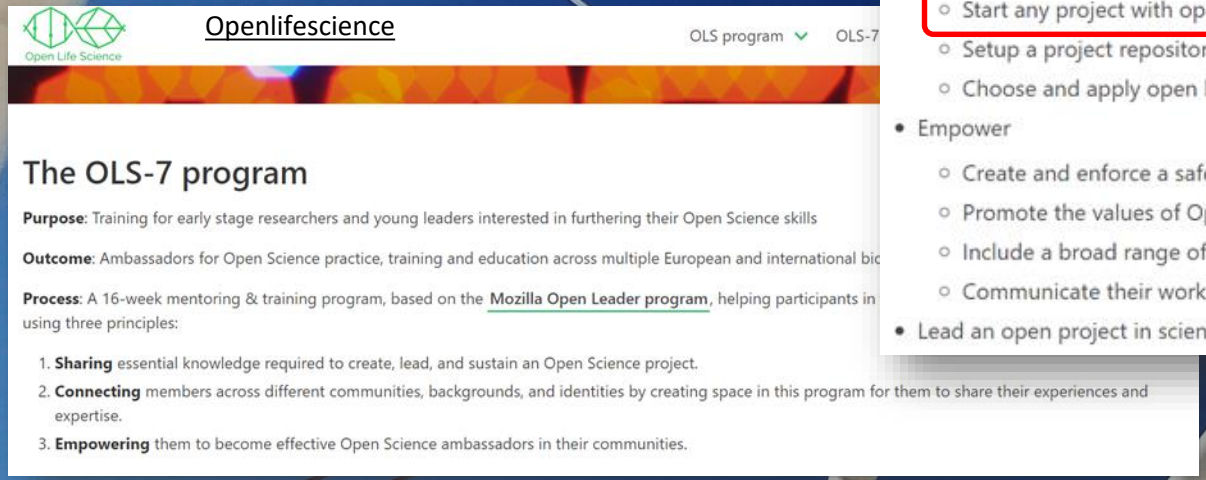
[born Open]

NO PLANNIG =
LIMITED SHARING OPTIONS,
LIMITED CO-CREATION,
LIMITED COLLABORATION



Open by design

Openlifescience



- Design
  - Illustrate the need for a project, its vision, and its goals
  - Embrace and communicate the benefits of Open Science and how to strategically appl
  - Identify the public resources to share their data
  - Identify the different type of Open Access and associated journals
- Build
  - Start any project with openness in mind from day one
  - Setup a project repository on GitHub using best practices for enabling collaboration
  - Choose and apply open licenses appropriately
- Empower
  - Create and enforce a safe working environment
  - Promote the values of Open Science to empower others to lead and collaborate
  - Include a broad range of contributors in their work
  - Communicate their work and vision in a 2min demo of elevator pitch
- Lead an open project in science

A RESEARCH WORKFLOW OPEN BY DESIGN

	Understanding	Sharing	Participation & Inclusion

Design for...	• Content focus
	• Community interactions
	  ○ Learning through use
	• Storytelling
		• Information-sharing focus
		• Community interactions
		  ○ Gifting
		  ○ Enhancing value exchange
		  ○ Networking common interests
			• Governance focus
			• Community interactions
			  ○ Creating together
			  ○ Soliciting ideas
			• Project identity

Build for...	• Communication • Design • Facilitation • Maintenance • Project management	• Commons-based production • Data stewardship • Documentation • Licensing • Networking	• Decision-making • Delegation • Event planning • Community Management • Mentoring
Empower for...	• Maintains clarity of vision & purpose • Maintain authenticity & integrity • Stays curious	• Makes connections • Resilience • Self-care	• Embraces failure • Ensures safety • Inspires contribution

Mozilla open leadership framework

The Turing way

The Turing Way

Search this book...

Welcome

Guide for Reproducible Research

Guide for Project Design

Guide for Communication

Guide for Collaboration

Guide for Ethical Research

Community Handbook

Afterword

The Turing Way

Search this book...

Welcome

Guide for Reproducible Research

Guide for Project Design

Overview of Project Design

Creating Project Repositories

Personas and Pathways

File Naming Convention

Code Styling and Linting

Sensitive Data Projects

Managing Sensitive Data Projects

Working on Sensitive Data Projects

Guide for Communication

Guide for Project Design

This guide covers topics related to effective project planning and management.

In this guide, we compile best practices and guidance for designing research projects by including different aspects of project management and (iterative) development practices derived from academia and industry.

Before starting a project, researchers must define the project's scope. Researchers should start by identifying the main questions they aim to address through their work. Scope definition also includes defining the project goals, possible outcomes, resources requirements, people involved (collaborators, users and target audience) and possible constraints.

Researchers can then proceed to identify the expected minimum viable product of their project, synergies with other projects (similarities as well as differences), measure(s) of success, and the overall impact they hope to achieve. After these crucial questions are addressed, planning can focus on the operational

Guide for Collaboration

Getting Started With GitHub

Maintainers and Reviewers on GitHub

Organising Meetings

Organising Online Coworking Calls

Organising Conferences

Chairing Events

Participating in Events

Informal Coffee Chats

Tools for Facilitating Collaboration

Managing a New Community and Team

Leadership in Data Science

Research Infrastructure Roles

Remote Collaboration

Shared Ownership in Open Source Projects

Sustainability of Open Source Projects

Data science is defined by its interdisciplinarity. Our work can only reach its highest potenti
diverse teams of people involved in designing and delivering the research or product.

Fig. 91 There is more to collaboration than we see. *The Turing Way* project illustration b
Used under a CC-BY 4.0 licence. DOI: 10.5281/zenodo.3332807.

There are many different skills required to work well in groups with a wide range of expertis
guide, we welcome contributions in developing guidance on following (but not limited to)

Welcome

Guide for Reproducible Research

Guide for Project Design

Guide for Collaboration

Guide for Ethical Research

Introduction to Research Ethics

Research Ethics Committees Workflows

Ethical Decisions in Preclinical Research

Law, Policy and Human Rights in Ethics

Research Ethics for Social Data

Activism for Researchers

Internal Policy Advocacy

Self-Reflection

Ethical Considerations for Open Source Governance Models

Community Handbook

Afterword

Guide for Ethical Research

This guide covers topics related to ethical aspects in data science.

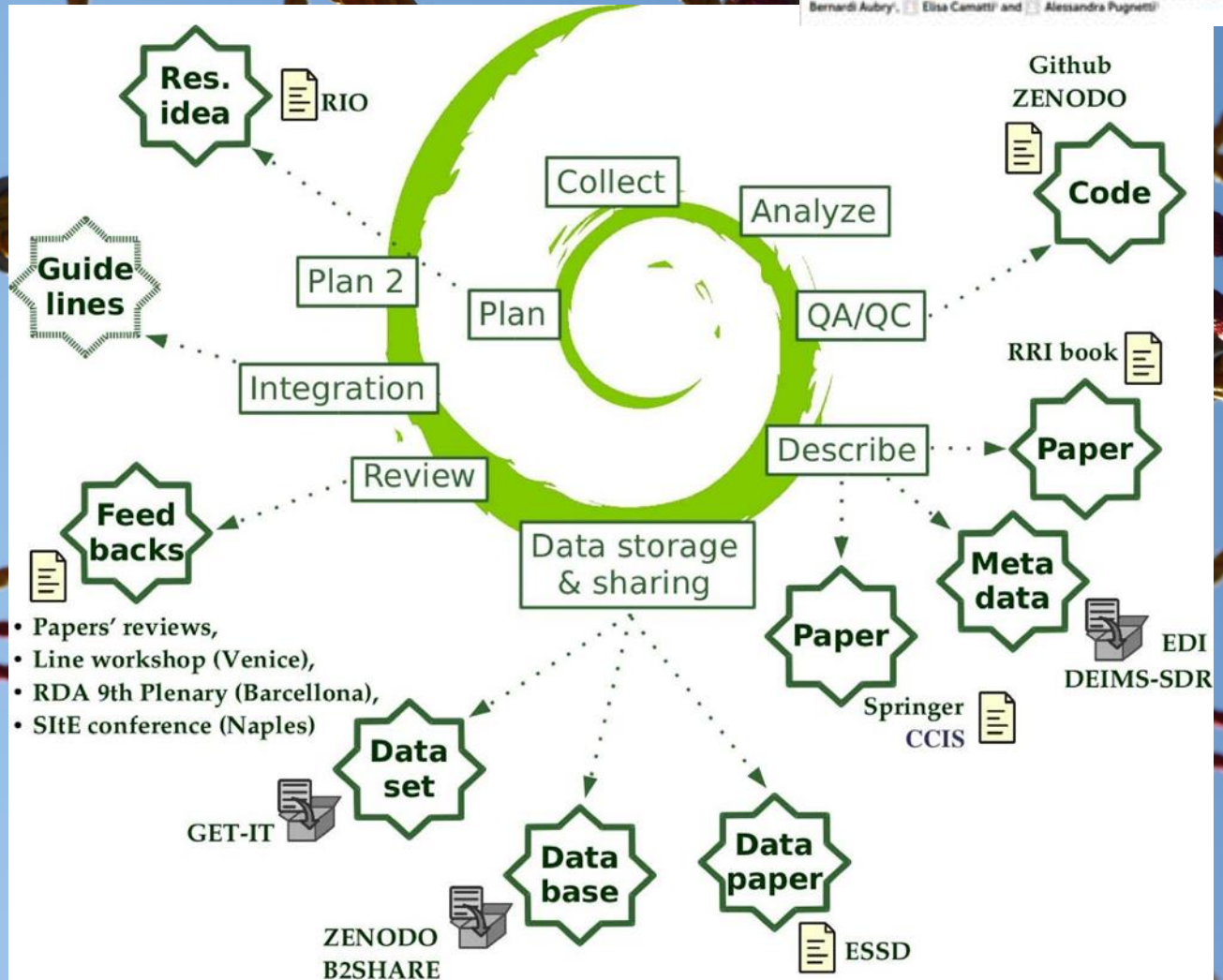
Data scientists make data-driven decisions that require the collection of data a
approaches that can have serious implications for health, security, politics, soci
associated with them. Researchers or any kind of stakeholders in data science h
consider the ethical standards and their impact of people's lives [Mar18].

[Open Science in pratice]

2021

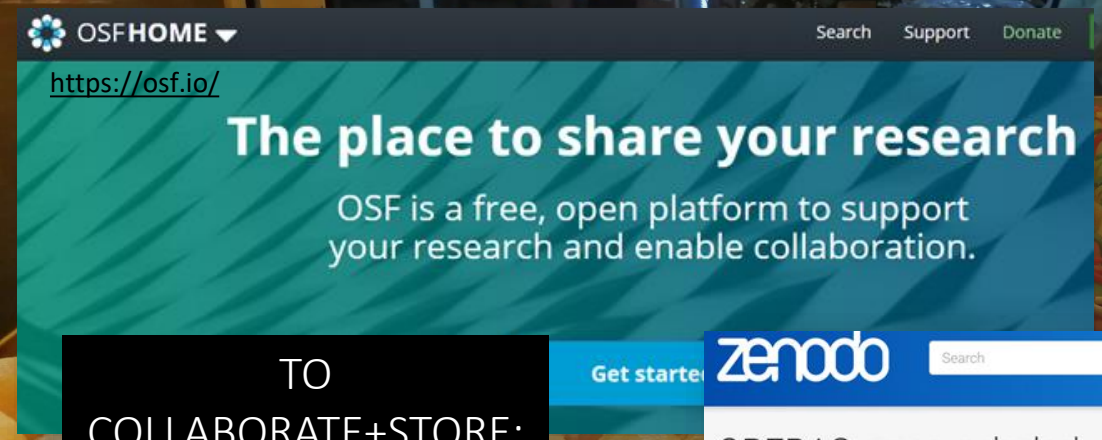
Opening Marine Long-Term Ecological Science: Lesson Learned From the LTER-Italy Site Northern Adriatic Sea

Annalisa Minelli[1], Alessandro Sarretta[1], Alessandro Oggioni[2], Caterina Bergami[1*], Mauro Bastianini[1], Fabrizio Bernardi Aubry[1], Elisa Camatti[1] and Alessandra Pugnetti[1]

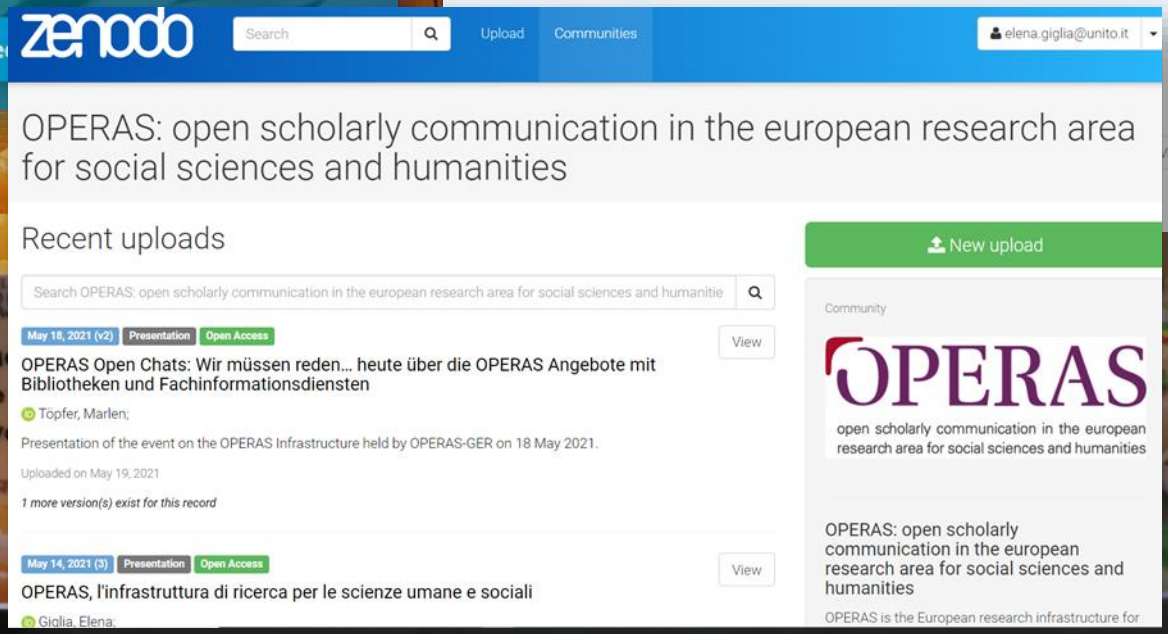


Some recipes / 1

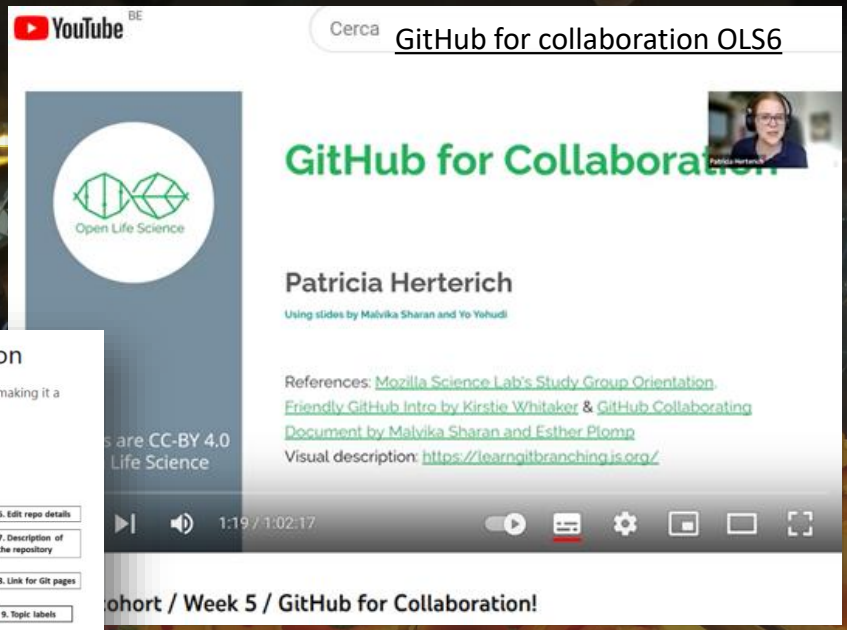
TO STORE+DISSEMINATE: CREATE A COMMUNITY ON ZENODO



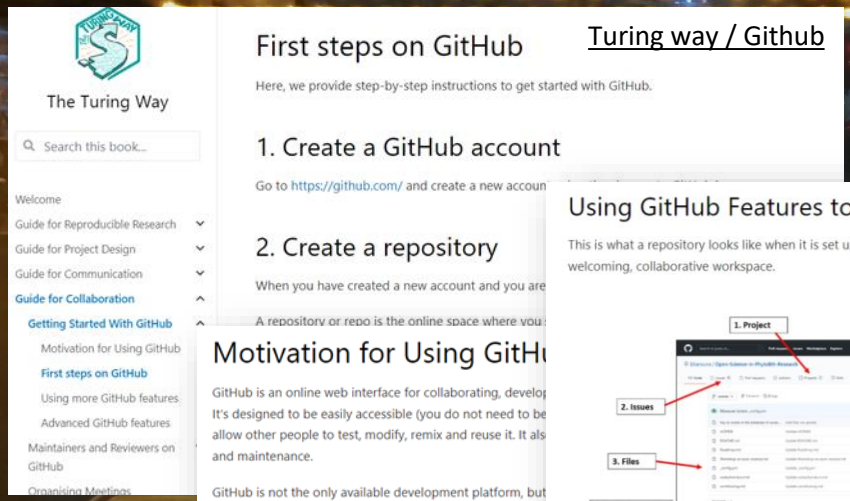
TO COLLABORATE+STORE: CREATE A PROJECT ON OPEN SCIENCE FRAMEWORK



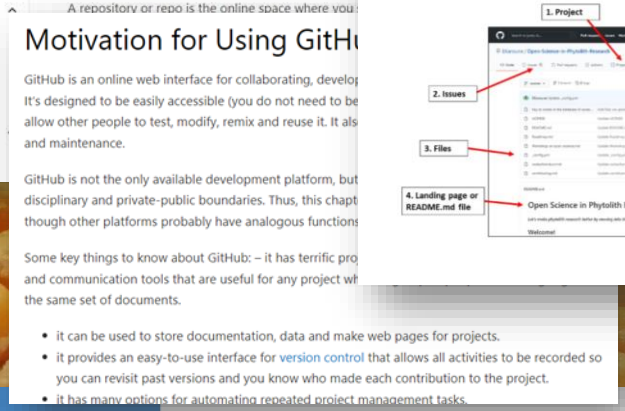
Some recipes / 2

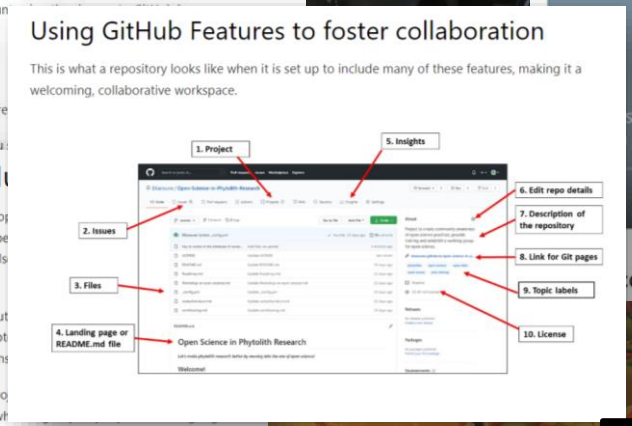


GitHub for collaboration OLS6



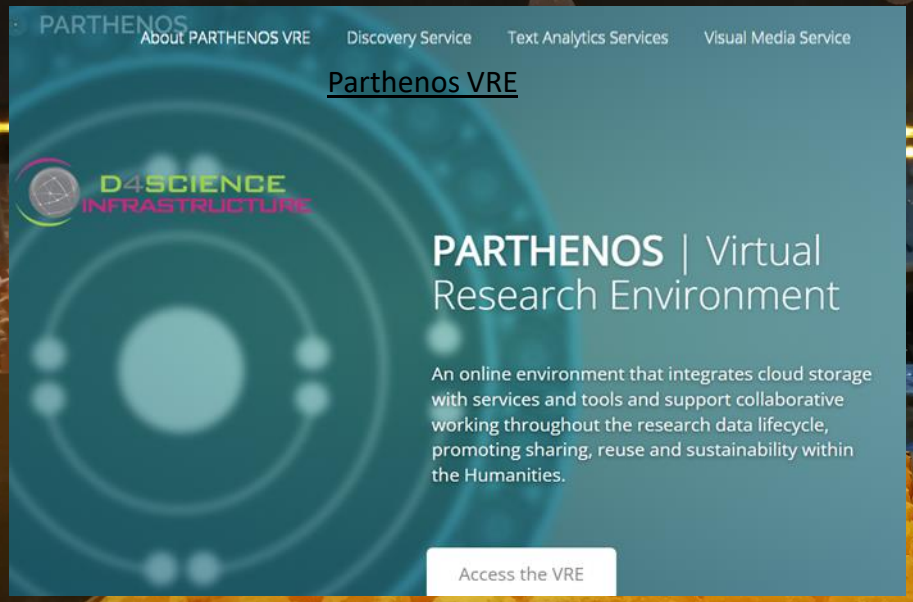
Turing way / Github





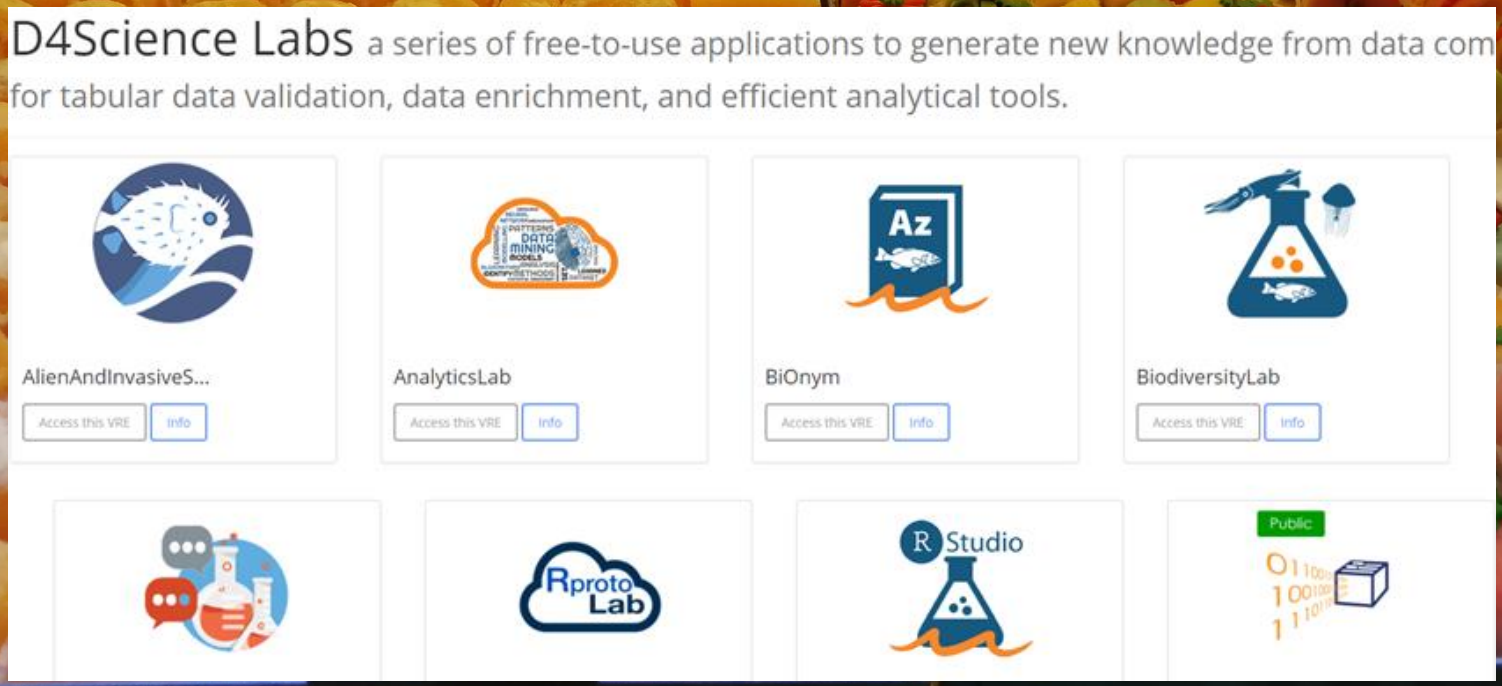
USE GITHUB
TO MANAGE YOUR PROJECT IN A COLLABORATIVE WAY
(TASK MANAGER CHECKLIST, DATA, SOFTWARE, TEXTS, COLLABORATION, VERSION TRACKING...)

GitHub for collaboration



Parthenos VRE

CREATE A VRE-VIRTUAL RESEARCH ENVIRONMENT



...start with with a bit of creation

2021

ORION
open science

ORION INSPIRING STORIES

Ideas & examples

Co-creation menu

What is Co-creation?

Co-creation has been defined as **"purposeful action of associating with strategic customers, partners or employees to ideate, problem solve, improve performance, or create a new product, service or business"**. In essence, co-creation experiences are a way in which to connect multiple stakeholders, bringing them together to discover their interests and values and using these opportunities to discuss, develop and implement projects or ideas to achieve new, inclusive, forward-thinking research strategies. As a result, co-creation experiences allow high-quality interactions and unique experiences, with those involved becoming connected, informed and empowered.

Co-creation experiences seek to engage multiple stakeholders at all points of the research lifecycle, from conception of a novel research project, through funding selection and resourcing, to dissemination of research findings and use of those findings within society, which in turn informs future funding calls. In this way, the hopes, concerns and aspirations of the end users of research, the public, are integrated from the very beginning of the process right through to the end. This concept maps well with the idea of making science truly open, transparent and responsive to societal needs, a new approach of the European Research Areaknown as Open Science.

Rathenau Instituut 2022

Themes ▾ Dossiers ▾ Science in figures About us ▾ Contact ▾ NL \ EN

REPORT INCLUSIVE SCIENCE 23 FEBRUARY 2022

Moving forward together with open science

Towards meaningful public engagement with research

…and a bit of citizen science

CITIZEN SCIENCE IS NOT ONLY ABOUT DATA COLLECTION – IT'S A PARTICIPATORY PROCESS

2023

Citizen Science & Open Science Community of Practice

CITIZEN SCIENCE | GLOBAL PARTNERSHIP

"Citizen Science is NOT only about data collection - means for *open, holistic and participatory processes of knowledge generation*"

"Citizen Science can be understood as **providing meaning to Open Science in a process dimension**"

Citizens Science is about *process*

Multi-stakeholder & multi-dimensional

Source: Wehn (2022)

UCL Citizen science

Help & contact us About us

UCL Home » Library Services » Research Support » Open Science » Citizen Science

Citizen Science

Citizen Science is members of the public having a greater role within research and recognising the invaluable role they play in providing insights

8 Pillars of Open

PARTHENOS HOME TRAINING MODULES FOR TRAINERS FOR LEARNER

CITIZEN SCIENCE IN THE (DIGITAL) ARTS AND HUMANITIES

Citizen science and the Humaniites

This module will look at the variety of practices within 'citizen science', how you as a humanist might get started working with them, what issues you might be wary of along the way and how Research Infrastructures can potentially help you.

https://eu-citizen.science/

eu-citizen.science Search Blog Events Moocs Forum FAQ About en Login Signup

eu-citizen.science

Welcome to the platform for sharing citizen science projects, resources, tools, training and much more

HELLO HOLA ПРИВЕТ ALOHA BUNA

Projects Resources Training Organisations Platforms Users Our Gold Star Selection

Search...

Co-design and ci

Cos4Cloud The Project Citizen Science innovation Cos4Cloud Services Co-design News & Events

https://cos4cloud-eosc.eu/

Learn how to use co-design in citizen science:

Download our presentation! It explains **what co-design is, why it is useful and how to apply it in citizen science** in general and in creating technological citizen science services in particular to explain it, we will use the Cos4Cloud* experience.

DOWNLOAD THE ENGLISH VERSION →

DOWNLOAD THE SPANISH VERSION →

CO- CREATION IN DIALOGUE WITH SOCIETY

OPERAS
open scholarly communication in the european research area for social sciences and humanities

COESO

coeso
connecting research and society

The COESO project (Collaborative Engagement on Societa
participatory research project, funded by the European C
and supported by the OPERAS research infrastructure. It
communities: the social sciences and humanities commu
scholarly communication community. It will thus contribu
development of citizen science in the social sciences and
research through a service-first approach.The project will

OPERAS
open scholarly communication in the european research area for social sciences and humanities

Vera

OPERAS Vera

Research for

vera
activating research

VERA

A space for co-creation that provides a set of tools to discover potential partners, to define and co-design the activities, to co-create new knowledge and solutions, and to deliver them to society.

VERA is an online collaboration platform where a diverse set of actors can build social science and humanities research projects together. It's a virtual gathering place for professionals and practitioners of all kinds and researchers. It's a place where projects can be dreamed and built, where collaborations can take place, and where links to funding can be found.

CO-DESIGN AS A SERVICE IN CITIZEN SCIENCE

CO-DESIGN: WHAT IS IT?

It is a process based on collaboration that provides innovative solutions to a challenge, a problem or a need

Co-design or collaborative design, is a practice of creating or improving ideas, products, services, policies and other outputs with –not for– people.

Co-design is so versatile that it can be adapted to any context and field

From science to economy, politics, ecology, technology, citizen science, public participation and others.

It can involve a wide range of stakeholders' profiles

The key to success is to give voice to all the people that need to be in the room.

A SUCCESS CASE: COS4CLOUD

CHALLENGE

In citizen science we need more data, more open and accessible technologies. However, there is still a low interoperability, low levels of data validation and low technological capacity.

INNOVATIVE SOLUTION

To tackle this challenge Cos4Cloud has co-designed and developed 13 services for citizen observatories to increase the quantity and quality of citizen science data. These services are available at the EOSC*.

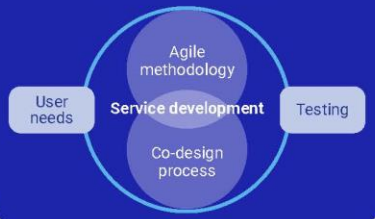
PROCESS TO ACHIEVE IT

Co-design

Cos4Cloud has organised several co-design activities to collect needs and expectations towards these new services directly from the services end-users, the citizen science community.

Agile methodology

Cos4Cloud is constantly reviewing and improving its services thanks to the collaborative relation with the services end-users.



OUTPUTS TO SHARE

An open guideline for implementing co-design in the development of citizen science technologies, based on the lessons learned by Cos4Cloud project.

*European Open Science Cloud

4Cloud | This Project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 863463.

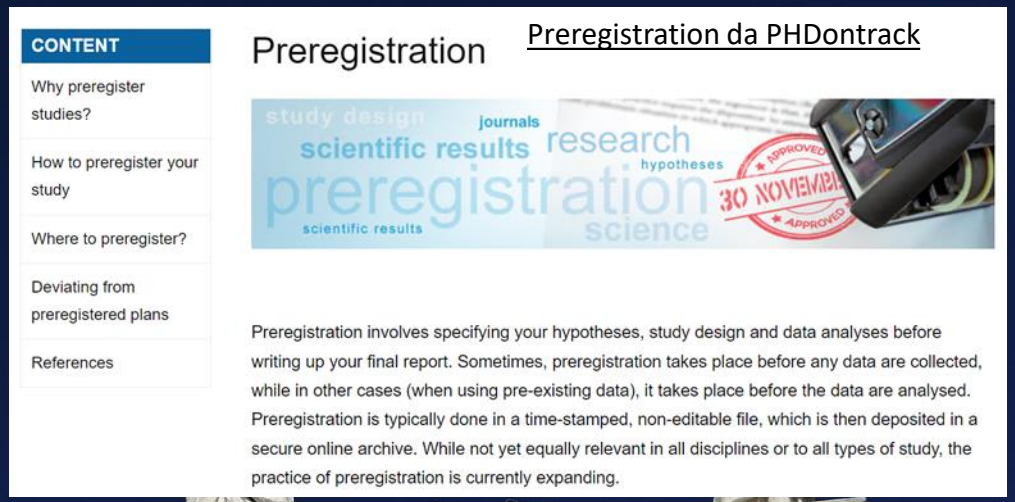
Project coordinator: Institut de Ciències del Mar

Co-design activities coordinator: Science for Change

This project is part of: EUROPEAN OPEN SCIENCE CLOUD

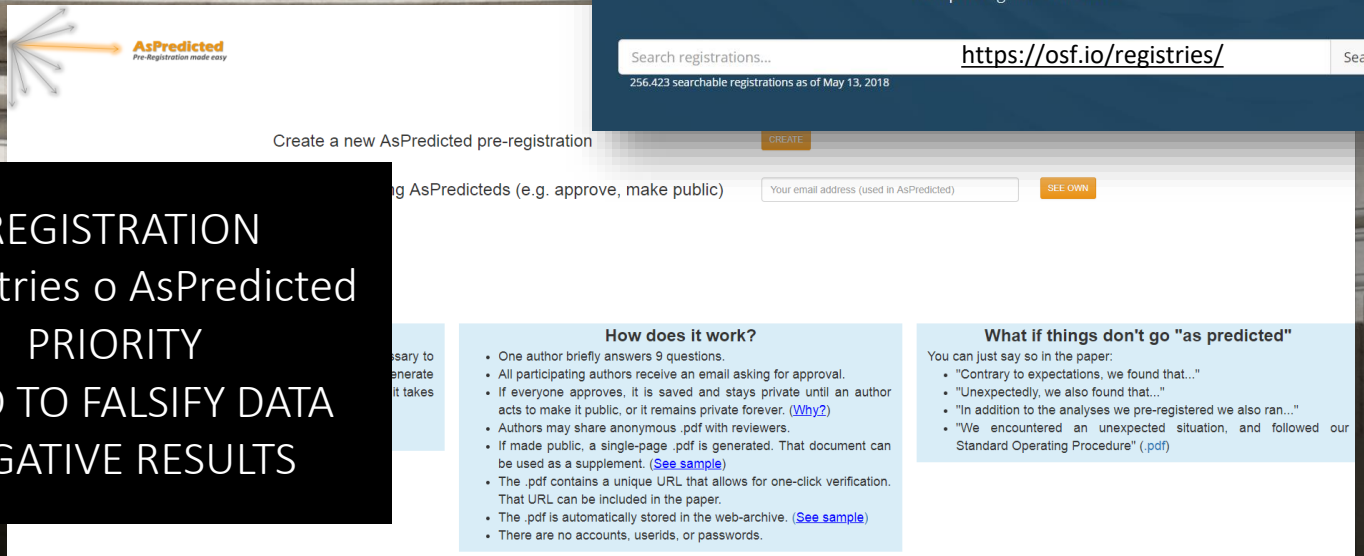
…opening up the entire cycle

Dec. 14 2021



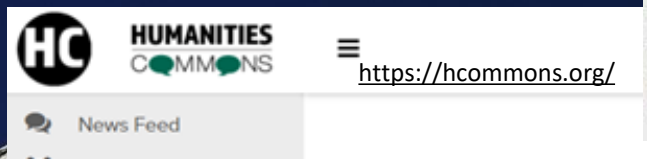
Preregistration da PHDontrack

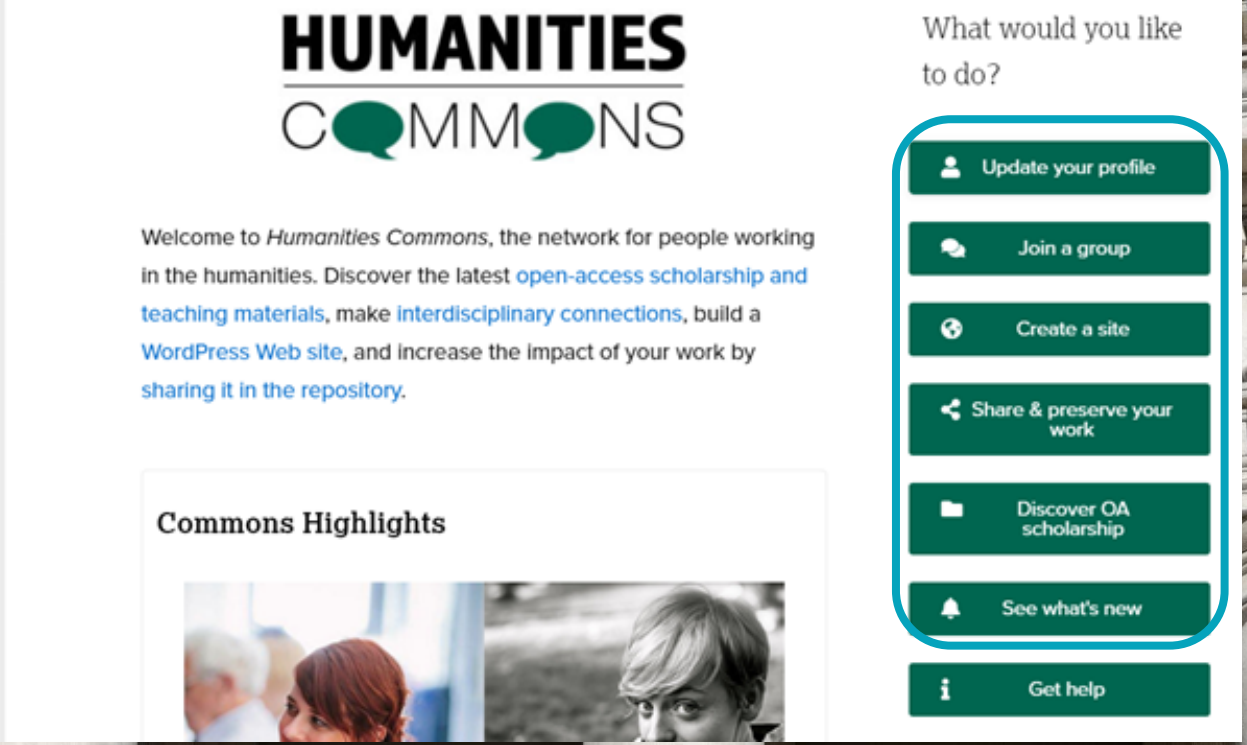
https://osf.io/registries/



PREREGISTRATION
OSF Registries o AsPredicted
- PRIORITY
- HARD TO FALSIFY DATA
- NEGATIVE RESULTS

…[also in the Humanities]





...opening every bit (and then connecting)

Octopus | Publish your work | Search... | in Publications | Log in via ORCiD

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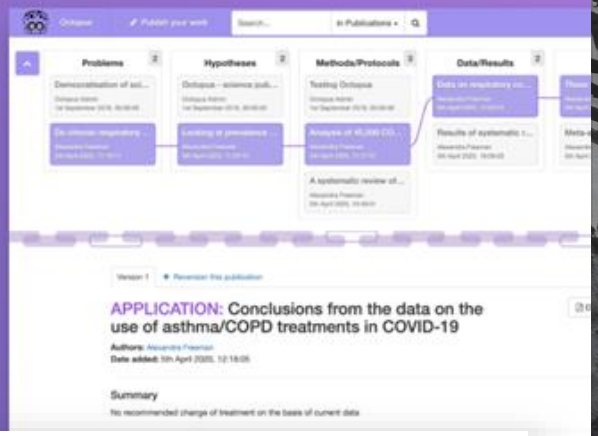

Why publish in Octopus?

Establish priority on your ideas and your work instantly. You can publish a paper later.

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No need to write a whole 'paper'. You only need to write up what is new: Octopus is fast and efficient.

Everything you do within Octopus - and how it is recevied by your peers - will appear on your public profile page, for funders, institutions and other researchers to see.

...being reproducible

FORRT | ABOUT FORRT | EDUCATIONAL NEXUS | PEDAGOGIES | PUBLICATIONS

Framework for Open and Reproducible Research Training

FORRT

FORRT

2017

Open Access | Published: 10 January 2017

A manifesto for reproducible science

Marcus R. Munafò, Brian A. Nosek, Dorothy V. M. Bishop, Katherine S. Button, Christopher D. Chambers, Nathalie Percie du Sert, Uri Simonsohn, Eric-Jan Wagenmakers, Jennifer J. Ware & John P. A. Ioannidis

The Turing Way

Search this book...

- Welcome
- Guide for Reproducible Research
  - Overview
  - Open Research
  - Version Control
  - Licensing
  - Research Data Management
  - Reproducible Environments
  - BinderHub
  - Code quality
  - Code Testing
  - Code Reviewing Process
  - Reusable Code
  - Continuous Integration (CI)
  - Reproducible Research with Make
  - Research Compendia
  - Risk Assessment
  - Case Studies

Fig. 3 The Turing Way project illustration by Scriberia. Used under a CC-BY 4.0 licence. DOI: 10.5281/zenodo.3332807.

The Turing Way started by defining reproducibility in the context of this handbook, laying out its importance for science and scientists, and providing an overview of the common concepts, tools and resources. The first few chapters were on version control, testing, and reproducible computational environments. Since the start of this project in 2019, many additional chapters have been written, edited, reviewed, read and promoted by over 300 contributors.

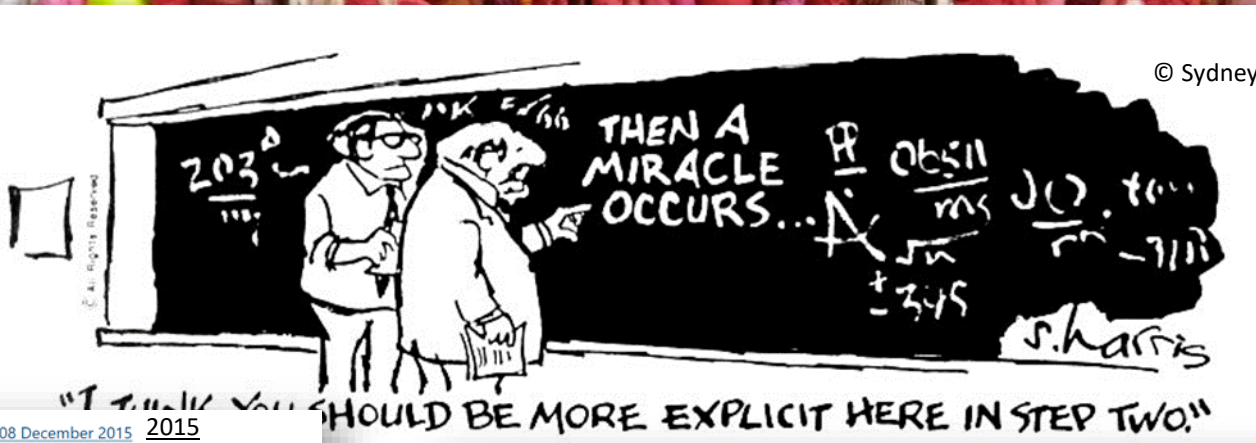
We welcome your contributions to improve these chapters, add other important concepts in reproducibility, and empower researchers to work reproducibly from the start. Check out our contributing guidelines to get involved.

Previous Welcome

Next Overview of Reproducible Research

Turing way/reproducible research

[selfis e]



Comment | Open Access | Published: 08 December 2015 2015

Five selfish reasons to work reproducibly

Florian Markowetz

Genome Biology **16**, Article number: 274 (2015) | Cite this article

18k Accesses | **38** Citations | **456** Altmetric | Metrics

Reason number 1: reproducibility helps to avoid disaster

"How bright promise in cancer testing fell apart" titled a *The New York Times* article published in summer 2011 [1] highlighting the work of Keith Baggerly and Kevin Coombes, two biostatisticians at M.D. Anderson Cancer Center. Baggerly and Coombes had exposed lethal data analysis problems in a series of high-impact papers by breast cancer researchers from Duke University [2].

Reason number 2: reproducibility makes it easier to write papers

Transparency in your analysis makes writing papers much easier. For example, in a dynamic document (Box 1) all results automatically update when the data ar
confident your numbers, figures and tables are up-to-date. Additio
are more engaging, more eyes can look over them and it is much ea

Reason number 3: reproducibility helps reviewers see it your way

Most of us like to moan about peer review. One of the complaints I hear most often is: the reviewers didn't even read the paper and had no idea what we were really doing.

This starkly contrasts with my experience during the review process of a recent paper [4], for
d well-documented code easily accessible to the reviewers.
a slight change to some analyses, and because he had access to
directly try out his ideas on our data and see how the results
pletely on board, the only thing left to discuss was the best
how a constructive review should be. And it would have been
nt and reproducible presentation of our analyses.

Reason number 5: reproducibility helps to build your reputation

For several papers, we have made our data, code and analyses available as an Experiment Package on Bioconductor [5]. When I came up for tenure, I cited all of these packages as research output of my lab. Generally, making your analyses available in this way will help you

Reason number 4: reproducibility enables continuity of your work

I would be surprised if you hadn't heard the following remarks before, maybe you have even said them yourself: "I am so busy, I can't remember all the details of all my projects" or "I did this analysis 6 months ago. Of course I can't remember all the details after such a long time"

[selfish

Comment | Open Access | Published: 08 December 2015

2015

Five selfish reasons to work reproducibly

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Genome Biology **16**, Article number: 274 (2015) | Cite this article

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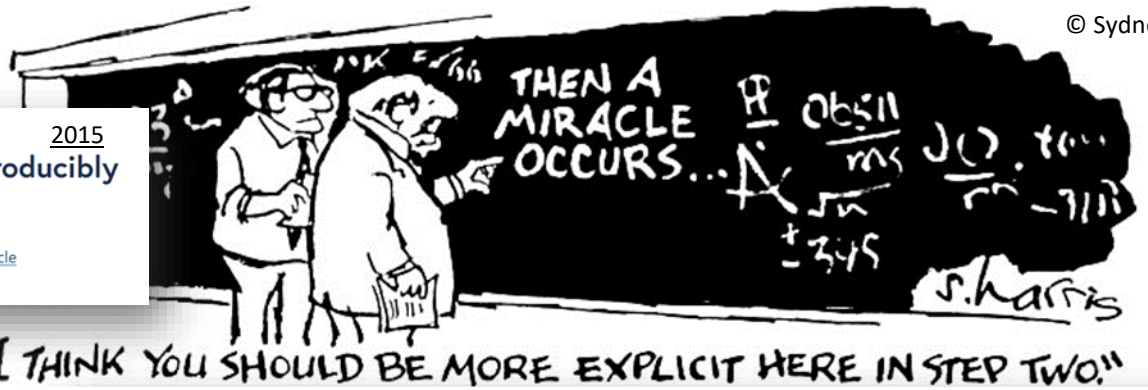


What's holding you back?

Have I convinced you? Maybe not. Here is a collection of responses I sometimes get to my insistence on reproducible research (as well as my answers to them):

"*It's only the result that matters!*" You are wrong.

"*I'd rather do real science than tidy up my data*". If you don't work reproducibly, you are not doing science at all [7].

IF YOU DON'T WORK REPRODUCIBLY, YOU ARE NOT DOING SCIENC

…y I want!" Yes, please do! There are *…whatever* suits you best.

…hon or whatever". The tool you …eeded, but as soon as you do data …go. Imagine you have to do a simple … times) and compare doing it by hand … do it for you. Now imagine having to … changed. R and Python are clearly the

ITALIAN REPRODUCIBILITY NETWORK

RN IT Italian Reproducibility Network

https://www.itrn.org/

SEMINARS ON OPEN SCIENCE

…A remote educational course open to everyone, focused on Master …nd PhD Students covering open science topics and practices.

SAVE THE DATE

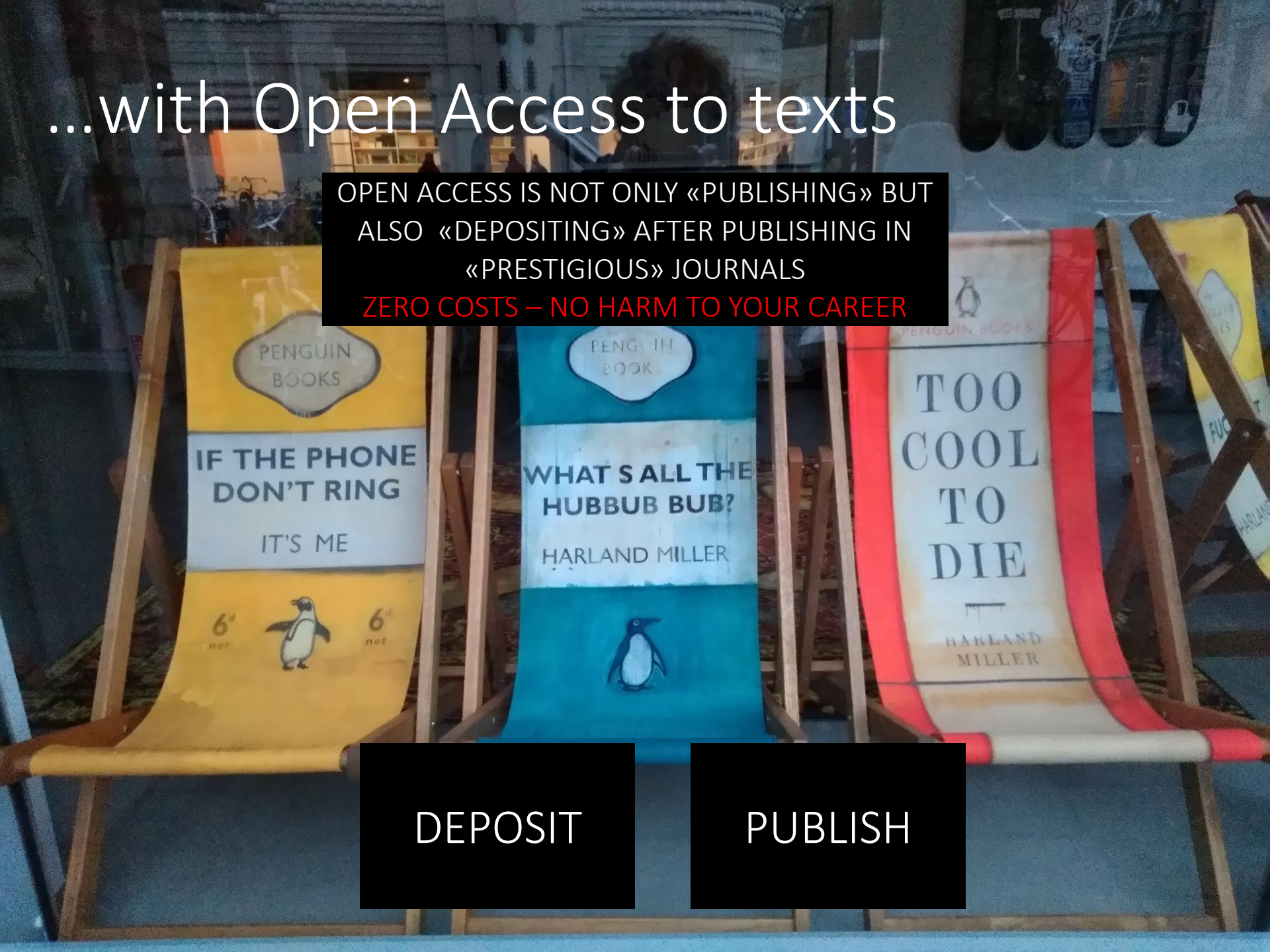
…The first "ReproCoffee" will be held on June 15th, 3:30 pm (CEST), the event will be online, and "A manifesto for reproducible science" by Munafò et al., 2017 will be discussed.

ITRN OPEN RESEARCH SURVEY

We ask you for a few minutes of your time to answer some questions about the use of Open Research practices in your research. This is the link to participate: ***RN survey***

Your responses will provide a provisional benchmark of where we are, and data will be used to shape future ITRN initiatives around Open Research.Thank you for your valuable

…with Open Access to texts



OPEN ACCESS IS NOT ONLY «PUBLISHING» BUT ALSO «DEPOSITING» AFTER PUBLISHING IN «PRESTIGIOUS» JOURNALS

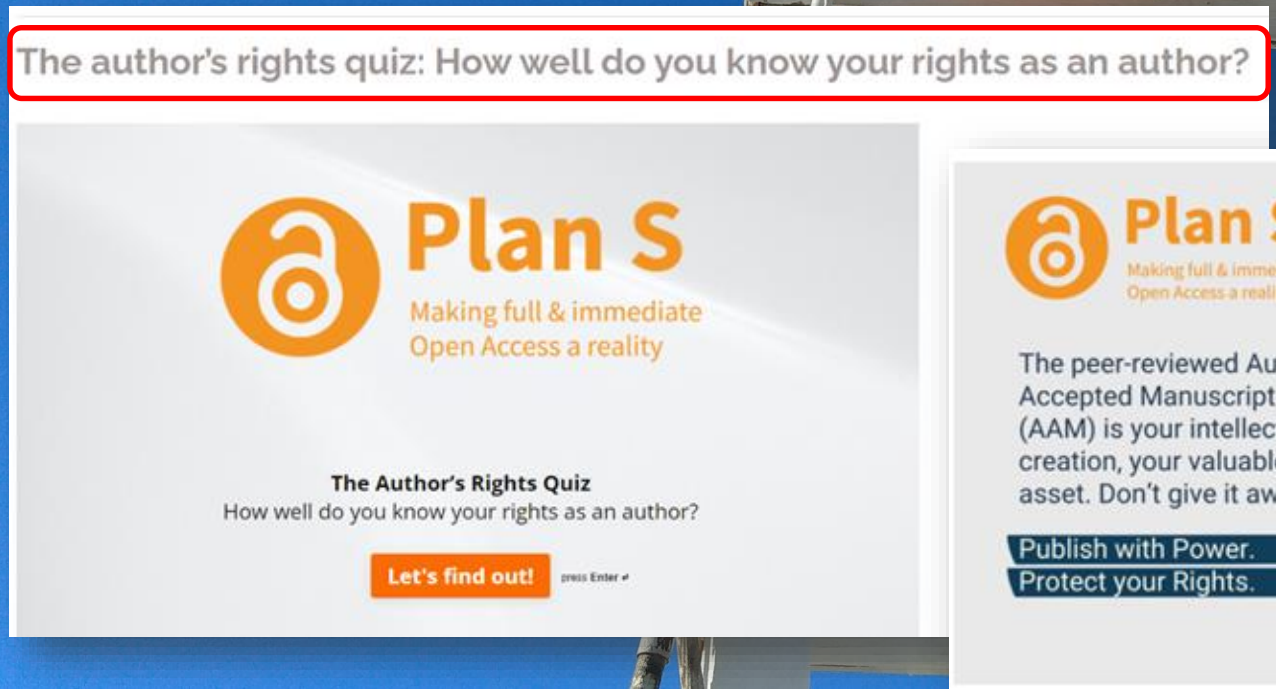
ZERO COSTS – NO HARM TO YOUR CAREER

DEPOSIT

PUBLISH

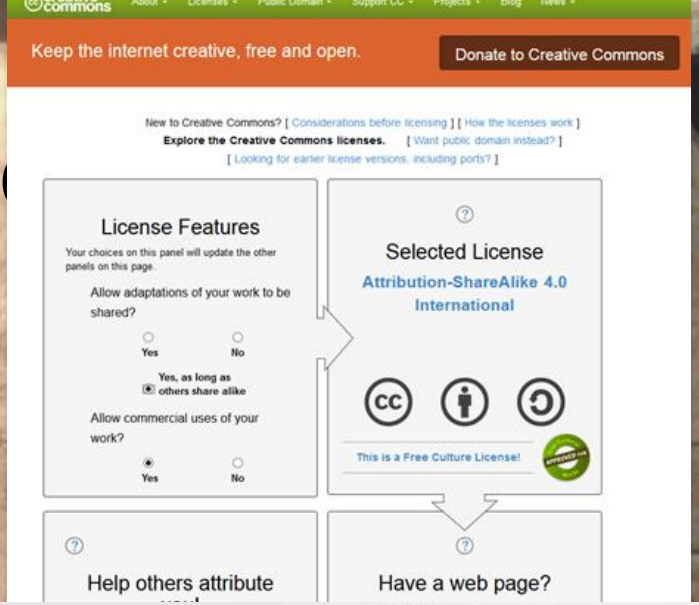
… being aware of your rights

YOUR INTELLECTUAL PRODUCTION IS YOURS. DON'T GIVE IT AWAY!!!



...[and above all, keeping your rights!!!]

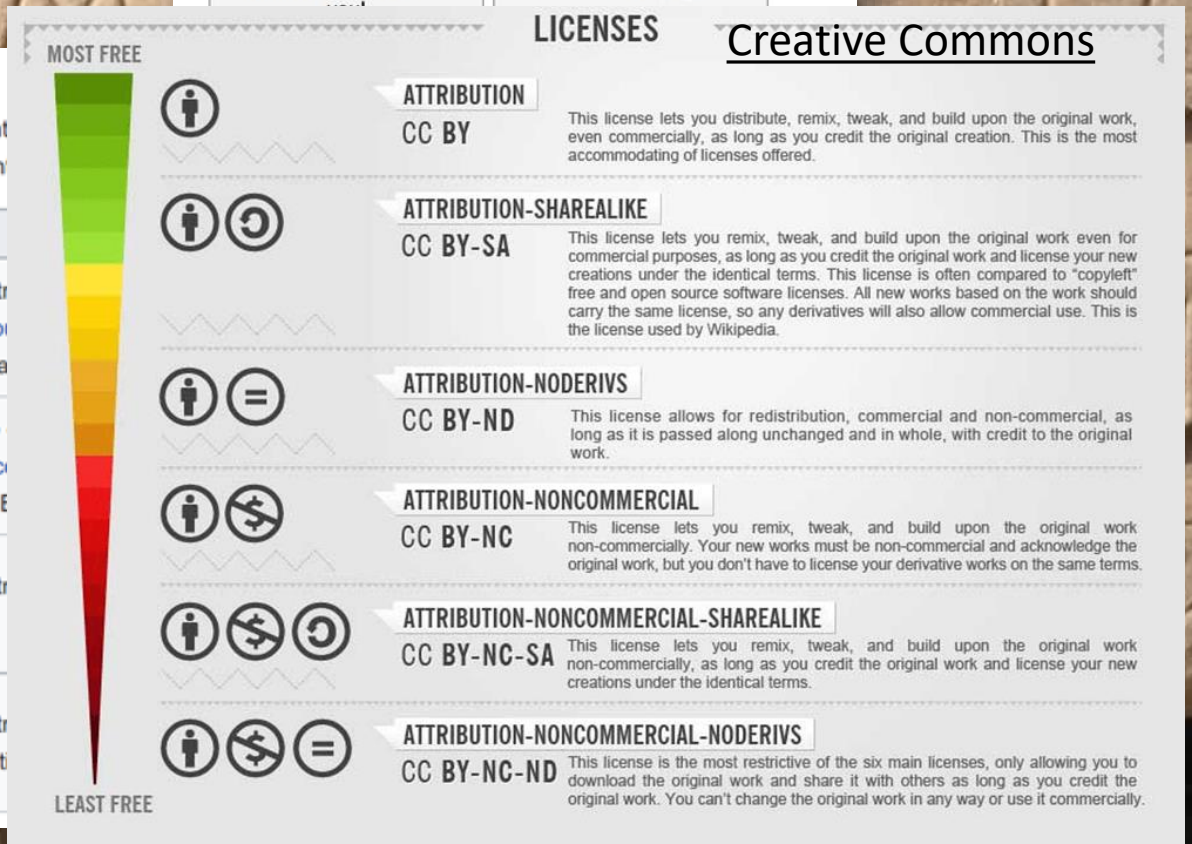
Creative Comm



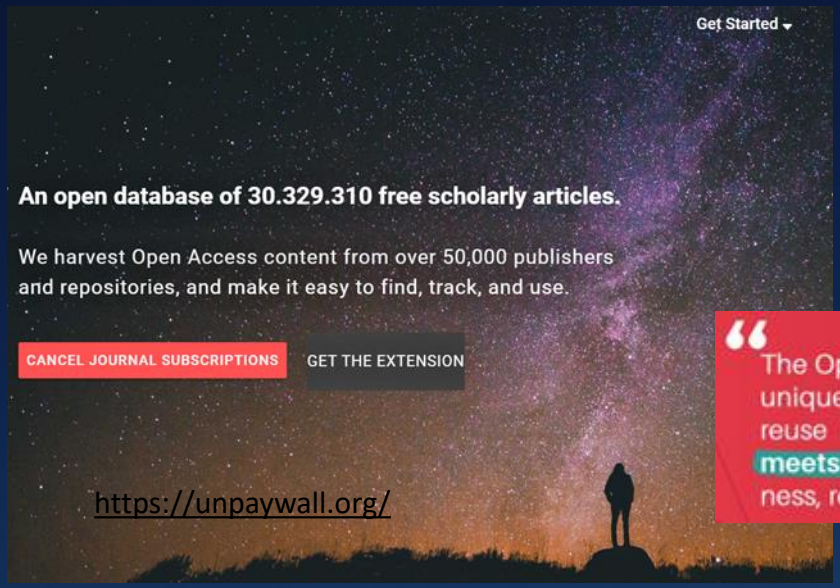
Four rights [edit]

The CC licenses all grant "baseline rights", such as the right
addition, different versions of license prescribe different righ

Icon	Right	
	Attribution (BY)	Licensees may copy, distr licensor the credits (attrib attribution to the creator a
	Share-alike (SA)	Licensees may distribute original work. (See also c license clauses, e.g. CC B
	Non-commercial (NC)	Licensees may copy, distr commercial purposes.
	No derivative works (ND)	Licensees may copy, distr Since version 4.0, derivat



…tearing down walls/enabling services



#OpenAIRE_Graph is one of the largest open scholarly record collections worldwide, key in fostering #OpenScience and establishing its practices in daily research activities. A multi-purpose tool for #developers #serviceproviders #researchmanagers #policymakers and #researchers.

Traduci il Tweet

OpenAIRE Graph

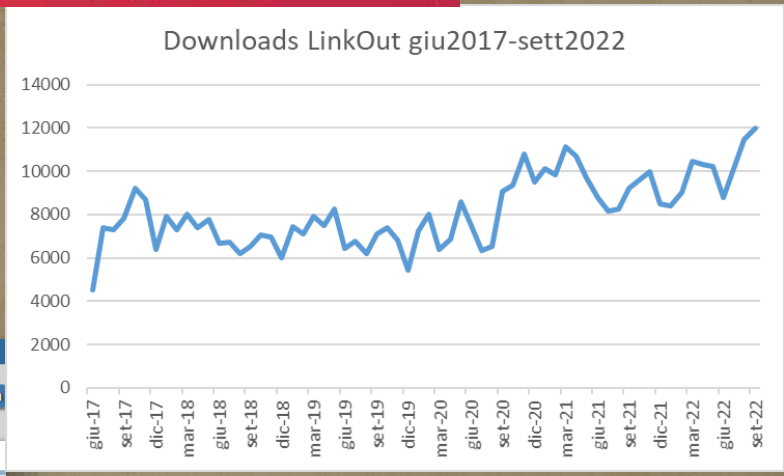
https://graph.openaire.eu/

Paolo Manghi

> The OpenAIRE Graph is a knowledge graph. What makes it unique is that it is completely open, anyone can use and reuse it and give feedback on how to improve it, and it meets the requirements of Open Science ensuring fairness, reproducibility and reusability of science.

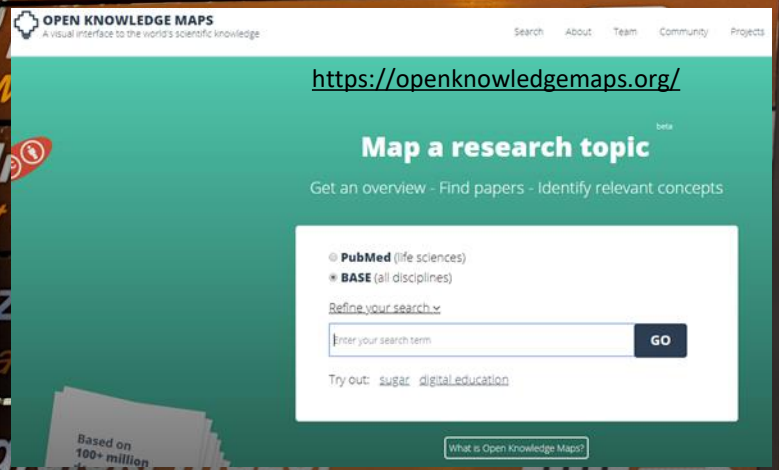
POSSIBLE ONLY IF AUTHORS SELF-ARCHIVE TEXTS AND DATA

PUBMED LINKOUT



521.585 downloads from June 2017 [8.150/month]

…going for a new discoverability



https://openknowledgemaps.org/

https://www.gotriple.eu/

…linking research and industry…

OPEN PLATFORM SEARCHING FOR PATENTS+SCHOLARLY LITERATURE+BIO SAMPLES…

...publishing

JOTE

Journal Website Submit

Journal of Trial and Error The interactive repository.

HOME ISSUE 1 ARTICLES PEER REVIEWS SUBMIT WHY PUBPUB? FAQ

Journal of Trial and Error

JOTE's goals

In scientific practice, trial and error is a fundamental process of learning and discovery. Therefore, JOTE aims to make public the lessons of the struggles in research. JOTE is convinced about the productive role of errors, and so we aim to publish answers to the question "what went wrong?" in the form of **short communications** (empirical articles), and to problematize this question by **reflection on those errors** (reflection articles). JOTE also welcomes reports of **methodological challenges**, **suggestions**, or **technical flaws** that carry relevant information for the field to which they belong (meta-research articles). Finally, to further open up the black box of academia, we publish rejected grant applications and peer-reviews.

NEGATIVE RESULTS ARE CRUCIAL... AS SCIENCE FAILS.

JOTE Search Dashboard

HOME ISSUE 1 ARTICLES PEER REVIEWS SUBMIT WHY PUBPUB? FAQ

Issue 1 Editorial **Published on** Dec 02, 2020

Science Fails. Let's Publish

by Sean Devine, Max Bautista Perpinya, Valentine Delrue, Stefan Gaillard, Thomas F. K. Jorna, Martijn van der Meer, Lottricia Millett, Chelsea Pozzebon, and Jobke Visser

…publishing not only

https://github.com/

https://workflowhub.eu/

https://zenodo.org/

https://www.protocols.io /

YOU CAN DEPOSIT DATA, SOFTWARE, IMAGES, POSTER, PROTOCOLS, WORKFLOWS…
THEY BECOME KNOWLEDGE «BLOCKS» TO BE REUSED

… not only articles

PREPRINTS

May 2017

PLOS COMPUTATIONAL BIOLOGY

Browse | Publish | About | Search

advanced searc

OPEN ACCESS

EDITORIAL

Ten simple rules to consider regarding preprint submission

Philip E. Bourne, Jessica K. Polka, Ronald D. Vale, Robert Kiley

Published: May 4, 2017 • https://doi.org/10.1371/journal.pcbi.1005473

92 Save	4 Citation
20,822 View	217 Share

- IMMEDIATE PUBLICATION
- SCIENTIFIC PRIORITY
- NO POST SUBMISSION «BLACK HOLE»
- FOCUS ON THE CONTENT (AND NOT ON THE BOX)

Rule 1: Preprints speed up dissemination

Rule 2: Preprints should be licensed and formatted to facilitate reuse

Rule 3: Preprints provide a record of priority

Rule 4: Preprints do not lead to being scooped

Rule 5: Preprints provide access to scholarly content that would otherwise be lost

Rule 6: Preprints do not imply low quality

Rule 7: Preprints support the rapid evaluation of controversial results

Rule 8: Preprints do not typically preclude publication

Rule 9: Preprints can further inform grant review and academic advancement

Rule 10: Preprints—one shoe does not fit all

How Science Beat the Virus

And what it lost in the process

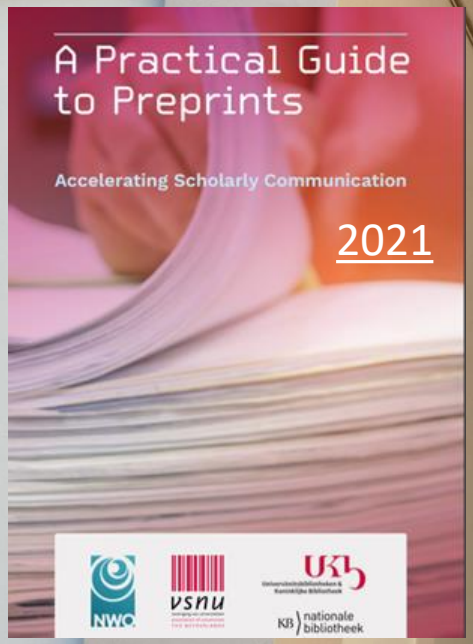
Story by Ed Yong

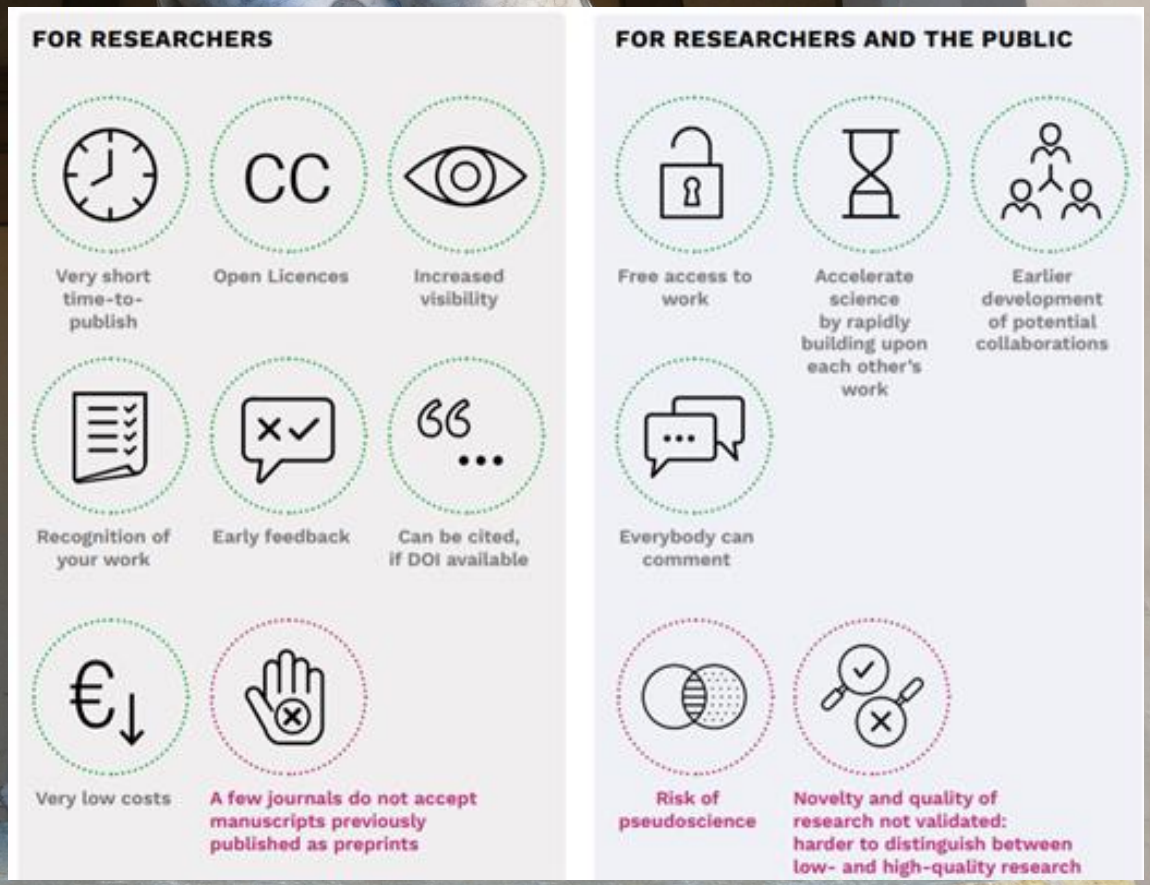
Dec.14, 2020

papers, or "preprints," to freely accessible websites, allowing others to immediately dissect and build upon their results. This practice had been slowly gaining popularity before 2020, but proved so vital for sharing information about COVID-19 that it will likely become a mainstay of modern biomedical research. Preprints accelerate science, and the pandemic accelerated the use of preprints. At

CRUCIAL DURING PANDEMICS

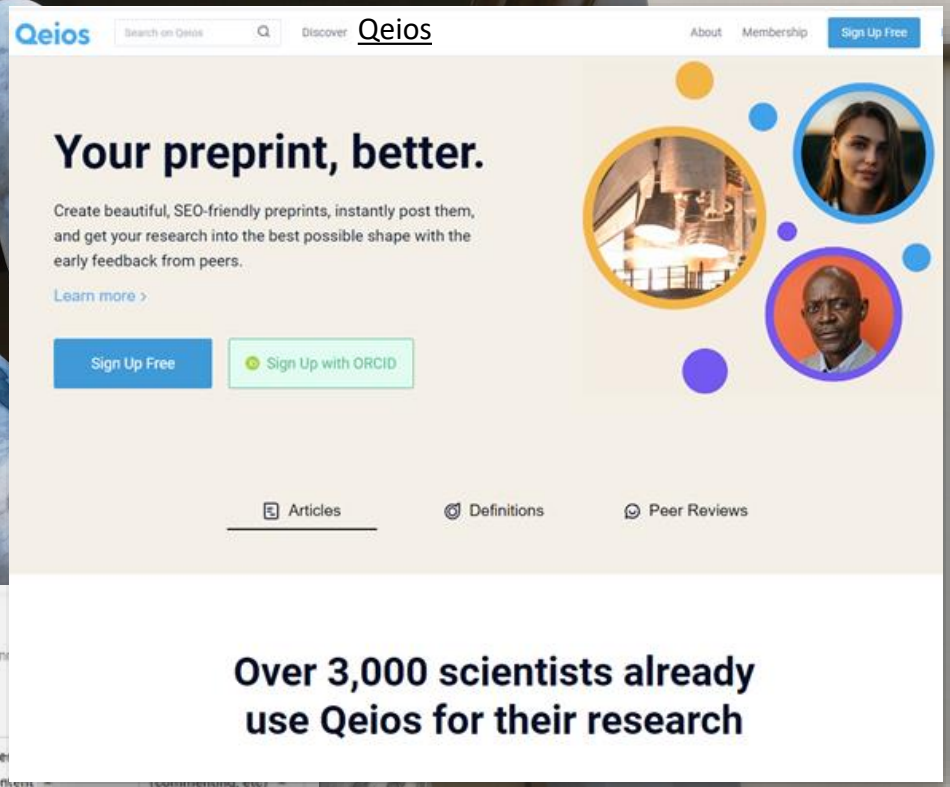
[preprints]





[Preprint]

Qeios



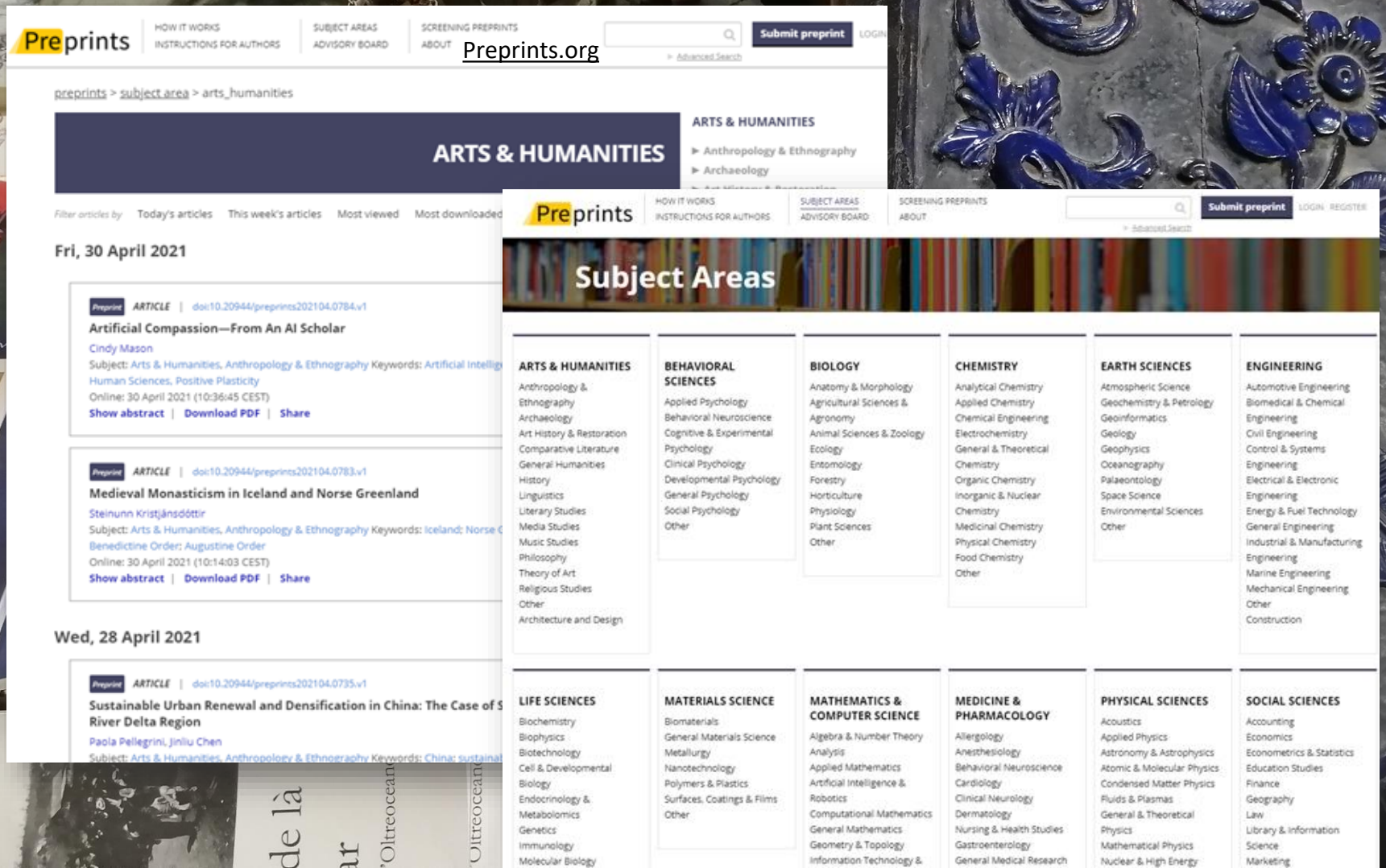
Directory Preprint server

Show 10 entries

Preprint server	Disciplinary scope	Ownership type	External content indexing	Permanence of content	Preservation of content	Commenting, etc.
AAS Open Research	Multiple scientific fields, including health and wellbeing*	Funding organisation (funder)	Google Scholar, Prepubmed, Europe PMC, SciLit	Permanent with some removal options in extraneous circumstances	Preprints permanently archived in Portico	Commenting (including annotation plug-ins), Onsite search, Link to Google Scholar citations, Blog and gateways
AfricArxiv	All scientific fields	Academic community group; charity	Google Scholar, SHARE, Microsoft Academic, Unpaywall	Permanent with some removal options in extraneous circumstances	COS Preservation Fund to maintain read access for 50+ years	Commenting (including annotation plug-ins), Onsite search
AgriXiv	Relating to agriculture and allied sciences, including life sciences, medicine and health sciences, social and behavioural sciences	Academic community group	Google Scholar, SHARE, Microsoft Academic, Unpaywall	Permanent with some removal options in extraneous circumstances	COS Preservation Fund to maintain read access for 50+ years	Commenting (including annotation plug-ins), Onsite search
AMRC Open Research	Broad life & biomedical research, including basic scientific, translational, applied	Funding organisation (funder); Membership organisation	Google Scholar, Prepubmed, Europe PMC, SciLit			

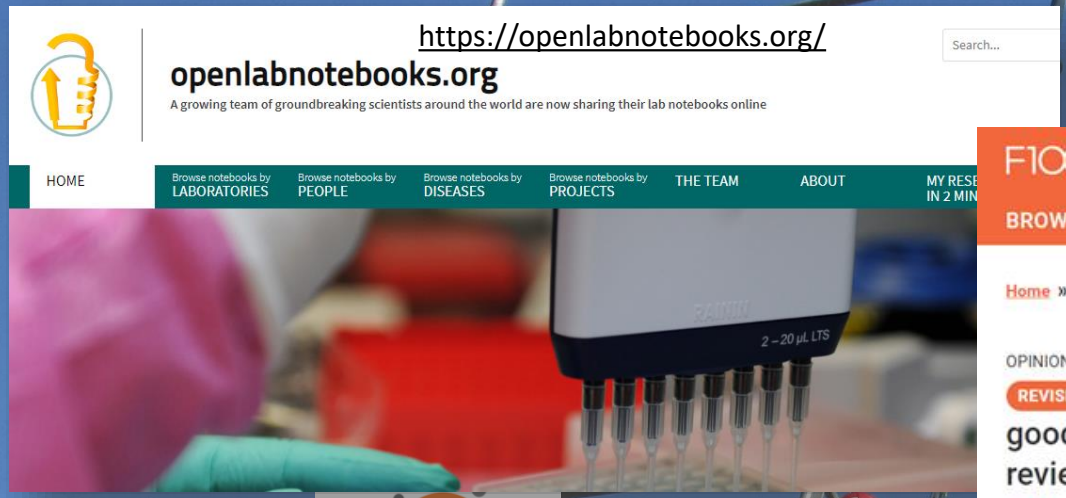
SERVER PRE PRINT

[also in the Humanities]



Preprints.org

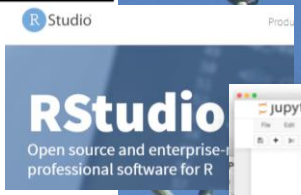
https://openlabnotebooks.org/

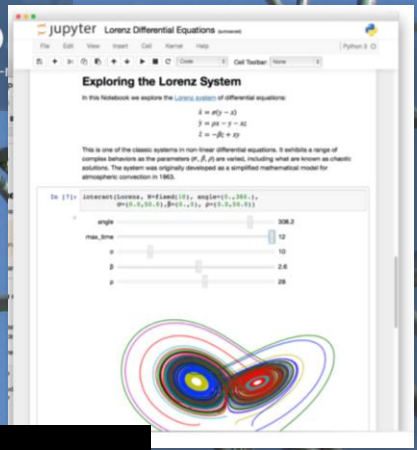


What is an Open Notebook?

Open Notebooks are documents that contain equations, visualisations, narrative text and live code that can be executed independently and interactively, with output visible immediately beneath the input.

They bring together analysis descriptions and results, which can be executed to perform the data analysis in real time.





OPEN LAB NOTEBOOK CONTAIN EVERYTHING: TEXTS, DATA, EXECUTABLE CODE…DO WE REALLY STILL NEED JOURNALS?

Living documer fossils

The big idea: should we get rid of the scientific paper?

Apr. 11, 2022

As a format it's slow, encourages hype, and is difficult to correct. A radical overhaul of publishing could make science better

Consider the messy reality of scientific research. Studies almost always throw up weird, unexpected numbers that complicate any simple interpretation. But a traditional paper - word count and all - pretty well forces you to dumb things down. If what you're working towards is a big, milestone goal of a published paper, the temptation is ever-present to file away a few of the jagged edges of your results, to help "tell a better story". Many scientists admit, in surveys, to doing just that - making their results into unambiguous, attractive-looking papers, but distorting the science along the way.

"Some fields of science are already using online notebooks instead of journals – living documents instead of living fossils

And consider corrections. We know that scientific papers regularly contain errors. One algorithm that ran through thousands of psychology papers found that, at worst, more than 50% had one specific statistical error, and more than 15% had an error serious enough to overturn the results. With papers, correcting this kind of mistake is a slog: you have to write in to the journal, get the attention of the busy editor, and get them to issue a new, short paper that formally details the correction. Many scientists who request corrections find themselves stonewalled or otherwise ignored by journals. Imagine the number of errors that litter the scientific literature that haven't been corrected because to do so is just too much *hassle*.

JOURNALS ARE OLD AND FLAWED. LET'S USE OPEN NOTEBOOKS… LIVING DOCUMENTS INSTEAD OF FOSSILS

We've made astonishing progress in so many areas of science, and yet we're still stuck with the old, flawed model of publishing research. Indeed, even the name "paper" harkens back to a bygone age. Some fields of science are already moving in the direction I've described here, using online notebooks instead of journals - living documents instead of living fossils. It's time for the rest of science to follow suit.

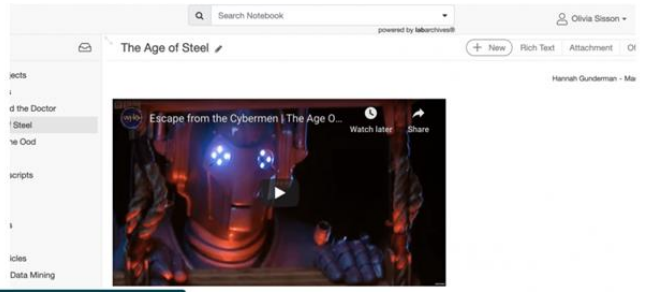
[also ... nities]

labarchives Better Science — Products — Enterprise — Integrations — Su

Lab notebook for Humanities

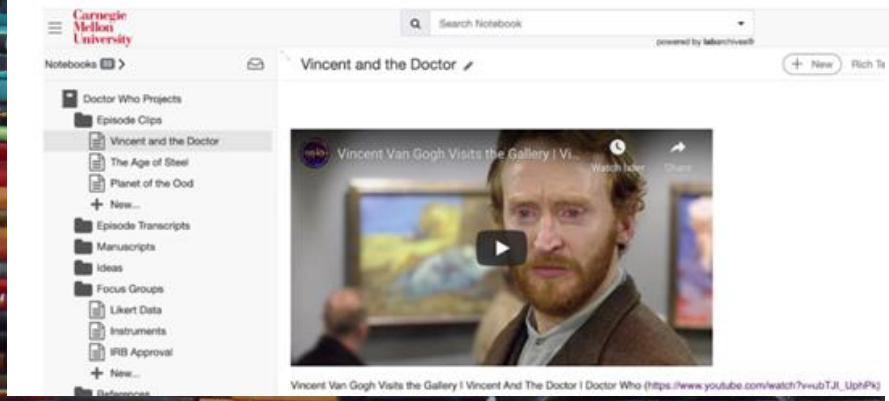
Using an ELN for Humanities

by Olivia Sisson | May 21, 2020 | Data Management, Research | 0 comments

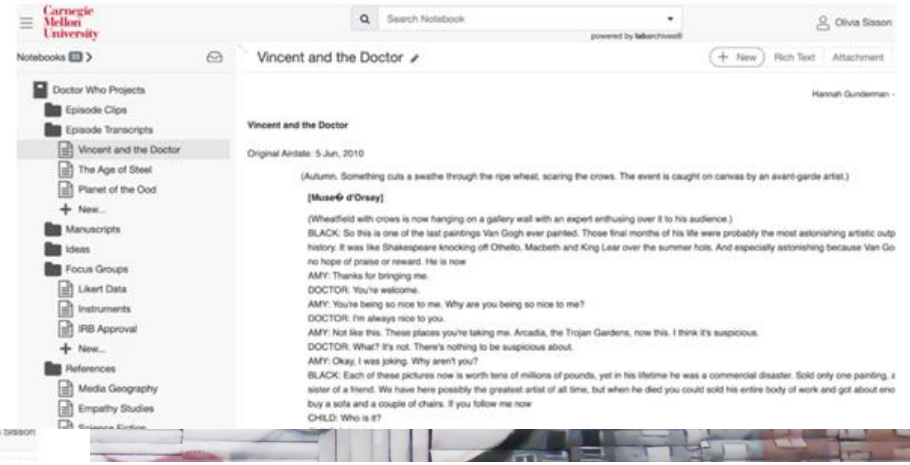


board...

Videos: Movies and shows are what Hannah spends most of her time investigating. In the same way that a sociologist might observe human subjects and collect data points from interactions, Hannah observes life as presented on screen. Video files are a crucial part of her research. Storing them in a paper notebook obvious isn't an option. With LabArchives Hannah can store video files and clips directly on the notebook page. This m it easy to keep corresponding video files, analysis and commentary in the same place.



Files: Hannah uses transcripts and manuscripts from shows and movies to investigate language and messaging. These files can get bulky and keeping track of them is important. With just a few clicks she uploads them to her notebook and doesn't have to worry about losing them...ever (nothing gets permanently deleted and all data is searchable within LabArchives). With an ELN, you never have to worry about misplacing your work.



Ideas: While research in any field is often rooted in analytical investigation and analysis, ideation and creativity is also a big part of it. Hannah keeps an idea log in her LabArchives notebook so that she can keep track of wandering thoughts that might become significant later on. Because she uses an ELN she can access her lab notebook from her phone or computer and jot down passing thoughts before they're gone.

Big Data: Many researchers work with huge data sets. The same goes for humanities researchers. These files aren't always easy to store or share but LabArchives accepts almost all file types. This makes it easy for Hannah and other researchers to keep track of *everything* related to their work and share it with collaborators when needed. Hannah is able to store all her files in LabArchives, even the files related to the automated data mining she's done to investigate responses to the shows she studies.

Publishing: When research and analysis are complete, it's time to publish your findings. This phase, while exciting, is the point where organization and proper data management come into play in a big way. If data is strewn across desktop files, cloud storage systems, emails and/or paper notebooks collating everything in a way that suits publishing requirements can be a nightmare.

Hannah's ELN takes care of all of these potential issues for her. Her work in LabArchives is organized, secure, properly attributed and completely searchable. If she did need to track down a certain piece of data even years down the line, she'd be able to find it quickly in LabArchives.

… with FAIR data…

F METADATA, PERSISTENT IDENTIFIERS…

A TRUSTED REPOSITORIES, FORMATS

I ONTOLOGIES, STANDARDS

R LICENSES AND DOCUMENTATION


Data Intelligence 2020 Issues Online Early About Submit

Volume 2, Issue 1-2
Winter-Spring 2020

January 01 2020

FAIR Principles: Interpretations and Implementation Considerations

Annika Jacobsen, Ricardo de Miranda Azevedo, Nick Juty, Dominique Batista, Simon Coles, Ronald Cornet, Mélanie Courtot, Mercè Crosas, Michel Dumontier, Chris T. Evelo, Carole Goble, Giancarlo Guizzardi, Karsten Kryger Hansen, Ali Hasnain, Kristina Hettne, Jaap Heringa, Rob W.W. Hooft, Melanie Imming, Keith G. Jeffery, Rajaram Kaliyaperumal, Martijn G. Kersloot, Christine R. Kirkpatrick, Tobias Kuhn, Ignasi Labastida, Barbara Magagna, Peter McQuilton, Natalie Meyers, Annalisa Montesanti, Mirjam van Reisen, Philippe Rocca-Serra, Robert Pergl, Susanna-Assunta Sansone, Luiz Olavo Bonino da Silva Santos, Juliane Schneider, George Strawn, Mark Thompson, Andra Waagmeester, Tobias Weigel, Mark D. Wilkinson, Egon L. Willighagen, Peter Wittenburg, Marco Roos, Barend Mons, Erik Schultes

Author and Article Information

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TO KNOW MORE


Comment | OPEN

The FAIR Guiding Principles for scientific data management and stewardship

Mark D. Wilkinson, Michel Dumontier […] Barend Mons

Abstract

There is an urgent need to improve the infrastructure supporting the reuse of scholarly data. A diverse set of stakeholders—representing academia, industry, funding agencies, and scholarly publishers—have come together to design and jointly endorse a concise and measureable set of principles that we refer to as the FAIR Data Principles. The intent is that these may act as a guideline for those wishing to enhance the reusability of their data holdings. Distinct from peer initiatives that focus on the human scholar, the FAIR Principles put specific emphasis

FAIR guide, Nature, March 2016

RECOMMENDATIONS

» Clarify all legal issues at the beginning of your research project and include the findings of this process in the data management plan.

» Use checklists adequate to your research topic/discipline.

» Check the resources indicated by DARIAH, CLARIN. (see further reading).

» In the case of personal data ensure that only relevant people can access the data and that these are clearly identified (see GDPR).

» Ask for consent to share anonymised data and establish transparent and well-documented anonymisation routines that consider not just direct identifiers, but also how a combination of indirect identifiers could reveal identities. (See for example the guide on informed consent in the CESSDA data management expert guide).

» Avoid collection of (sensitive and non-sensitive) personal data when possible.

» Get legal support (IPR, copyright, patents, trademarks etc.) from your home institution. If there is no dedicated office for this purpose, try to get information from your university library, as its staff are often confronted with such issues.

» If you need permission from the copyright holder in order to use sources like images for your publication, try to get one that covers both printed and digital copies.

» Finally, check the recommendations in the section on Licences, that are closely related to this section.

RECOMMENDATIONS

» To ensure the best possible stewardship of your data, choose to deposit it in a digital repository that is certified by a recognised standard such as the CoreTrustSeal. The Registry of Research Data Repositories (re3data) provides a good starting point, noting disciplines, standards, content types, certification status and more. FAIRsharing (manually curated information on standards, databases, policies and collections) allows you to search databases by subject, and includes entries tagged 'Humanities and Social Sciences'.

» Use disciplinary repositories where they exist, as they are more likely to be developed around domain expertise, disciplinary practices and community-based standards, which will promote the findability, accessibility, interoperability and ultimately the reuse and value of your data. The level of curation available in a repository is key to data quality and reusability.

» Datasets should be assigned persistent identifiers (PID). Most repositories that are designed for long-term preservation will automatically assign or 'mint' persistent identifiers for your datasets, so choosing a quality repository will automate this step. Consider as well signing up for ORCID, a free service that assigns persistent identifiers to individuals/authors.

» To facilitate findability of all research outputs, bidirectional links should be created between publications related outputs, such as data (using PIDs).

» Include the richest metadata possible with your deposited data so that others can find it, understand the parameters under which it was created, and understand the conditions under which they can access and/or reuse it. See recommendations in this report in the sections on Licences and Metadata for more information.

RECOMMENDATIONS

» If applicable, determine if the body funding your research has particular requirements for a DMP, or offers a template for framing your plan. If there is no required template, choose an existing appropriate one (e.g. via DMPOnline).

» Devise a DMP prior to collecting data. Define and plan for your data: all research projects deal with data. If your project includes the analysis of text corpora, for example, then the corpora themselves are data, and you should make sure they are clearly described, documented, and managed according to the FAIR principles so your research is reusable by others.

» Plan documentation of metadata: In order for your data to be comprehensible in the future and/or reusable by others, they will need descriptive metadata created according to a common schema to understand the context/purpose of the research. The richer the metadata, the more intelligible and useful the dataset (see section on Metadata).

» Use standardised terminology to increase interoperability. Consider employing vocabularies or ontologies that follow FAIR principles to increase interoperability and findability (e.g. see FAIRsharing.org).

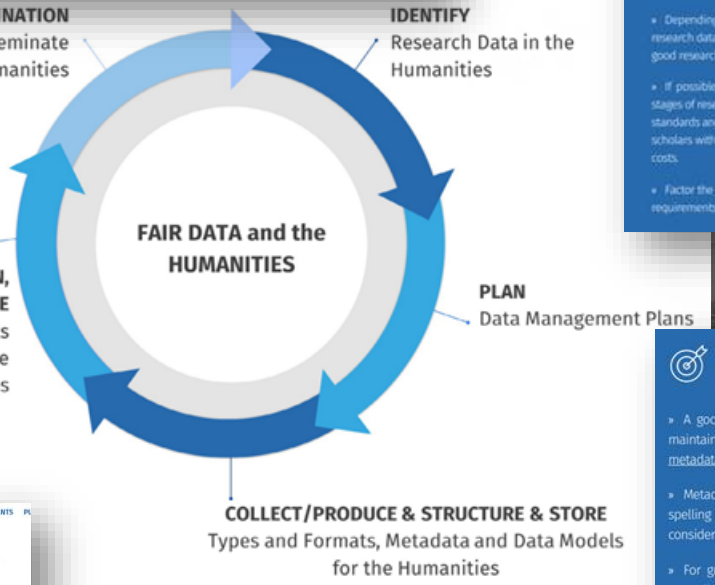
» Consider the right questions to be answered in your DMP that can account for discipline-specific requirements. The DMP templates suggested by funders are quite high level and provide generic guidance for file naming or versioning conventions, database structuring, and can be a good start. Tools like the dmponline.dcc.ac.uk provide discipline specific examples that can be of further reference.

» DMP as living documents: Update your data management plan regularly in order to take into account any potential relevant changes such as using new data types and/or models, technology, new institutional data management policies, reassessing legal aspects or licences for legal compliance etc.

» Depending on the size of the organisation: think of providing institutional support for research data management (RDM); organise information sessions to raise awareness about good research data management, and the risks of not managing it early.

» If possible, consider involving library and/or repository support staff from the initial stages of research data management planning to discuss the best solutions, specifications, standards and protocols along which the repository operates. Repository staff can also assist scholars with understanding any specific data management requirements and associated costs.

» Factor the cost of research data management (time or human resources) into budgetary requirements at the point of application.



RECOMMENDATIONS

» Data models go FAIR: the FAIR Guiding Principles, correctly applied, ensure data are findable, accessible, interoperable and reusable. Data modelling should take this into account by using formal, easily accessible languages for knowledge representation, providing persistent identifiers, open standards, well documented Application Programming Interfaces (API), generic user interfaces and rich metadata. The FAIRification process developed by the GO FAIR initiative offers a system on how to shape the data modelling.

» Use open standards, and whenever possible, standardised technologies and procedures should be used. The World Wide Web Consortium W3C maintains several standards relevant for data models like XML and RDF. Within XML the Text or Music Encoding Initiative TEI/MEI or specific expressions of them have become standards for text or music editions. The query language SPARQL and the representation tool for linked data JSON-LD are common standards for RDF (refers to FAIR principle I1).

» Prefer human and machine-readable systems: coding of data models and of the actual data that is both human and machine-readable in a unified way provides better sustainability and long-term accessibility than machine-readable only code (binary codes), that may use different formats for data model description and the actual data. For both, hierarchical data models and graph-based data, various serialisations (file formats) are available that fulfil this condition (XML, TEI/XML, Turtle, N3, RDF/XML), whereas SQL based technologies need bigger efforts.

» Normalise as much as possible: to avoid redundant information, the content of databases should be normalised as far as possible, using for example authority files like VIAF and identifiers like DOI, ARK, ISNI, GND and the like. To foster the exchange of data, standardised vocabularies and ontologies are needed as well, but an overall ontology for the humanities has not yet been established. The ontology CIDOC-CRM and especially some extensions are well on their way to become a reference model for cultural heritage information.

» Data models follow the data management plan (DMP): when establishing a data model, researchers should keep the whole lifecycle of their data in mind, as it should be outlined in a DMP. Therefore, an extensive documentation of the data model, its software and tools are highly relevant and facilitates the transfer of data in a secure and trusted repository in order to keep them accessible. The same is true here: the more you use open standards for your data model, the easier this task becomes.

RECOMMENDATIONS

» A good starting point is to consult the Metadata Standards Directory, a community-maintained directory hosted by the Research Data Alliance: https://rd-alliance.github.io/metadata-directory/

» Metadata works best when terminology is consistent, e.g. naming conventions are followed, spelling is normalised, and so on. Depending on the complexity and size of your metadata, consider using a tool such as Open Refine to 'clean' your metadata.

» For greater searchability and interoperability, researchers should also consider using controlled vocabularies to identify common terminology when populating metadata fields. ...rary of Congress maintains a controlled vocabulary for subject headings: ...thorities/subjects.html

...e metadata should include a clear and explicit reference to the dataset ...h the inclusion of a PID in the metadata (see section on Trustworthy Data ...rsistent Identifiers).

...data as rich as possible in order to better contextualise your data and ...sider more detailed descriptions, and fuller provenance information, as ...ectrum of available metadata fields.

...be machine-readable.

Sustainable and FAIR Data Sharing in the Humanities

ALLEA Report | **February 2020**

February 2020

…and a Data Management Plan

- A STRUCTURED WAY TO THINK TO YOUR RESEARCH FROM THE PERSPECTIVE OF YOUR DATA: collection, preservation, description, sharing
- COMMITTMENT ON DATA MANAGEMENT
- LIVING DOCUMENT TO BE UPDATED
- …AND THEN… ACT ACCORDINGLY…

[AS NOW WE HAVE THE EOSC!]

The Vienna

Vienna, 23 Novem

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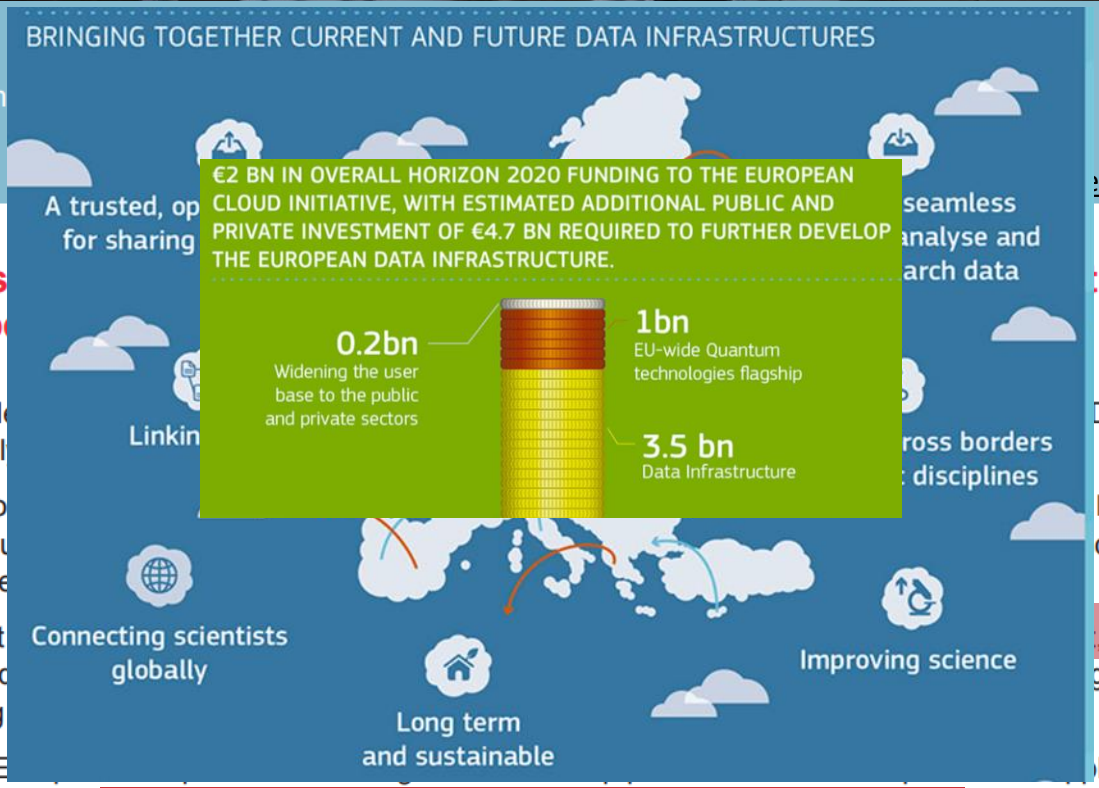
enna, Nov.23, 2018



We, Ministers … of the European Op…

1. Recall the chall… Declaration" signed in Brussels on 10 Jul…

2. Reaffirm the po… Europe. Confirm that the vision of the Eu… ciplines and Member States, sustainable…

3. Recognise that… by its nature iterative and based… gue to build trust and consensus among…

4. Highlight that E… lication of cloud services for Science. Rea… and open to the world, reaching out over time to…

5. Recall that the Council… roadmap and the federated

SEAMLESS ACCESS
TO OPEN BY DEFAULT FAIR DATA

9. Call for the European Open Science Cloud to provide all researchers in Europe with seamless access to an open-by-default, efficient and cross-disciplinary environment for storing, accessing, reusing and processing research data supported by FAIR data principles.

Science Cloud a reality, hinting at the need to further strengthen the ongoing dialogue across institutions and with stake-holders, for a new governance framework to be launched in Vienna, on 23 November 2018.

…no more journals…

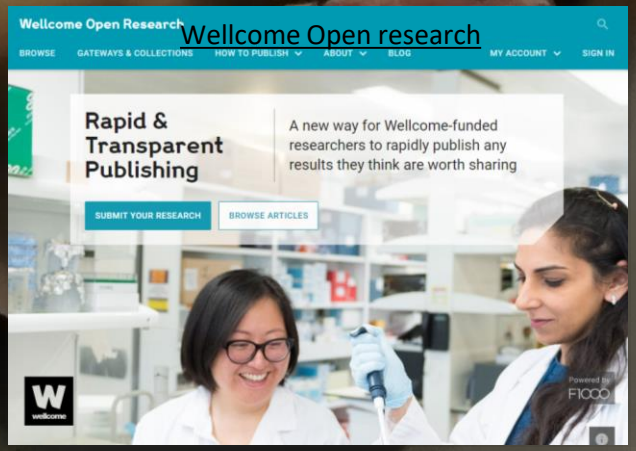
PUBLISHING
PLATFORMS

ORE

Enables researchers to publish any research they wish to share, supporting reproducibility, transparency and impact.

Uses an open research publishing model: publication within days of submission, followed by open invited peer review.

Includes citations to all supporting data and materials, enabling reanalyses, replication and reuse.



Wellcome Open research

...no more

RESEARCH EQUALS...
IF YOU PUBLISH OPEN (CCBY) IS FOR FREE
IF YOU WANT TO KEEP IT CLOSE, YOU PAY

ResearchEquals

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Step by step publishing of your research

A new publishing format: Research modules.

Get started | Browse modules

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POLICY

WHEN PRIVACY-BOUND RESEARCH PAYS FOR OPEN SCIENCE 2016

27 APRIL, 2016 | EUROSCIENTIST | 1 COMMENT

A new open science business model charges those who want to keep information private to subsidise those who share it

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BAREND MONS 2016:
CLOSED SCIENCE ALSO PAYS FOR OPENNESS

…building new publication strategies

my/our strategy:

My/my team's publishing goal is to establish priority on findings. That is why we intend to pub
possible in our workflow. We aim to use these platforms and venues to communicate and sha

is sheet can be used for discussing current ways of working and for discussing strategies, in groups as well as individual settings. Relevant options can vary for different projects yo
herent strategy options chosen in the various columns make sense and do not contradict, although you can have multiple goals and parallel ways of working. You can try the tool her
full interactive functionality, first download your own copy of the worksheet. Then start by ticking a goal, which will often trigger some suggestions in the other columns that you can
making selections your narrative will be built. The i's lead to general background information, u's to information in the Utrecht University context (when reusing outside Utrecht you ca
onal context). Note this tool should not be a straitjacket but rather facilitate discussion. Copy-paste and manually edit the narrative generated here. Read more on the ABOUT page.

Publication strategy: A preconsidered & coherent set of choices regarding the why, what, when, how and where of sharing/publishing research. What are your or your team's priorities for the next project coming up? What role for open science practices in your publishing?

[WHY] As my/my team's publishing goal is to ...	[WHAT] ... we intend to publish these ...	[WHEN] ... at these moments ...	[HOW] ... while trying to ...	[WHERE] ... using these platforms/venues:
☑ establish priority on findings i	☐ research applications/proposals	☐ upon creation (open drafting)	☐ use double blind peer review i	☐ fully open access journals i u
☐ invite comments, feedback & scrutiny	☐ preregistrations i u	☑ as early as possible in our workflow	☐ use single blind peer review	☑ fully open access journals without APCs i u
☐ archive evidence	☐ registered reports i u	☐ also before review (e.g. as preprint)	☐ use open peer review (identities) i u	☐ open access books i u
☐ promote my (team's) visibility u	☑ data i u	☐ after formal peer review i	☑ allow open peer review reports i u	☑ institutional repositories i i u
☐ create material to use in education	☐ data papers i		☑ discuss author order with all authors i	☐ subject repositories i i
☑ communicate with societal stakeholders	☑ code & software i u		☐ indicate contributor roles (CREDIT) i	☐ general repositories like Zenodo
☐ meet formal funder requirements	☐ workflows and methods		☐ credit all contributors to the research	☑ our own project website
☑ foster careers of ECRs and temporary staff	☐ presentation slides		☑ add a plain language abstract i	☐ journals with a high impact factor i
☐ get new funding	☐ conference posters i		☐ add a data availability statement i	☐ journals reaching the intended audience
☐ have work formally peer reviewed i	☑ articles/books reporting research results i		☐ cite OA (versions of) literature	☐ learned society journals
☐ provide information researchers can build on	☐ negative/null results i		☐ add multilingual abstracts i	☐ journals of prestigious publishers
☐ provide information practioners etc. can build on	☑ replication studies		☐ contribute to closed peer review	☐ highly selective journals
☐ make scholarly communication more equitable	☐ review articles i		☐ contribute to open peer review i	☐ journals only checking methodological rigour
☑ make it easy for others to use the work	☐ systematic reviews i u		☐ contribute to open commenting	☐ journals with statistical review expertise
☑ help improve reproducibility of science i u	☐ meta-analyses i		☐ improve versions using public comments	☐ journals with the largest readership
☐ contribute to knowledge curation	☐ popularising books		☐ add a visual abstract	☐ specialised topical journals
☐ reach the largest possible audience i	☐ blogs etc. on project progress		☐ provide formal data/software citations i i	☐ broad multidisciplinary journals
☐ make it easy for others to assess the work	☑ blogs etc. aimed at discussion		☑ provide researcher identifiers (ORCIDs) i u	☐ journals explicitly aimed at interdisciplinarity
	☐ opinion pieces (e.g. in newspapers) i		☑ attach a CC-BY or CC0 license i u	☐ data archives i u

Jeroen Bosman @jeroenbosman Feb.13 2022 ···

Our new experimental tool helps rethink publishing strategies in an open science context. Based on your goals you can select what, when, how and where to publish. With suggestions & background links and an automatically generated

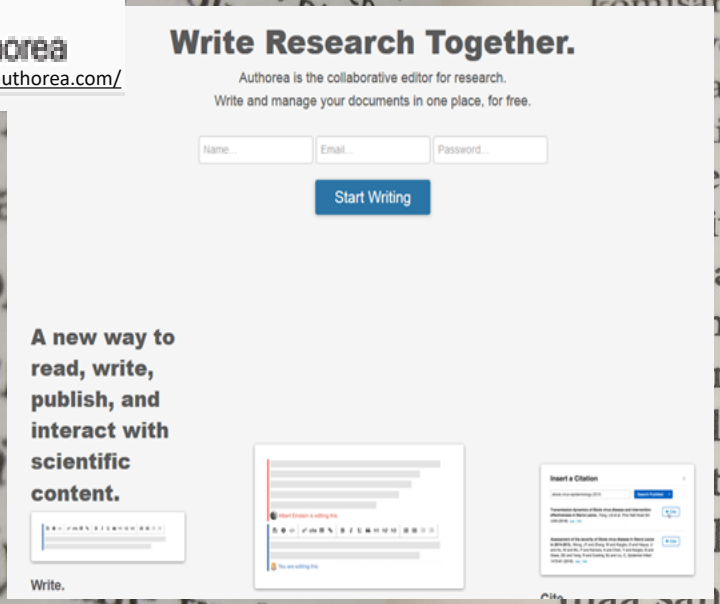
lishing-str…

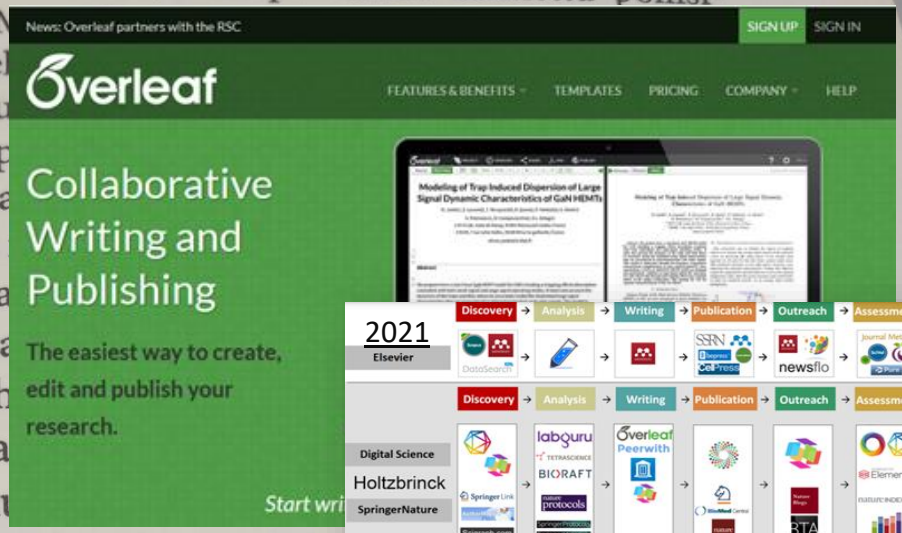
As my/my team's publishing goal is to ...	... we intend to publish these ...	... at these moments ...
☑ establish priority on findings i	☑ research applications/proposals	☐ upon creation (open drafting)
☐ invite comments, feedback & scrutiny	☐ preregistrations i u	☑ as early as possible in our workflow
☐ archive evidence	☐ registered reports i u	☐ also before review (e.g. as preprint)
☐ promote my (team's) visibility u	☑ data i u	☐ after formal peer review i
☐ create material to use in education	☐ data papers i	
☐ communicate with societal stakeholders	☐ code & software i u	
☐ meet formal funder requirements	☐ workflows and methods	
☐ foster careers of ECRs and temporary staff	☐ presentation slides	
☐ get new funding	☐ conference posters i	
☐ have work formally peer reviewed i	☐ articles/books reporting research results i	
☐ provide information researchers can build on	☐ negative/null results i	
☐ provide information practioners etc. can build on	☐ replication studies	

BUILD A PUBLICATION STRATEGY ACCORDING TO YOUR NEEDS [USEFUL IN HORIZION EUROPE]

…writing differently and annotating

Authorea
https://www.authorea.com/

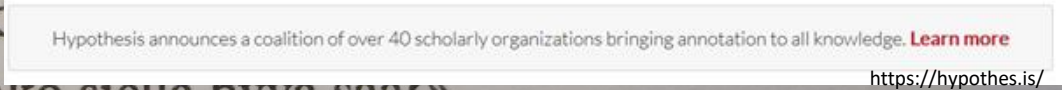




BEWARE: NO LONGER OPEN

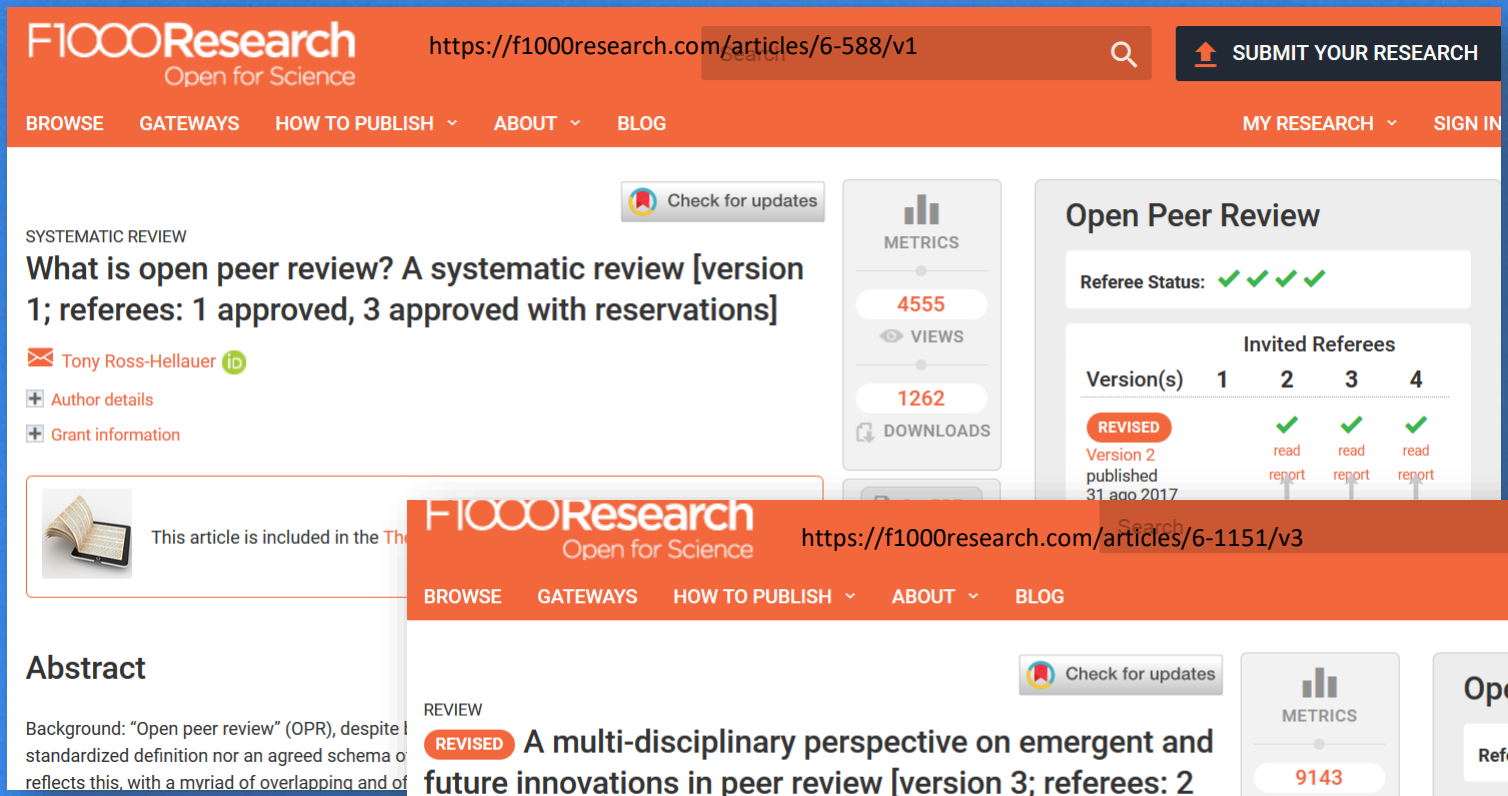
PundIT video

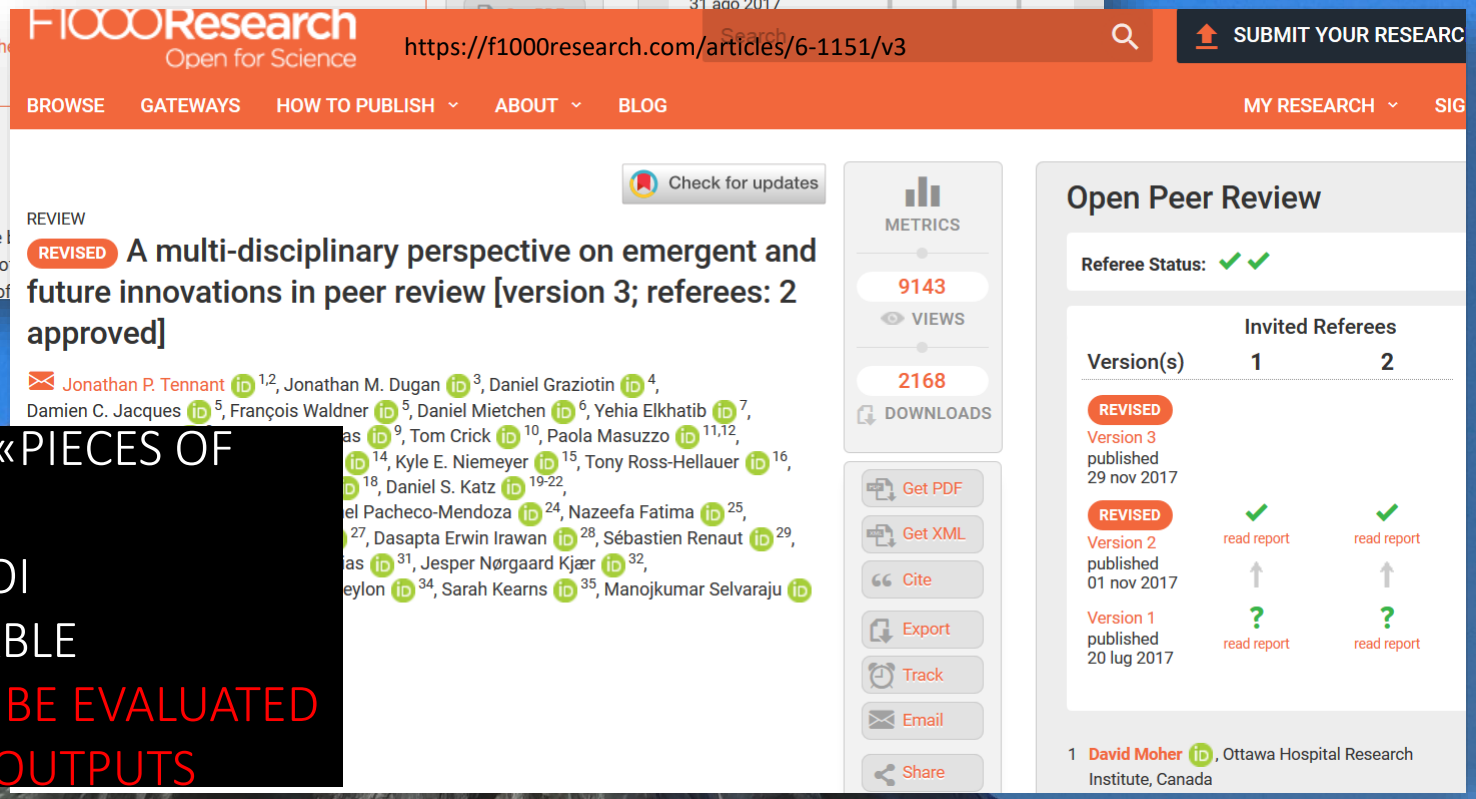
COLLABORATIVE WRITING / ANNOTATING



https://hypothes.is/

… reviewing openly





- REVIEWS ARE «PIECES OF KNOWLEDGE»
- THEY GET A DOI
- THEY ARE CITABLE
- THEY SHOULD BE EVALUATED AS RESEARCH OUTPUTS

… Open peer review benefits

2021

The benefits of open peer review

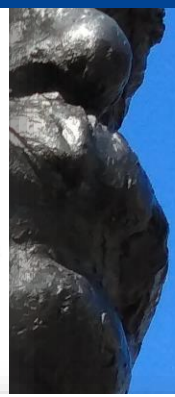
Open Research Europe

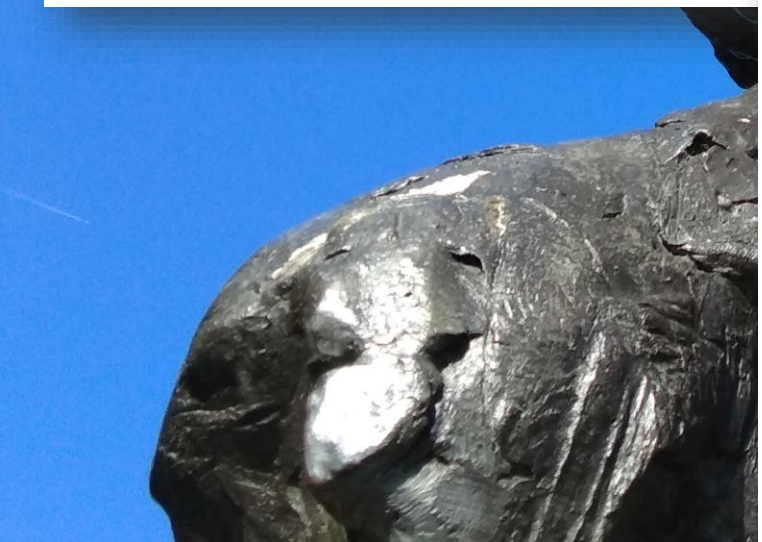
European Commission

How does open peer review benefit authors?

Here's how our innovative model benefits authors:

- Empowers authors to lead the process by suggesting reviewers themselves. Download our handy authors guide to help find reviewers.
- Enables conversation within the research community with fully transparent peer review
- Reduces the possibility of bias, as everything is openly available to all
- Accelerates the pace of discovery by publishing research before it undergoes peer review
- Improves the quality of peer review by allowing everyone to benefit and learn from reading reviewer feedback





What are the benefits of open peer review for reviewers?

Here's how reviewers benefit from our open peer review model:

- Allows reviewers to get credit and recognition for their work
- Enables career development with co-reviewing opportunities, particularly with early career researchers (ECRs)
- Enables collaboration with others through our open peer review model
- Enables reviewers to see how many times their report has been viewed with our viewing metrics
- Enhances the visibility, discoverability and citability of research with an assigned Digital Object Identifier (DOI)

[Open PeerReview in practice]

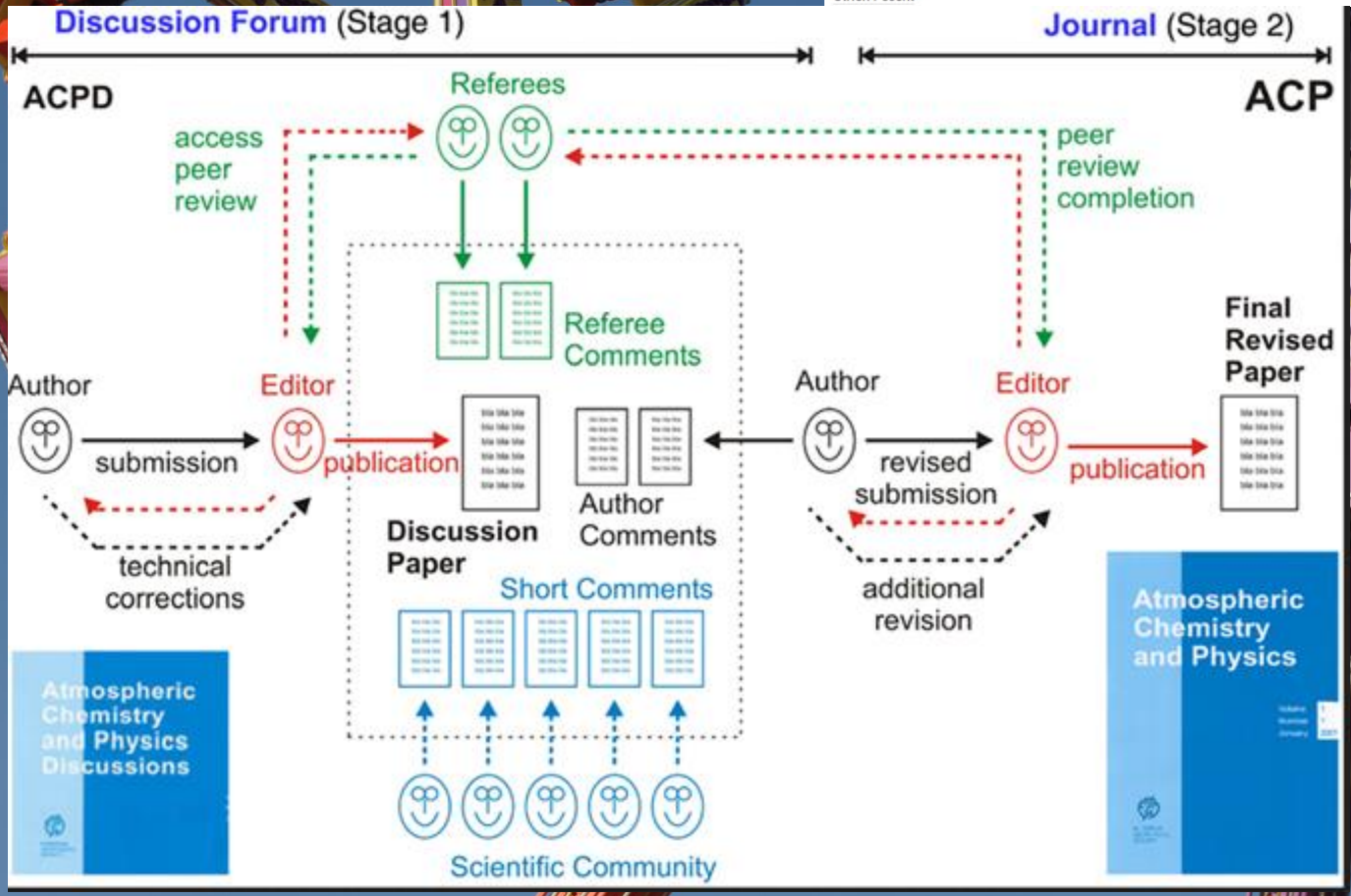
Poschl 2012

REVIEW ARTICLE

Front. Comput. Neurosci., 05 July 2012 | https://doi.org/10.3389/fncom.2012.00033

Multi-stage open peer review: scientific evaluation integrating the strengths of traditional peer review with the virtues of transparency and self-regulation

Ulrich Pöschl*



… or independent peer review

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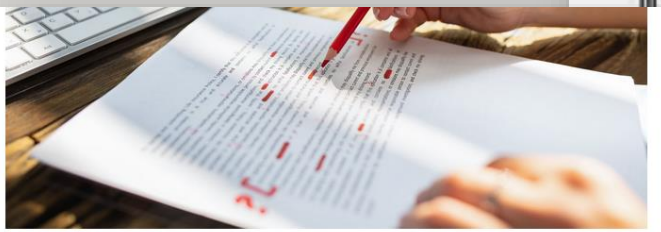


ANDREY_POPOV/SHUTTERSTOCK

April 21, 2021

Fifteen journals to outsource peer-review decisions

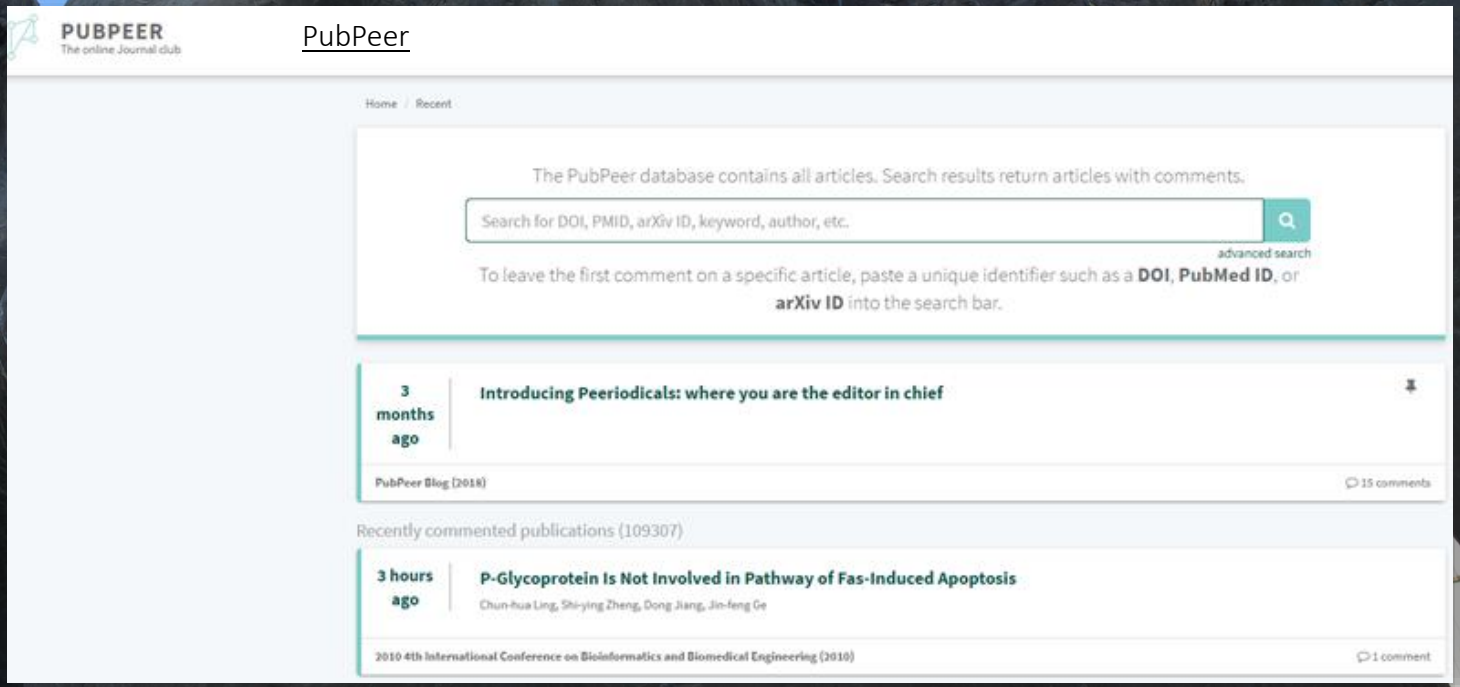
By Cathleen O'Grady | Apr. 19, 2021 , 5:10 AM

PEER REVIEW: DONE. SO NOW PUBLISHERS SHOULD TELL US WHAT THEY CHARGE US FOR.

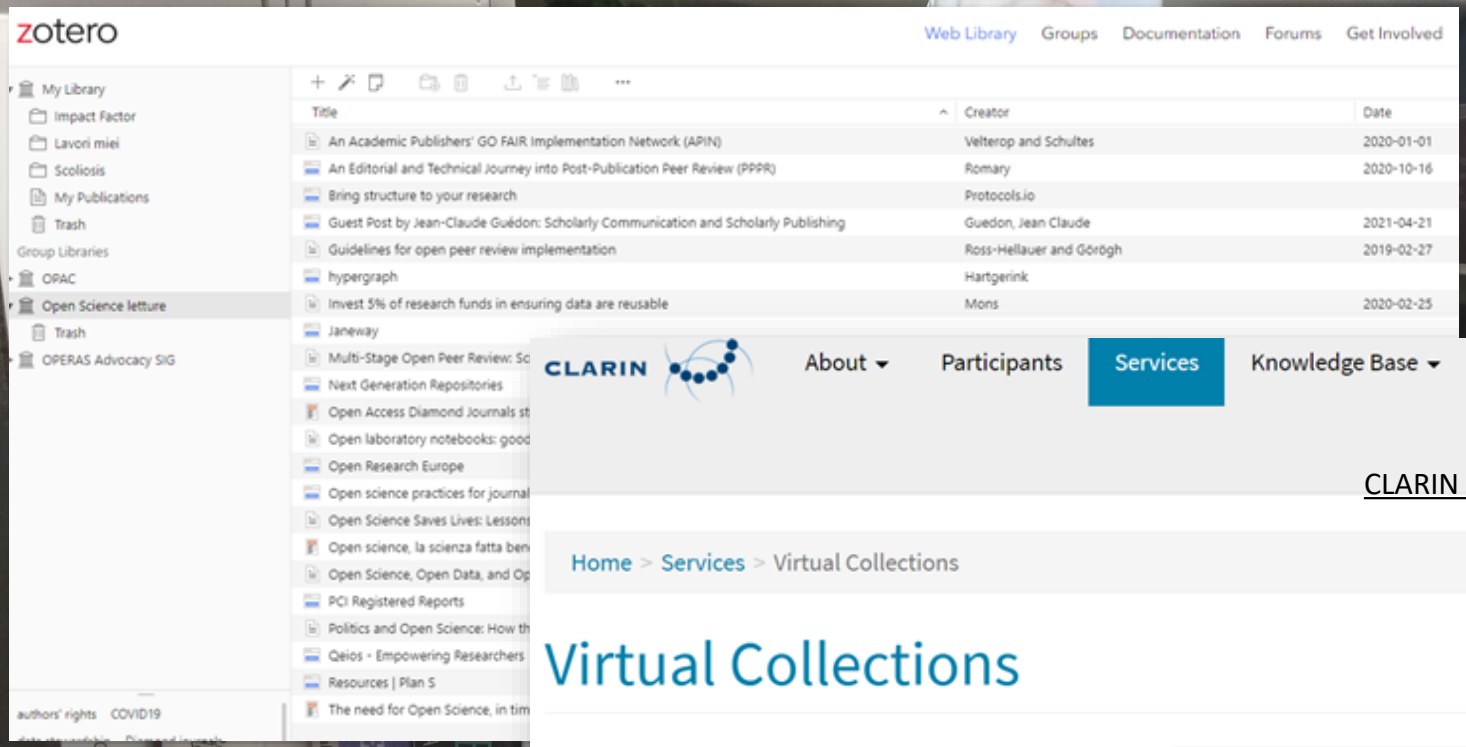
But with PCI RR performing all the steps involved in peer review, publishers will have to demonstrate their value, Hoyt says. He says publishers still operate platforms that draw readers, and they do important work to format articles so they can be aggregated by PubMed and other databases. "There's a role for publishers still to play," he says, "but I think they will have to start justifying the prices they charge."

…or post-peer review

PubPeer



.....sharing bibliographies and



CLARIN virtual collections

Home > Services > Virtual Collections

Virtual Collections

A virtual collection is a coherent set of links to digital objects (e.g. annotated text, video) that can be easily created, accessed and cited. The links can originate from different archives, hence the term *virtual*. A virtual collection is suitable for manual access (using a web-browser) as well as automated processing (e.g. by a webservice).

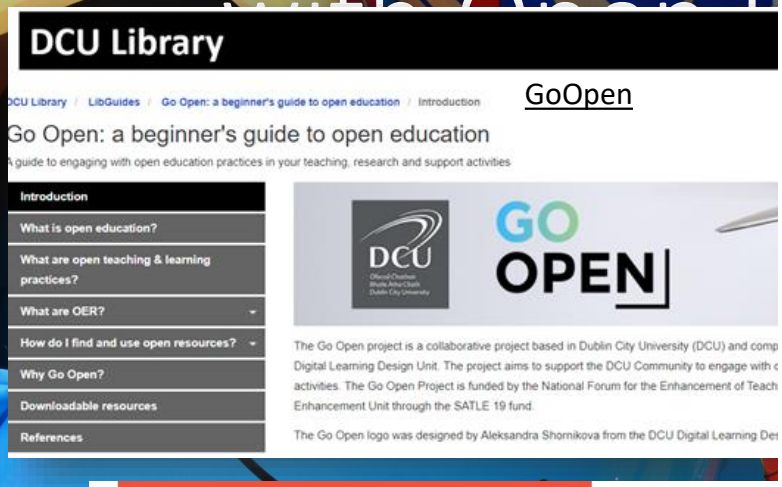
Go to the Virtual Collection Registry

CLARIN provides a registry where scholars can create and publish their virtual collections. It is closely integrated with the infrastructure and provides persistent identifiers and federated login. The collection metadata is openly available and accessible via the Virtual Language Observatory.

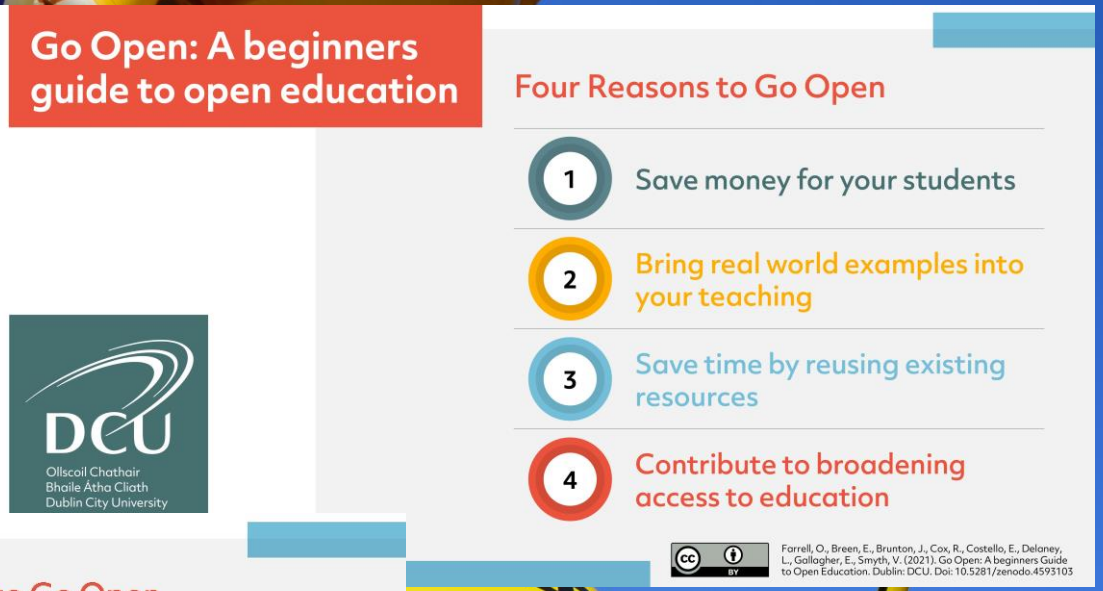
Some examples:

- data as mentioned in an article's footnotes gathered in a single virtual collection
- a virtual collection with links to data illustrating a book (video and sound recordings)

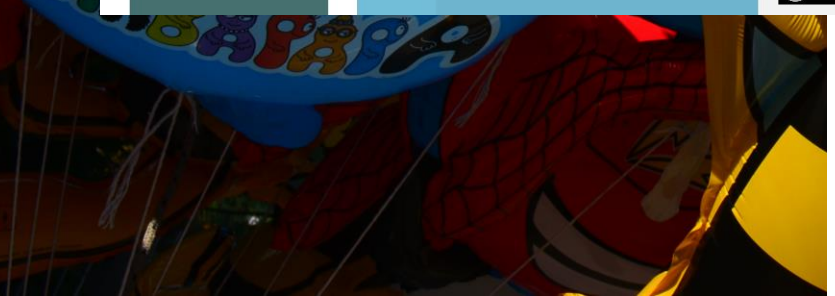
More information is available in the Virtual Collections shortguide


DCU Library
DCU Library / LibGuides / Go Open: a beginner's guide to open education / Introduction
Go Open: a beginner's guide to open education
A guide to engaging with open education practices in your teaching, research and support activities
Introduction
What is open education?
What are open teaching & learning practices?
What are OER?
How do I find and use open resources?
Why Go Open?
Downloadable resources
References
DCU
GO OPEN
The Go Open project is a collaborative project based in Dublin City University (DCU) and comp
Digital Learning Design Unit. The project aims to support the DCU Community to engage with
activities. The Go Open Project is funded by the National Forum for the Enhancement of Teach
Enhancement Unit through the SATLE 19 fund.
The Go Open logo was designed by Aleksandra Shornikova from the DCU Digital Learning De

GoOpen


Go Open: A beginners guide to open education
Four Reasons to Go Open
1 Save money for your students
2 Bring real world examples into your teaching
3 Save time by reusing existing resources
4 Contribute to broadening access to education
DCU
Ollscoil Chathair
Bhaile Átha Cliath
Dublin City University
Farrell, O., Breen, E., Brunton, J., Cox, R., Costello, E., Delaney, L., Gallagher, E., Smyth, V. (2021). Go Open: A beginners Guide to Open Education. Dublin: DCU. Doi: 10.5281/zenodo.4593103


Go Open: A beginners guide to open education
Four Ways to Go Open
1 Share your open practice
2 Deposit your work in open repositories
3 Use Creative Commons licensing
4 Use open educational resources
DCU
Ollscoil Chathair
Bhaile Átha Cliath
Dublin City University
Farrell, O., Breen, E., Brunton, J., Cox, R., Costello, E., Delaney, L., Gallagher, E., Smyth, V. (2021). Go Open: A beginners Guide to Open Education. Dublin: DCU. Doi: 10.5281/zenodo.4593103

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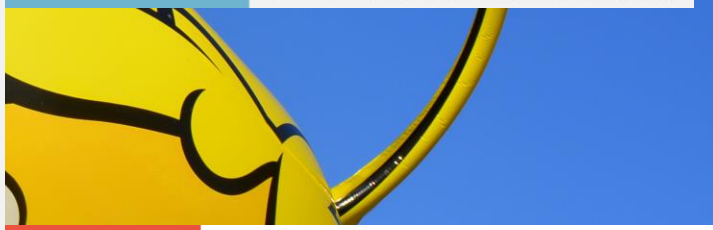

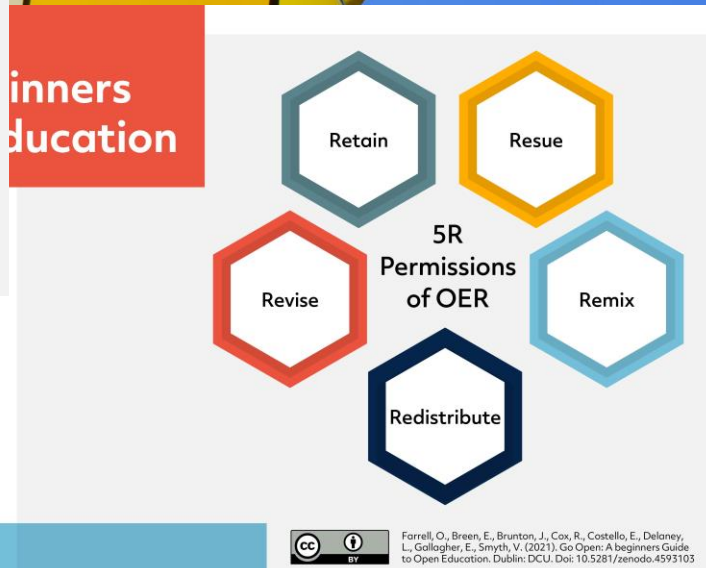
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...disseminating in a different way

Ten steps to innovative dissemination

1. Get the basics right
Define your objectives, map your audience(s), target and frame your messages and bring this together into a dissemination plan of what you'll release and when.

2. Keep the right profile
Use personal websites, social media accounts, researcher identifiers and academic social networks to make you and your research visible.

3. Encourage participation
In the age of Open Science, don't just broadcast, go for multi-directional dissemination. Invite & engage with others to participate & collaborate.

4. Open science for impact
Open Access publications and preprints mean more citations. In addition, publishing datasets, software and peer reviews increase your number of citable research outputs.

5. Remix traditional outputs
Give traditional outputs like research articles and books an impact-boost with accompanying lay-summaries, press-releases, blogs, and visual/video abstracts.

6. Go live
In person dissemination doesn't just have to be at stuffy conferences – hit the road and take part in science festivals, science slams, TEDx talks, science festivals, or roadshows.

7. Think visual
Disseminate findings through art or multimedia interpretations. Let your artistic side loose or use new visualisation techniques to produce intuitive, attractive data displays.

8. Respect diversity
Research should reach all who might benefit. Respect inclusion in scientific dissemination by creating messages which reflect gender, demography and ability diversity.

9. Find the right tools
Choose media, format and dissemination strategy based on your communication objectives. Find tools via, e.g., the OpenUP Hub: openuphub.eu/disseminate/services

10. Evaluate, evaluate, evaluate
Assess your dissemination activities. Are they having the right impact? If not, why not?

...communicating in different ways

The Turing Way

Guide for Communication

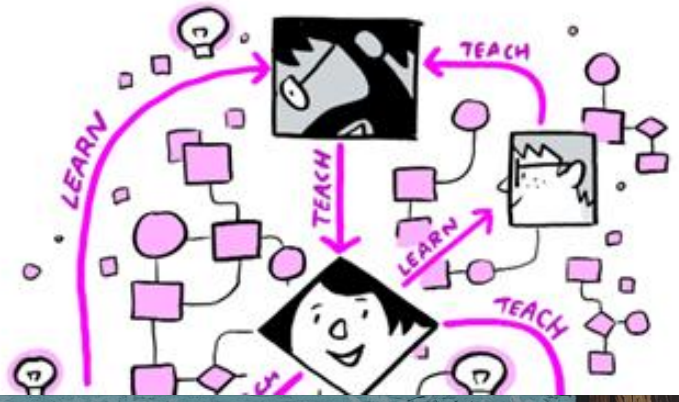
- Overview of Guide for Communication
- Open Scholarship
- Blogs for Research Communication
- Lay Summaries
- Podcasts for Research Communication
- Presenting Posters and Conference Talks
- Social Media for Research Communications
- Research Objects in Action
- Making Research Objects Citable
- Publishing Different Article Types
- Communications in Open Source Projects
- Authorship and Contributions on Academic Articles
- Peer Review
- Binder

Turing way / communication

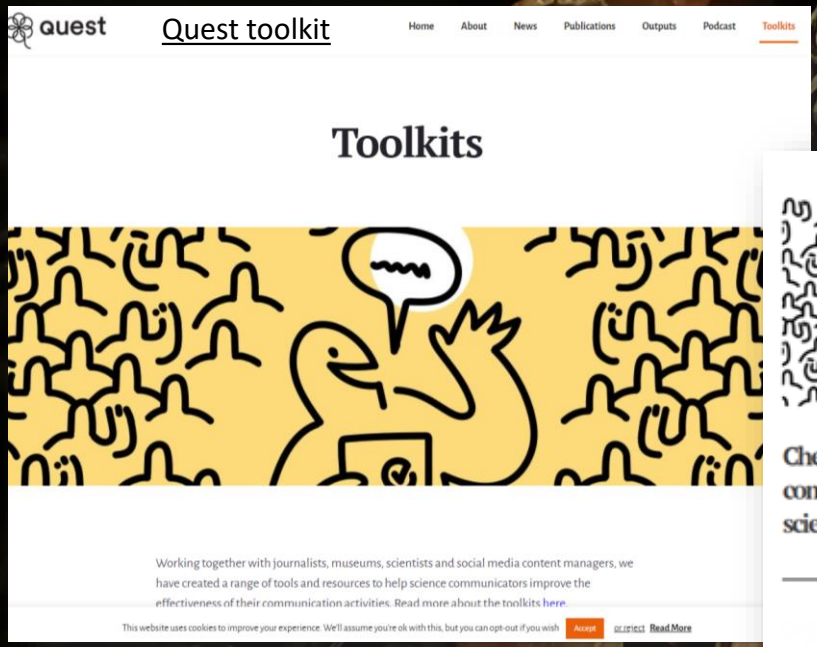
Guide for Communication

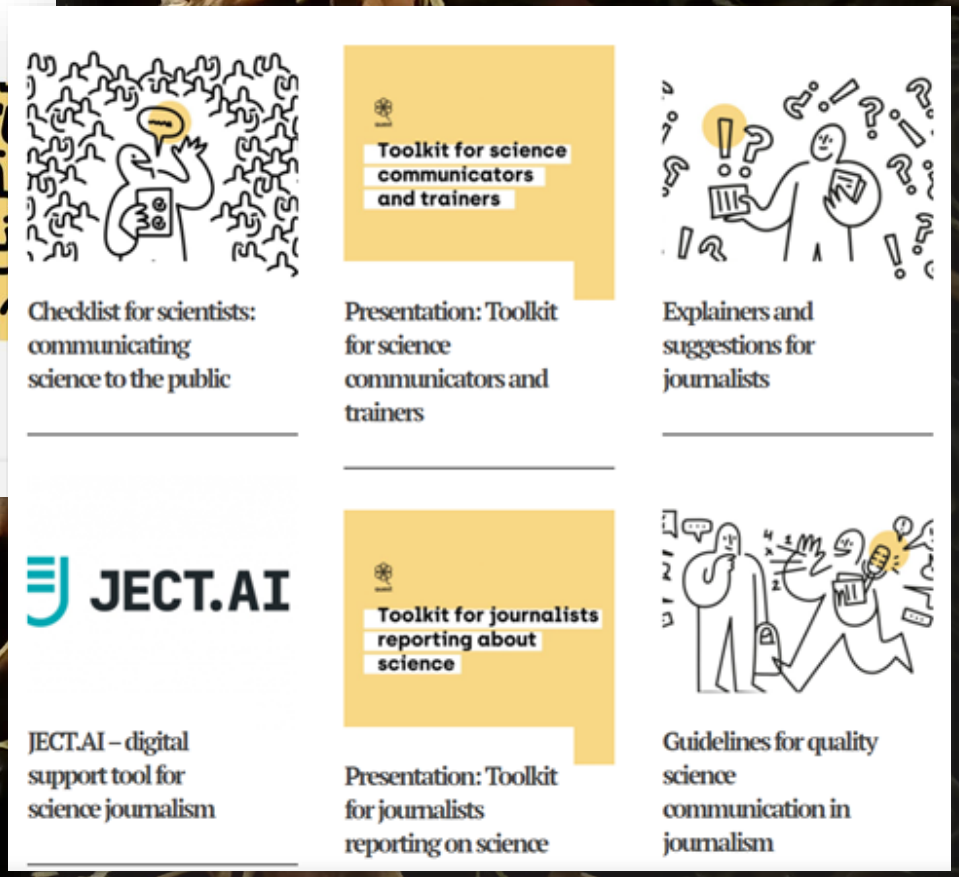
This guide covers topics related to effective communication in research.

Data analysis process, statistics and project development can be overwhelming to make available to and to explain to people, especially when they are not already involved in this process. Therefore, data scientists should not only have a good understanding of data analysis techniques but also develop skills to communicate insights from their work in a clear, open, and accessible format that can help key stakeholders make meaningful decisions. There are many ways we can convey our insights responsibly that can resonate with and impact our target audience.



…communicating science

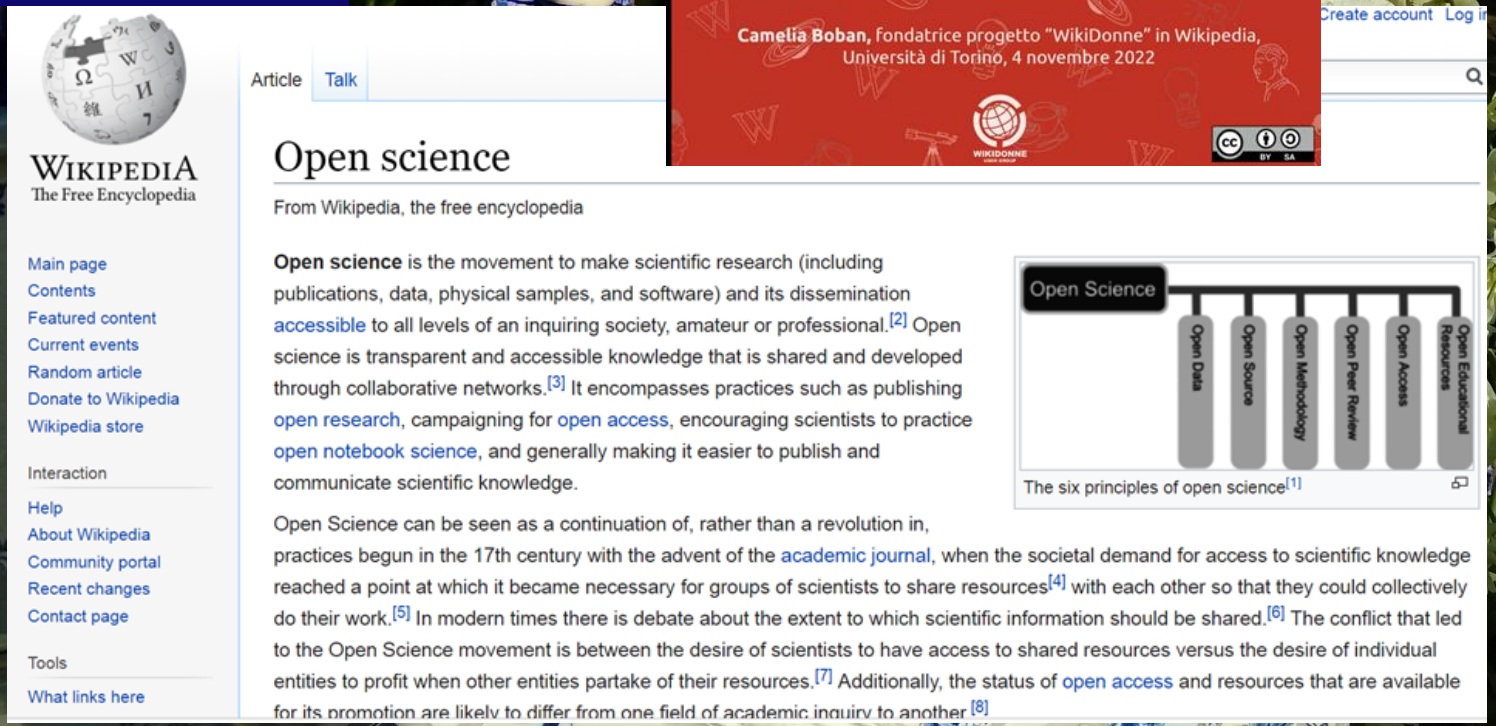




…having a different «social impact»

CREATING WIKIPEDIA ENTRIES ON YOUR RESEARCH TOPICS

REGISTRAZIONE EVENTO 4 NOV COME SCRIVERE UNA VOCE IN WIKIPEDIA [IN ITALIAN]



…being a community

YOU ARE NOT ALONE

INOSC Starter Kit

Open Science Community Starter Kit

Set up and foster a local Open Science Community

Get Started

Start your OS community

Focus 2 – Open Access

Green and Gold Open Access

AUTHORS PUBLISH IN AN OPEN ACCESS JOURNAL
32% ASK FOR APCs, ARTICLE PROCESSING CHARGES

- IMMEDIATE, ZERO COSTS
- CHECK THE COPYRIGHT POLICY ON SHERPA ROMEO
- YOU KEEP PUBLISHING ON THE «PRESTIGIUOS» JOURNALS BUT YOU MAKE YOUR PAPER FREE

AUTHOR SELF-ARCHIVES
IN AN OPEN ACCESS REPOSITORY
THE ALLOWED VERSION OF THE PAPER ,
WHEREVER IT WAS PUBLISHED,
ACCORDING TO PUBLISHERS' COPYRIGHT POLICIES

Diamond C

DIAMOND=NOBODY PAYS

duction

This Action Plan provides a set of priority actions to further develop and expand a sustainable, community-driven Diamond scholarly communication ecosystem. It aims to bring together Diamond Open Access journals and platforms around shared principles, guidelines, and quality standards respecting the cultural, multilingual and disciplinary diversity that constitute the strength of the sector. Researchers, editors, and research institutions will benefit from this Action Plan.

1. Efficiency

Diamond Open Access currently represents an archipelago of rel
journals and platforms. They would benefit from sharing common
action plan proposes to undertake the following actions to incr
and economies of scale:

- Flexibly align quality standards, create sustainability, and enha
stakeholders by promoting the sharing of infrastructures, stan
practices, and funding streams while respecting cultural d
disciplinary requirements.
- Make technical services and operations more accessible, inte
streamlined for Diamond journals and platforms. Particular a
paid to the alignment and interoperability of submission sy
platforms, and metadata.
- Build synergies between Diamond journals and platforms in the same discipline, geographical location, or language via a network of existing organisations, groups, and societies to provide better service t
and readers in general.

2. Quality standards

Diamond Open Access journals and platforms have different practi
quality standards rooted in historical, cultural, and disciplinary dive
and flexibly align the quality profile of the ecosystem, this action p
to undertake the following actions:

- Flexibly align existing standards and best practises for OA publi
developed by various organisations (including OASPA, DOAJ, CO
and EASE). This will be done in co-creation with the communities
Diamond journals into an international framework for Diamor

3. Capacity buildi

Diamond Open Access journals and platforms differ in
management skills. To build capacity, this action pl
undertake the following actions:

- Build capacity through the creation of a toolsuite
publishing. This includes training materials for Diam
and service providers, quality standards for journa
policies and guidelines that will be made available in
- Engage all stakeholders in Diamond Open Access – r
university libraries, university presses, faculties,
institutes, scholarly societies, ministries – to make th
in Diamond Open Access.
- Reach out to scholars with a targeted communication
Open Access publishing.
- Create a dedicated nonprofit Capacity Centre for Diamond Publishing (CCDP) within 30 months that provides technical, financial, and training services and resources at different levels to eligible journals and editors. Governance of the CCDP will be transparent and representative of its stakeholder communities, with proper consideration for the decentralised and diverse nature of the Diamond ecosystem.

4. Sustainability

Although Diamond Open Access journals and platforms are scholar-owned and -led, their legal status and governance is often unspecified. Moreover, their revenue streams often depend on a patchwork of in-kind contributions, funding by various types of institutions, and temporary grant money. To improve the sustainability of the Diamond Open Access publishing ecosystem, this action plan proposes to undertake the following actions:

ACTION PLAN FOR
DIAMOND OPEN ACCESS
MARCH 2022

Mar 2022

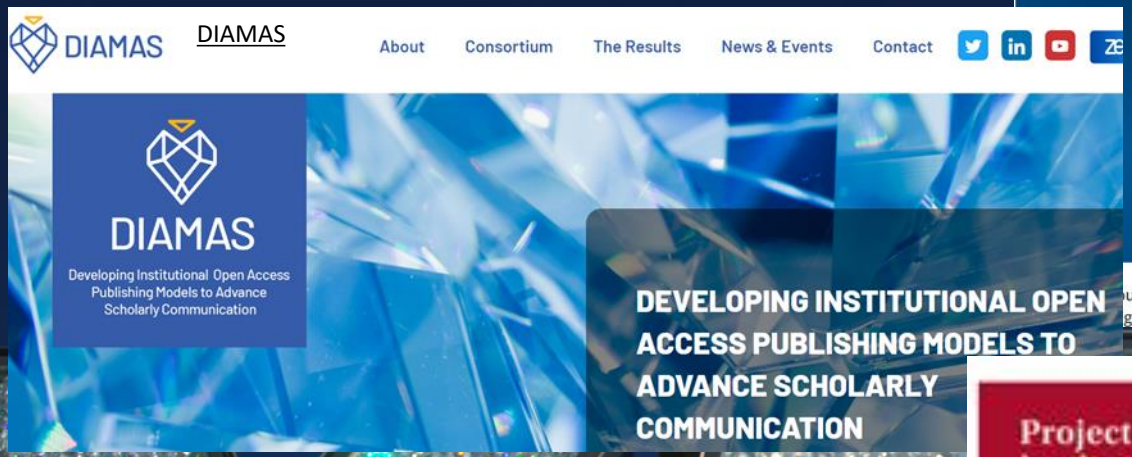
"By strengthening the Diamond Open Access sector we are contributing to support a scholarly publishing model that is equitable, community-driven, and academic-led and -owned.

Lidia Borrell-Damián
Secretary General of Science Europe

BUILD A SUSTAINABLE ECOSYSTEM RESPECTING DIVERSITY

Diamond projects

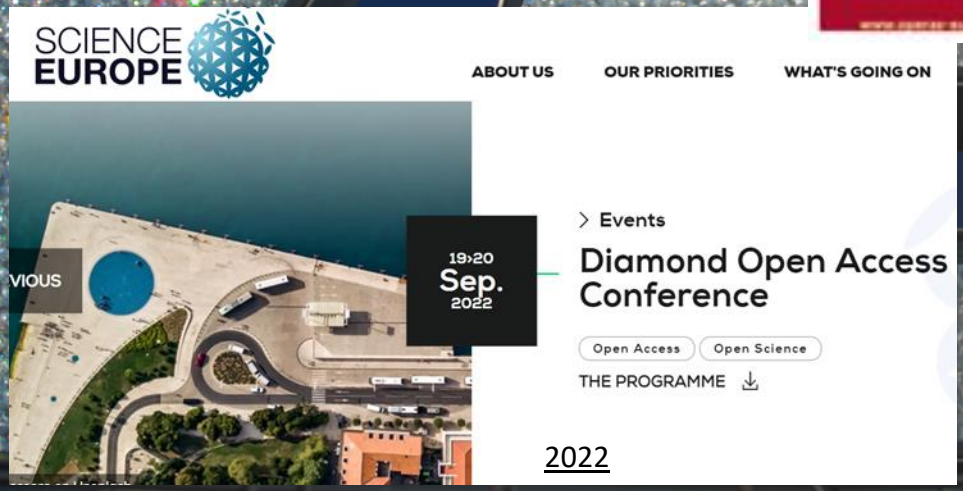
Feb. 15 2023



DIAMAS

2023

GLOBAL SUMMIT



2022

Diamond supported by

Council of the European Union

May 23, 2023

Brussels, 23 May 2023
(OR. en)

9616/23

RECH 190
EDUC 169
PI 77
DIGIT 96

OUTCOME OF PROCEEDINGS

From:	General Secretariat of the Council
On:	23 May 2023
To:	Delegations
No. prev. doc.:	8827/23
Subject:	High-quality, transparent, open, trustworthy and equitable scholarly publishing - Council conclusions (approved on 23 May 2023)

5. NOTES that the current system of scholarly publishing is operated by various for-profit and not-for-profit organisations and RECOGNISES with concern that the increasing costs of paywalls for access to scientific publications and for scholarly publishing cause inequalities and are becoming unsustainable for public research funders and institutions accountable for the spending of public funds, decreasing funding available for research;

6. HIGHLIGHTS the importance of not-for-profit, scholarly open access publishing models that do not charge fees to authors or readers and where authors can publish their work without funding/institutional eligibility criteria; NOTES the variety of models that do not depend on article processing charges or similar per-unit charges and STRESSES the importance of supporting the development of such models led by public research organisations;

7. STRESSES that it is essential to avoid situations where researchers are limited in their choice of publication channels due to financial capacities rather than quality criteria, and where access to research publications is restricted by paywalls; WELCOMES coordination within the EU and with global partners to support equity in scholarly publishing, taking account of the UNESCO Recommendation on Open Science[6];

Way forward

Framework conditions

11. ENCOURAGES Member States and the Commission to step up support to the development of aligned institutional and funding policies and strategies regarding not-for-profit open access multi-format scholarly publishing models in Europe with no costs for authors or readers, and to set and implement roadmaps or action plans for a significant expansion of such publishing models;

- THE SYSTEM (SUBSCRIPTION/APC) IS NO LONGER SUSTAINABLE AND CUASES INEQUALITIES
- SUSTAIN FOR NON PROFIT MODELS WITH NO COSTS FOR AUTHORS AND READERS

THOUGHT PIECES

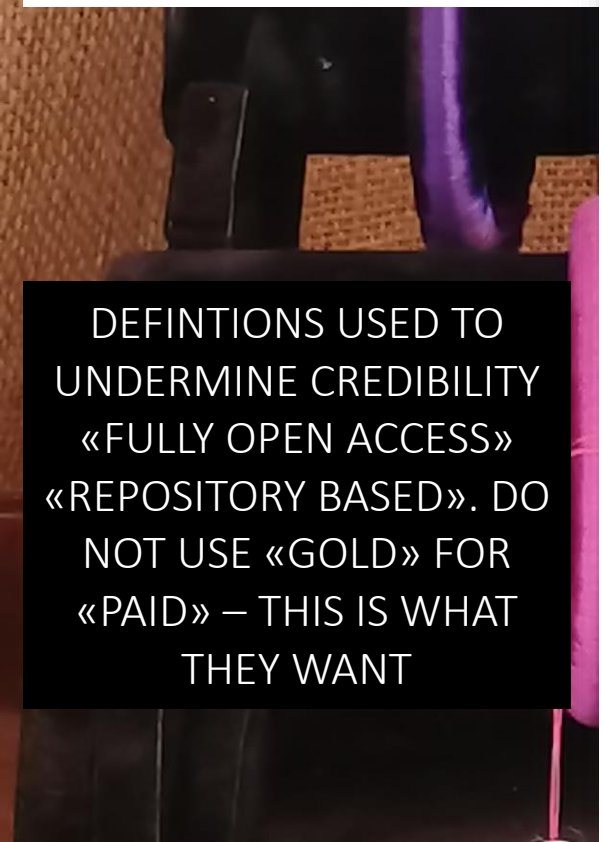
Words matter

Jan 18 2022

GINNY BARBOUR

January 18, 2022 • 2 min read • readability score 34.2 •
https://doi.org/10.54900/r2z2n-28fa1b5-68ncg

If anyone thought that 2022 was going to be a time of peace and harmony in open access, some of the last salvos of 2021 will surely have put that to rest. 2021 was the year in which Plan S requirements kicked in, when transformative agreements were negotiated more widely than ever before and when publishers really showed their colours in the way they moderated their actions and, crucially, their language to describe and shape the open access world they would like to see. Undoubtedly, the arcane language that is all too common in publishing nowadays does not help, not least the colours that have unfortunately come to be associated with various types of open access.



DEFINTIONS USED TO UNDERMINE CREDIBILITY «FULLY OPEN ACCESS» «REPOSITORY BASED». DO NOT USE «GOLD» FOR «PAID» – THIS IS WHAT THEY WANT

This is not new, of course. In past years publishers used their words to shape public perceptions of open access to attempt to undermine its credibility — equating open access with low quality, non peer-reviewed work, and attempting to shore up the myth that only expensive commercial publishers could be trusted with the academic literature.

However, as open access to research publications continued to advance, supported by funder policies and buoyed up by innovation from small publishers within the open access sector, the larger commercial publishers have turned their attention towards ensuring that they shape the growing open access market to support their business models. Some of their action has been in buying up competitors and then folding them in or shutting them down. But this won't work for every competitor and this is where words and their meanings come in.

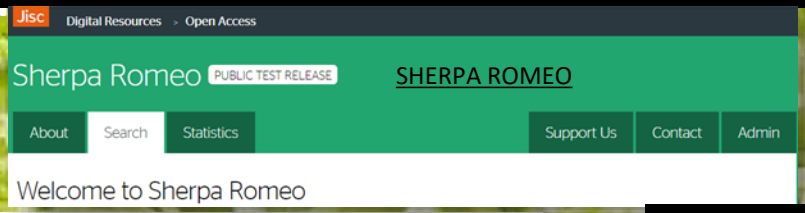
So what should we be looking out as we negotiate the word salad of publishing nowadays? First, some of the basics: use descriptive exact terms, not terms that only have meaning by association. For example:

say: "fully open access" (not "gold") when referring to a journal where all of the content is open access

say: "repository-based" (not "green") when referring to open access in an institution or other open repository

Depos

82% COMMERCIAL PUBLISHERS ALLOW (Elsevier, Wiley, Springer…), CHECK ON SHERPA ROMEO:



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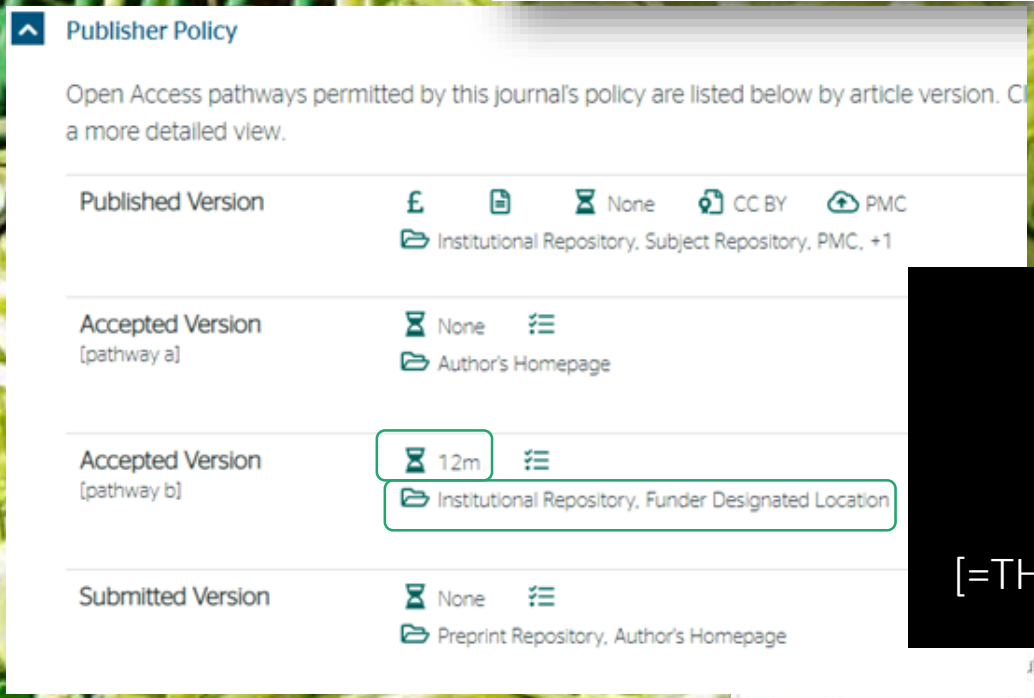
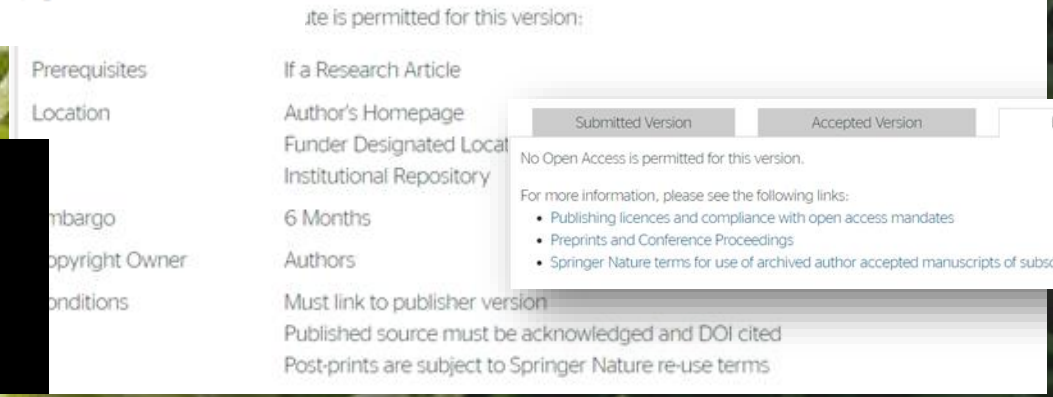


IF YOU FIND IT DIFFICULT, IT'S NOT OUR FAULT. CLAUSES ARE IMPOSED BY PUBLISHERS (TO WHOM YOU TRANSFERRED YOUR RIGHTS)

…CLAUSES:

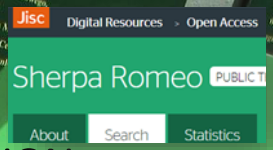
- RARELY «VERSION OF RECORD», MORE OFTEN **«AUTHORS' ACCEPTED MANUSCRIPT»**
- POSSIBLE **EMBARGO**

[=THE PAPER IS DEPOSITED BUT IT REMAINS IN CLOSED ACCESS FOR «X» MONTHS]



BEWARE: PUBLISHERS HAVE THEIR SAY ONLY IF YOU TRANFERRED ALL YOUR RIGHTS

Definitions



PREPRINT/SUBMITTED VERSION:
THE FILE YOU SUMBIT TO THE JOURNAL,
IT DOES NOT CONTAIN YET REVIEWERS' COMMENTS

AUTHOR'S ACCEPTED MANUSCRIPT:
FINAL REVISED VERSION, WITH REVIEWERS' COMMENTS BUT WITHOUT THE PUBLISHER LAYOUT

VERSION OF RECORD:
PUBLISHED VERSION,
WITH THE PUBLISHER LAYOUT

- EMBARGOES **START ON THE DAY OF ONLINE PUBLICATION** («AHEAD OF PRINT»)
- **EMBARGOES APPLY TO THE ALLOWED VERSION**

(I.E. 12 MONTHS ON THE POSTPRINT MEANS THAT AFTER 12 MONTHS THE **POSTPRINT** BECOMES VISIBLE, NOT THAT AFTER 12 MONTHS YOU CAN DEPOSIT THE FINAL PDF WITH THE PUBLISHERS' LAYOUT)

Arsenate toxicity on the apices of *Pisum sativum* L. seedling roots: Effects on mitotic activity, chromatin integrity and microtubules

Stefania Dho, Wanda Camusso, Marco Mucciarelli, Anna Fusconi

Abstract

Arsenic (As) is one of the most to
plant growth. Despite the growing
this element on meristem activity
study, short-term experiments wit
whether plant growth impairment
was studied by evaluating api
fragmentation and microtubule or
that arsenate, at the lowest co
parameters, whilst the other conc
mitotic and labelling index (after b
(through immunofluorescence). T
metaphases increased, as did the
mitotic spindles, which closely
ana/telophase bridges were virtua
onwards. These data point to a p
the main targets of As.

Keywords

Pea; Arsenic; Apical meristems; Aberrations; Immunofluorescence; TUNEL test

1. Introduction

Arsenic (As) is a toxic element, frequently found in soils and water. A main natural source of As is the erosion of mother rock, even though a consistent part of As environmental pollution comes from human activities (Meharg and Hartley-Whitaker, 2002 and Patra et al., 2004). The As in unpolluted fresh water is usually in the range 1–10 μg/l. According to EPA and WHO, the maximum permissible As concentration in drinking water is 50 μg/l (Mandal and Suzuki, 2002).

Arsenic is a well-established human carcinogen (Qin et al., 2008a) and has been shown to be genotoxic in a variety of *in vitro* studies (Hughes, 2002). In plants, it severely affects growth and development, and its toxicity is strongly dependent on the concentration, exposure time and physiological state of the plant (Singh et al., 2007). However, plants vary in their sensitivity to As, and a wide range of species have been identified in As-contaminated soils (Meharg and Hartley-Whitaker, 2002). Besides, hyperaccumulators such as *Pteris vittata*, which tolerate high internal As content, may also use this As to defence themselves against herbivore attack (Mathews et al., 2009).

Higher plants take up As mainly as arsenate (V), the dominant form of phytoavailable As in aerobic soils. According to Meharg and Hartley-Whitaker (2002), As competes with phosphate for plant phosphate transporters. Upon absorption, most arsenate is rapidly reduced to arsenite (III), due to an arsenate reductase activity (Xu et al., 2007), hence, the arsenate cytoplasmic concentration is generally not high enough to exert toxicity (Meharg and Hartley-Whitaker, 2002). Both As species interfere with various metabolic pathways: arsenate, as an analogous chemical to phosphate, may replace phosphate in the ATP and in various

Environmental and Experimental Botany 69 (2010) 17–23

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Arsenate toxicity on the apices of *Pisum sativum* L. seedling roots: Effects on mitotic activity, chromatin integrity and microtubules

Stefania Dho[a], Wanda Camusso[a], Marco Mucciarelli[b], Anna Fusconi[a,*]

[a] *Dipartimento di Biologia Vegetale, CEBIOVEM, Viale Mattioli 25, I-10125 Torino, Italy*
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ABSTRACT

Arsenic (As) is one of the most toxic pollutants in the environment, where it severely affects both animal and plant growth. Despite the growing literature data on As effects on plant development, alterations induced by this element on meristem activity of the root have not been explored to any great extent. In the present study, short-term experiments with arsenate have been conducted on *Pisum sativum* L. seedlings to assess whether plant growth impairment is due to DNA/chromosome or mitotic microtubule damages. Root growth was studied by evaluating apical meristem activity and cell elongation. Mitotic aberrations, DNA fragmentation and microtubule organization of the apical cells were also analyzed. The results have shown that arsenate, at the lowest concentration (0.25 μM), slightly increases root growth and some related parameters, whilst the other concentrations have a dose-dependent negative effect on root growth, on the mitotic and labelling index (after bromo-deoxyuridine administration), and on the mitotic arrays of microtubule (through immunofluorescence). The main effects on mitosis occurred for 25 μM As. The percentage of metaphases increased, as did the irregular metaphases and c-mitoses. This was related to alterations in the mitotic spindles, which closely resemble those induced by colchicine. Chromosome breaks and ana/telophase bridges were virtually absent, whilst DNA fragmentation only increased from 25 μM arsenate onwards. These data point to a poor clastogenetic activity of As and implicate that microtubules are one of the main targets of As.

1. Introduction

Arsenic (As) is a toxic element, frequently found in soils and water. A main natural source of As is the erosion of mother rock, even though a consistent part of As environmental pollution comes from human activities (Meharg and Hartley-Whitaker, 2002; Patra et al., 2004). The As in unpolluted fresh water is usually in the range 1–10 μg/l. According to EPA and WHO, the maximum permissible As concentration in drinking water is 50 μg/l (Mandal and Suzuki, 2002).

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Higher plants take up As mainly as arsenate (V), the dominant form of phytoavailable As in aerobic soils. According to Meharg and Hartley-Whitaker (2002), As competes with phosphate for plant phosphate transporters. Upon absorption, most arsenate is rapidly reduced to arsenite (III), due to an arsenate reductase activity (Xu et al., 2007), hence, the arsenate cytoplasmic concentration is generally not high enough to exert toxicity (Meharg and Hartley-Whitaker, 2002). Both As species interfere with various metabolic pathways: arsenate, as an analogous chemical to phosphate, may replace phosphate in the ATP and in various phosphorylation reactions, leading to the disruption of the energy flow in cells. The toxicity of arsenite is mainly ascribed to its reaction with sulphydril groups of proteins that interfere with their functions (Meharg and Hartley-Whitaker, 2002; Patra et al., 2004).

Exposure to high concentrations of As induces the production of reactive oxygen species (ROS) (Singh et al., 2007; Wang et al., 2007; Lin et al., 2008; Shri et al., 2009) and the conversion of arsenate to arsenite is regarded as one of the causes of ROS generation (Wang et al., 2007). Oxidative stress induced by As can damage cells, mainly through lipid peroxidation of membranes (Singh et al., 2007) and DNA fragmentation, as has been demonstrated in leaves and roots

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doi:10.1016/j.envexpbot.2010.02.010

Green road –self archiving

BENEFIT OF SELF ARCHIVING:

- ZERO COSTS, IMMEDIATELY FEASABLE
- YOU KEEP PUBLISHING ON THE JOURNALS EVALUATION CRITERIA ASK YOU TO
- BUT YOU «LIBERATE» YOUR PAPER BY DEPOSITING IT IN AN OPEN ARCHIVE

-THEY CAN CLOSE TOMORROW
- THEY CAN BE BOUGHT TOMORROW

…two of a kind

OFFICE OF SCHOLARLY COMMUNICATION
UNIVERSITY OF CALIFORNIA

HOME » FEATURES » A SOCIAL NETWORKING SITE IS NOT AN OPEN ACCESS REPOSITORY

A social networking site is not an open access repository

	Open access repositories	Academia.edu
Supports export or harvesting	Yes	No
Long-term preservation	Yes	No
Business model	Nonprofit (usually)	Commercial. Sells job posting

https://goo.gl/RnUszK

LC
Lenz Caemmerer

Attorneys
and Notaries

ResearchGate vs. publishers

ResearchGate vs. Publishers: The Saga Continues…

Last updated **May 8, 2018**

May 2018

NEWS

ResearchGate bows to pressure from publishers on copyrighted material

BY REBECCA TRAGER | 15 NOVEMBER 2017

Networking site has moved 1.7 million journal articles from five major publishers so they are no longer accessible to the public

Nov. 15, 2017

http://osc.universityofcalifornia.edu/2015/12/a-social-networking-site-is-not-an-open-access-repository/

Gold road
Publishing in Open Access

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Sistema Riviste Open Access

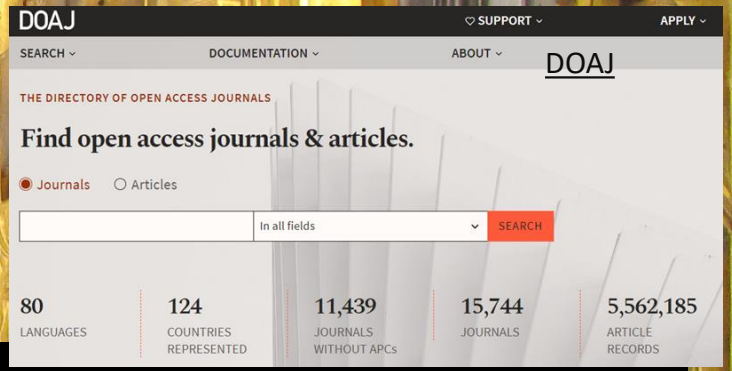
SIRIO@UniTO

OPEN ACCESS PUBLISHING @UNITO

Collane@unito.it

Collane@UniTO

Sfoglia documenti (131 in totale)



DOAJ

- YOU MIGHT HAVE TO CHANGE YOUR PUBLISHING VENUE
- MORE THAN 19.000 OPEN ACCESS JOURNALS LISTED IN DOAJ, DIRECTORY OF OPEN ACCESS JOURNALS [STRONG SELECTION CRITERIA]
- 32% ASK FOR APC - ARTICLE PROCESSING CHARGES, GOING FROM 250 A 2900 $ PER ARTICLE (IT'S THE SAME LOGIC OF THE STAMP…)
- EVEN TRADITIONAL COMMERCIAL PUBLISHERS ASK A FEE FOR FIGURES, MORE PAGES…

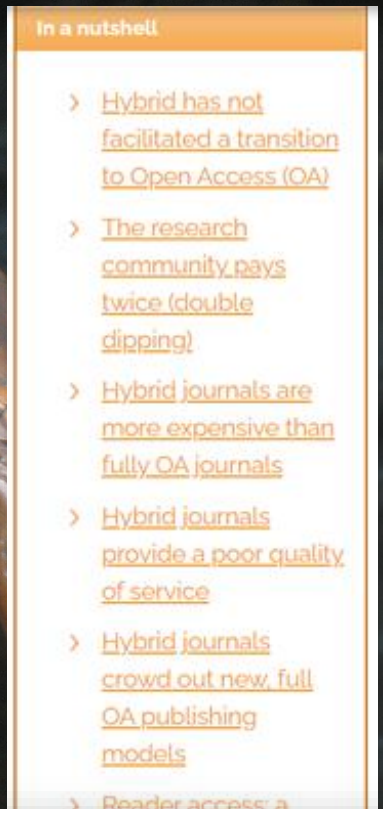
Pay attention!

SUBSCRIPTIONS

- PAID **EVERY YEAR**
- **EVERY INSTITUTION PAY FOR THE SAME CONTENT**
- **INCREASE** EVERY YEAR
- **CLOSE THE CONTENT** FOR THOSE WHO HAVE NO SUBSCRIPTION

APCs

- PAID **ONCE AND FOREVER**
- **PAID ONLY BY THE AUTHORS' INSTITUTION**
- **OPEN THE CONTENT** TO ALL

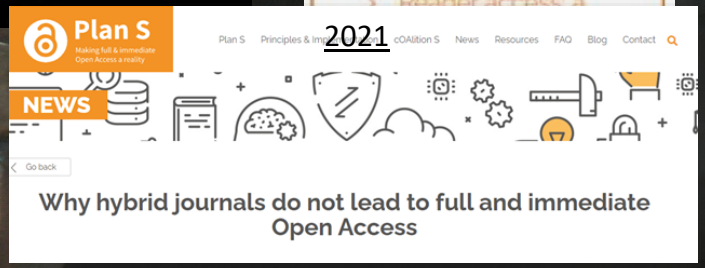


DON'T MIX

- NATIVE OPEN ACCESS PUBLISHERS [NO REVENUE BUT APCs]
- TRADITIONAL PUBLISHERS OFFERING AN «OPEN OPTION»

[MAIN REVENUE STREAM IS STILL SUBSCRIPTIONS, … SO DOUBLE DIPPING]

IMPORTANT IN HORIZON EUROPE AS **HYBRID IS NOT REIMBOURSED**



2021

Open Access / green, gold, diamond

YOU PUBLISH WHEREVER YOU WANT AND THEN DEPOSIT

YOU PUBLISH IN OPEN ACCESS

DEPOSIT

PUBLICATION

INSTITUTIONAL/ DISCIPLINARY REPOSITORIES

- **«LIBERATE» YOUR PAPER** PUBLISHED IN A SUBSCRIPTION JOURNAL
- YOU **KEEP PUBLISHING IN THE MOST PRESTIGIOUS JOURNALS** AND YOU ARE COMPLIANT WITH THE CURRENT ASSESSMENT CRITERIA

ALWAYS CHECK ON Sherpa Romeo

DOES NOT CHANGE THE CURRENT SYSTEM BASED ON JOURNALS BUT MAKES YOUR WORK OPEN TO ANYONE

FULL OPEN ACCESS JOURNALS [AVOID HYBRID]

COSTS:

- 32% ASK FOR APC
- **DIAMOND** (NOBODY PAYS)

- YOUR PAPER IS **IMMEDIATELY OPEN**
- **TEAR DOWN PAYWALLS**

- THERE MIGHT BE COSTS
- IT MIGHT NOT BE THE «MOST PRESTIGIOUS» JOURNAL

PUBLISHING PLATFORMS, PREPRINT SERVERS, OPEN NOTEBOOKS….

- THEY ARE **INNOVATIVE**
- THEY **CAN DISRUPT THE CURRENT DISFUNCTIONAL SYSTEM**

- THEY ARE STILL **NOT «RECOGNIZED»** IN RESEARCH EVALUATION/FOR CAREER
- YOU NEED TO BE «BRAVE» IF YOU WANT TO GO **EXCLUSIVELY** FOR THESE TOOLS
- … PREPRINTS IN AUSTRALIA: YOU DRIVE THE CHANGE!
- THE EU PROCESS TO REFORM RESEARCH EVALUATION IS GOING AT A SPEEDY PACE

Focus 3 – FAIR and EOSC

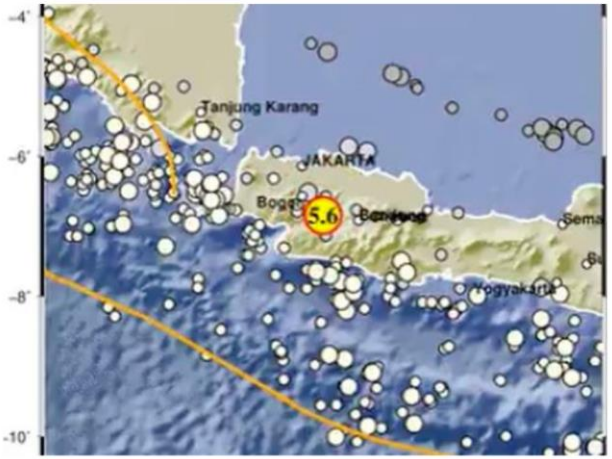
…the selfie…

How we can get those data

This was the best map that we can get (cited by the media)

Those data points are not really data points. They're just a selfie of data points.

They're not reusable.



IN «FAIR» THE STRESS IS ON «R»

BEWARE…
IF DATA ARE NOT REUSABLE THEY ARE JUST A SELFIE OF DATA
[USELESS]
[Dasapta Erwin Irawan]

… with FAIR data…

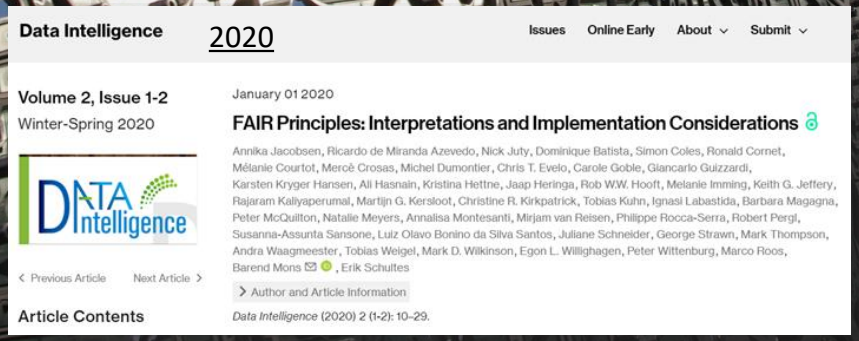
F METADATA, PERSISTENT IDENTIFIERS…

A TRUSTED REPOSITORIES, FORMATS

I ONTOLOGIES, STANDARDS

R LICENSES AND DOCUMENTATION

TO KNOW MORE


Data Intelligence 2020

Issues Online Early About Submit

Volume 2, Issue 1-2
Winter-Spring 2020

January 01 2020

FAIR Principles: Interpretations and Implementation Considerations

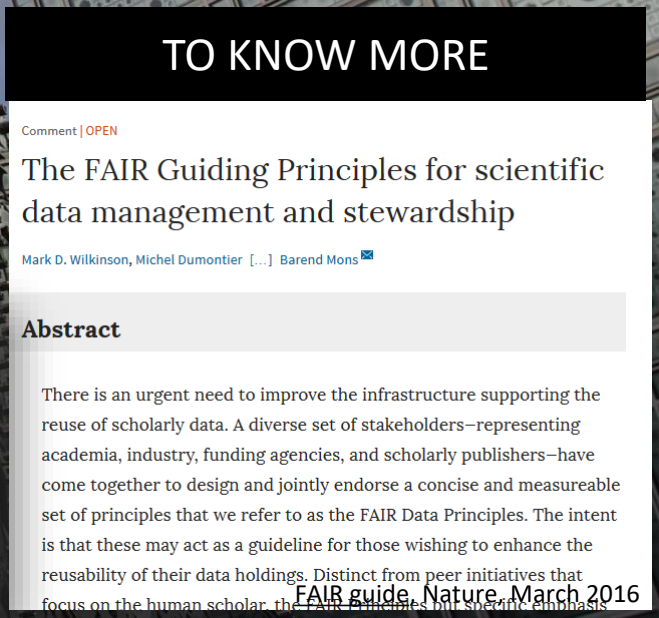
Annika Jacobsen, Ricardo de Miranda Azevedo, Nick Juty, Dominique Batista, Simon Coles, Ronald Cornet, Mélanie Courtot, Mercè Crosas, Michel Dumontier, Chris T. Evelo, Carole Goble, Giancarlo Guizzardi, Karsten Kryger Hansen, Ali Hasnain, Kristina Hettne, Jaap Heringa, Rob W.W. Hooft, Melanie Imming, Keith G. Jeffery, Rajaram Kaliyaperumal, Martijn G. Kersloot, Christine R. Kirkpatrick, Tobias Kuhn, Ignasi Labastida, Barbara Magagna, Peter McQuilton, Natalie Meyers, Annalisa Montesanti, Mirjam van Reisen, Philippe Rocca-Serra, Robert Pergl, Susanna-Assunta Sansone, Luiz Olavo Bonino da Silva Santos, Juliane Schneider, George Strawn, Mark Thompson, Andra Waagmeester, Tobias Weigel, Mark D. Wilkinson, Egon L. Willighagen, Peter Wittenburg, Marco Roos, Barend Mons, Erik Schultes

Previous Article Next Article

Author and Article Information

Article Contents

Data Intelligence (2020) 2 (1-2): 10–29.


Comment | OPEN

The FAIR Guiding Principles for scientific data management and stewardship

Mark D. Wilkinson, Michel Dumontier […] Barend Mons

Abstract

There is an urgent need to improve the infrastructure supporting the reuse of scholarly data. A diverse set of stakeholders—representing academia, industry, funding agencies, and scholarly publishers—have come together to design and jointly endorse a concise and measureable set of principles that we refer to as the FAIR Data Principles. The intent is that these may act as a guideline for those wishing to enhance the reusability of their data holdings. Distinct from peer initiatives that focus on the human scholar, the FAIR Principles put specific emphasis

FAIR guide, Nature, March 2016

FAIR principles

FAIR traning

To be Findable:

F1. (meta)data are assigned a globally unique and eternally persistent identif

F2. data are described with rich metadata.

F3. (meta)data are registered or indexed in a searchable resource.

F4. metadata specify the data identifier.

TO BE ACCESSIBLE:

A1 (meta)data are retrievable by their identifier using a standardized communications protocol.

A1.1 the protocol is open, free, and universally implementable.

A1.2 the protocol allows for an authentication and authorization procedure, where necessary.

A2 metadata are accessible, even when the data are no longer available.

TO BE INTEROPERABLE:

I1. (meta)data use a formal, accessible, shared, and broadly applicable language for kr

I2. (meta)data use vocabularies that follow FAIR principles.

I3. (meta)data include qualified references to other (meta)data.

TO BE RE-USABLE:

R1. meta(data) have a plurality of accurate and relevant attributes.

R1.1. (meta)data are released with a clear and accessible data usage license.

R1.2. (meta)data are associated with their provenance.

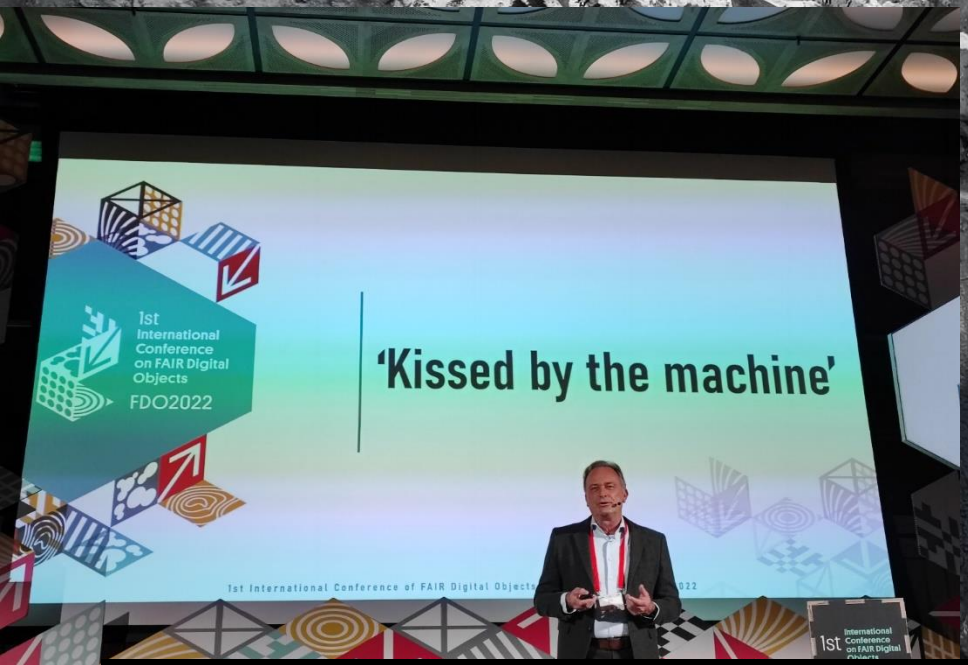
R1.3. (meta)data meet domain-relevant community standards.

Force 11

«ACCESSIBLE» DOES NOT MEAN «OPEN».

DATA CAN BE CLOSED, PROVIDED YOU – AND MACHINES - KNOW WHERE TO FIND THEM AND UNDER WHICH ACCESS CONDITIONS

Kissed or missed?



FAIR PRINCIPLES ARE
«MACHINE ACTIONABLE»
(MORE THAN READABLE)
FAIR = FULLY AI READY
IF NOT… YOU'LL BE MISSED (INSTEAD OF KISSED) BY THE MACHINE

RDA

Decision making procedures in data management and data stewardship for Open Science

Connie Clare, PhD

RDA

Data-centric AI

Automated decision making using data.

Data is fundamental for training and deploying AI models.

Data management and/or curation is a crucial step to feed into AI model.

'Machine learning models are only as good as the data they're trained on' - https://fairmlbook.org/datasets.html (Chapter 8)

Clearbox AI

Clearbox

We are on a mission to harness powerful AI technologies t improve businesses and society in a trustworthy and human-centered way.

s flexible product / Rea

clearbox AI

Your

Synthetic Data

provider

RDA

Data stewardship challenges & AI ethics

Black box AI - Model inputs and operations remain a mystery. Unknown input data provenance and quality. Automated data retrieval lead to inconsistent results.

AI bias due to generalisation (insufficient representative input data), or unsuitable data collection, processing (cleaning), quality, mislabelling and model design. Synthetic (output) data generated inherits and propagates bias affecting scientific validity.

Data misuse - Using data as input for an AI model that causes harm.

Lack of standards, tools and mechanisms to evaluate data quality ar whether datasets are fit for purpose.

ARTIFICIAL INTELLIGENCE

- WORKS IF DATA ARE GOOD
- THERE ARE ETHICAL ISSUES

FAIR research software

16 Mar 2022

FAIR Principles for Research Software (FAIR4RS Principles)

By Neil Chue Hong

2022

FAIR for Research Software (FAIR4RS) WG

Group co-chairs: Michelle Barker, Paula Andrea Martinez, Leyla Garcia, Daniel S. Katz, Neil Chue Hong, Jennifer Harrow, Fotis Psomopoulos, Carlos Martinez-Ortiz, Morane Gruenpeter

The FAIR4RS Principles are:

F: Software, and its associated metadata, is easy for both humans and machines to find.
F1. Software is assigned a globally unique and persistent identifier. • F1.1. Components of the software representing levels of granularity are assigned distinct identifiers. • F1.2. Different versions of the software are assigned distinct identifiers. F2. Software is described with rich metadata. F3. Metadata clearly and explicitly include the identifier of the software they describe. F4. Metadata are FAIR, searchable and indexable.
A: Software, and its metadata, is retrievable via standardized protocols.
A1. Software is retrievable by its identifier using a standardized communications protocol. • A1.1. The protocol is open, free, and universally implementable. • A1.2. The protocol allows for an authentication and authorization procedure, where necessary. A2. Metadata are accessible, even when the software is no longer available.
I: Software interoperates with other software by exchanging data and/or metadata, and/or through interaction via application programming interfaces (APIs), described through standards.
I1. Software reads, writes and exchanges data in a way that meets domain-relevant community standards. I2. Software includes qualified references to other objects.
R: Software is both usable (can be executed) and reusable (can be understood, modified, built upon, or incorporated into other software).
R1. Software is described with a plurality of accurate and relevant attributes. • R1.1. Software is given a clear and accessible license. • R1.2. Software is associated with detailed provenance. R2. Software includes qualified references to other software. R3. Software meets domain-relevant community standards.

Table 1: The FAIR Principles for Research Software

FAIR RESEARCH SOFTWARE

Data

ALLEA 2020

> *We could then define data in the humanities broadly as all materials and assets scholars collect, generate and use during all stages of the research cycle. In this report we focus on digital assets.*

2022

PLOS ONE

Browse Topics

OPEN ACCESS PEER-REVIEWED

RESEARCH ARTICLE

Seeing oneself as a data reuser: How subjectification activates the drivers of data reuse in science

Marcel LaFlamme, Marion Poetz, Daniel Spichtinger

Published: August 18, 2022 • https://doi.org/10.1371/journal.pone.0272153

DATA=ALL MATERIALS AND ASSETS COLLECTED, GENERATED AND USED DURING THE RESEARCH CYCLE

THINK OF ALL YOUR RESEARCH ASSETS AS RESEARCH DATA THAT COULD POTENTIALLY BE REUSED

RECOMMENDATIONS

» Think of all your research assets as research data that could be potentially reused by other scholars. Consider how useful it would be for your own work if others shared their data.

[the 3 steps]

1. DATA SHOULD BE AS OPEN AS POSSIBLE

2. BUT IF DATA ARE NOT «FAIR», OPENING IS RISKY (MISUSE, MISINTERPRETATION, …)

3. IF DATA ARE NOT PROPERLY MANAGED FROM THE BEGINNING, IT'S ALMOST IMPOSSIBLE TO MAKE THEM «FAIR» [WITH EOSC MANAGED/FAIR INCREASINGLY OVERLAPPING, «FAIR BY DESIGN»]

AND MANAGING DATA PROPERLY IS IN THE PRIMARY INTEREST OF ANY RESEARCHER, AS THE WHOLE RESEARCH PROCESS RESULTS STREAMLINED AND MORE EFFECTIVE

1) Data management

DESCRIPTION FOR DISCOVERABILITY (metadata)

ORGANIZATION (file naming, folders, versioning…)

BACKUP AND STORAGE

LONG TIME PRESERVATION

LEGAL ASPECTS

ALONG THE ENTIRE LIFE CYCLE

2) Make them FAIR

FINDABLE

ACCESSIBLE [≠OPEN]

INTEROPERABLE

REUSABLE

Metadata standards catalog

Metadata Standards Catalog

Search Sign in

tandards Catalog is a collaborative, open directory of metadata standards
:h data. It is offered to the international academic community to help address
nges.

DataCite
FIND, ACCESS, AND REUSE DATA

ORCID
Connecting Resea
and Researchers

ROR

re3data.org
REGISTRY OF RESEARCH DATA REPOSITORIES

https://www.re3data.org/

What are data journals?

Data journals are scholarly journals that publish datasets or data papers. According to Geoscience Data Journal, "a **data paper describes a dataset**, giving details of its collection, processing, software, file formats etc, without the requirement of novel analyses or ground breaking conclusions. It allows the reader to understand the when, how and why data was

Data journals

If your data are stored in other formats than those mentioned below, please contact DANS.

DANS formats

Type	Preferred format(s)	Non-preferred format(s)
Text documents	• PDF/A (.pdf) • ODT (.odt)	• Microsoft Word (.doc) • Office Open XML • Rich Text File (• PDF other than

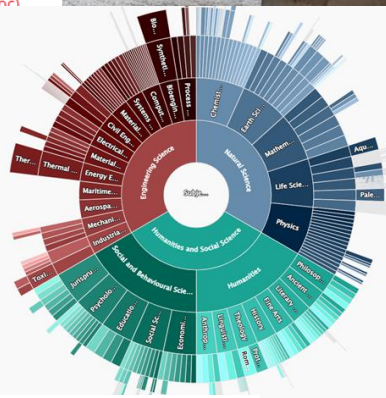
FAIRsharing.org
standards, databases, policies

STANDARDS DATABASES POLICIES COLLECTIONS ADD CONTENT STATS

https://fairsharing.org/

A curated, informative and educational resource on data and metadata standard
inter-related to databases and data policies.

We guide consumers to discover, select and use these resources with confidence, and producers to make thei
resource more discoverable, more widely adopted and cited



OpenAIRE

SERVICES SUPPO

Guides for Researchers

How do I know if my research data is protected?

Learn more a
intellectual pr

MIT Press Direct 2020

Data Intelligence

Volume 2, Issue 1-2
Winter-Spring 2020

January 01 2020

Licensing FAIR Data for Reuse

Ignasi Labastida, Thomas Margoni

CC Factsheet

creative commons

FACT SHEET ON
CREATIVE COMMONS & OPEN SCIENCE

This information guide contains questions and responses to common concerns surrounding open science and the implications of licensing data under Creative Commons licences. It is intended to aid researchers, teachers, librarians, administrators and many others using and encountering Creative Commons licences in their work.

Project-level documentation

The project-level documentat
researcl
instrum
that you

Data-level documentation

Data-level or object-level
umentation provides information
he level of individual objects such

cessda

Data Management Expert Guide

3) Whenever possible, m Open

YOU SAVE LIVES.

Digital Science Report

The State of Open Data 2021

The longest-running longitudinal survey and analysis on open data

Foreword by Natasha Simons, Australian Research Data Commons (ARDC)

November 2021

Nov. 29, 2021

Open data saves lives. The global pandemic has highlighted beyond anything that came before it the importance of data sharing in solving the big challenges of our time. COVID-19 data may be the most visualized data in history and it was made publicly available on a daily basis to people all over the world. The urgent need to better understand and treat the virus in 2020 brought unprecedented collective and collaborative action from all research stakeholders on an international scale to bring down barriers to research and speed up analysis and testing. These efforts, combined with support from governments and industry, resulted in not one but many vaccines made available by the end of the year. This gives us a glimpse of what incredible research outcomes are possible when we start with collaboration to address a common threat. Imagine how much more we could do, how many more lives we could save, if research data was routinely made open and shared. So, why isn't data sharing the norm? The answers lie in the harmony needed between policies, infrastructure, and practices.

Sharing Data

Why share data

2. Why share data?

PORT postgraduate online research training | SCHOOL OF ADVANCED STUDY UNIVERSITY OF LONDON

Better research

- Demonstrates research integrity, as there is transparency and accountability in the production of the d
- Encourages research enquiry and debat
- Promotes innovation and potential new
- Encourages the improvement of researc
- Prevents research fraud

BETTER RESEARCH
- INTEGRITY
- DEBATE
- REUSE

Better impact

- Enables peer scrutiny of the research findings, validating the work carried out
- Increases the visibility of the research
- Provides credit for the creation of the da
- Can lead to new collaborations
- Produces a public record of the research

BETTER IMPACT
- VISIBILITY
- CREDIT
- COLLABORATIONS

Better value

- Avoids duplication of effort in data creation
- Provides resources for use in teaching and learning
- Meets funder requirements
- Ensures data can be re-visited for future
- Maximises return on research investmen
- Preparing data for sharing also prepares

BETTER VALUE
- AVOID DUPLICATIONS
- MAX RETURN ON INVESTMENTS

FAIR/Open

"Open data is like a renewable energy source: it can be reused without diminishing its original value, and reuse creates new value."

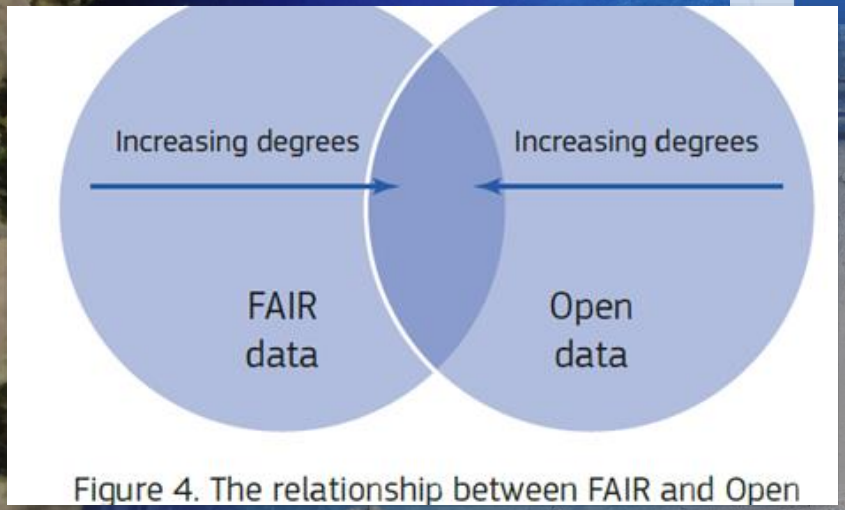
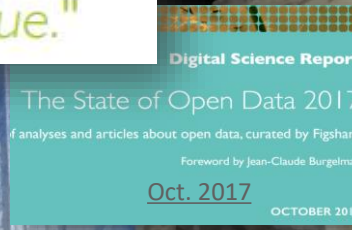


Figure 4. The relationship between FAIR and Open



THERE WILL BE AN INCREASING DEGREE IN OVERLAPPING.
BUT WE'LL ALWAYS HAVE PERFECTLY FAIR CLOSED DATA

To measure your FAIRness

FAIRassist.org https://fairassist.org/#!/

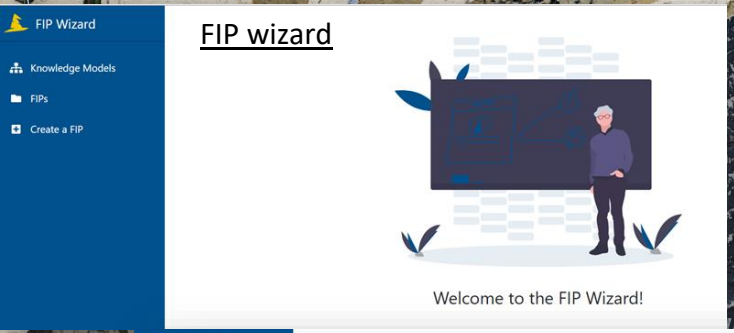
Help you discover resources to measure and improve FAIRness.

FAIRassist is the new, under development, educational component of the well established FAIRsharing resource.

Resource	Execution Type	Key Features	Organisation	Target Objects	Reading Material
5 Star Data Rating Tool	Manual - questionnaire	Based on rating systems and maturity models	CSIRO OzNome	Datasets	
AutoFAIR	Semi-automated	A portal for automating FAIR assessments for bioinfo	Department of Computer		
Data Stewardship Wizard	Predictive; based on a manually filled questionnaire	Helps researchers to design a data stewardship proc highest reasonable FAIR data.			
F-UJI	Automated	The REST API support a programmatic assessment o objects based on a set of core metrics developed by t metrics specification is available at https://doi.org/10			
FAIR Data Self-Assessment Tool	Manual - questionnaire	Educational and informational purposes			
FAIR Evaluator	Automated	1. Core universal maturity indicators 2. Compliance tests 3. Evaluation tool			
FAIR enough	Automated	1. Core universal maturity indicators and community compliance tests 2. Stable and fast evaluations execution (less than 1min for most evaluated resources, no commercial license required) 3. Library for defining, publishing and registering new maturity indicators 4. Supports ORCID authentication for creating collections and authoring evaluations			Maastricht Uni
FAIR-Aware	Manual - questionnaire	1. Online self-assessment that helps to assess current level of awareness on making datasets FAIR before depositing them in a data repository. 2. Added guidance texts explain the what, why, and how of each FAIR practice. 3. Trainer functionality allows flexible use of the tool for your own purpose			FAIRsFAIR (D
FAIR-Checker	Automated	FAIR-Checker is a web interface to evaluate FAIR metrics (as implemented through the FAIR Evaluation Service APIs https://fairsharing.github.io/FAIR-Evaluator-FrontEnd) and to provide developers with technical FAIRification hints. It's also a Python framework aimed at easing the implementation of FAIR metrics.			IFB (ELIXIR-
FAIRdat	Manual - questionnaire	A 5-star rating of the FAIR principles			DANS
FAIRness self-assessment grids	Manual - checklist	1. Assessment grids: quick and extensive 2. Designed as a decision tree 3. Researcher focused			RDA-SHARC
FAIRshake	Manual - questionnaire,	1. FAIR metrics (questions) and rubrics (collection of metrics)			NIH Data Com

FAIR Implementation profiles

FIP wizard



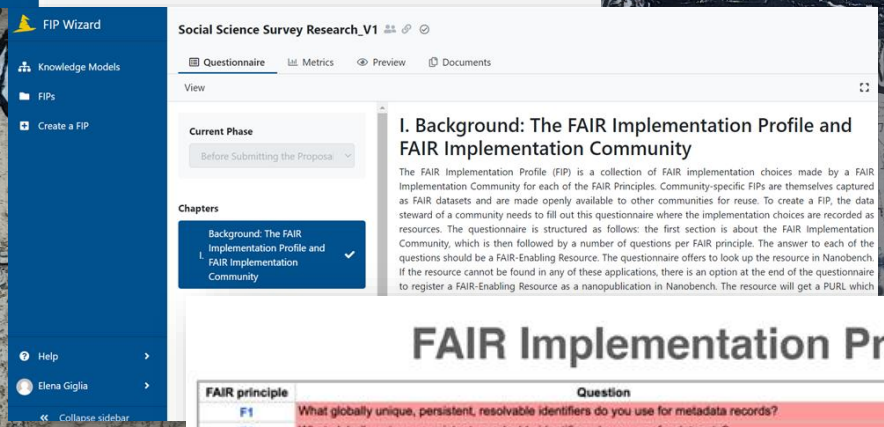
2020

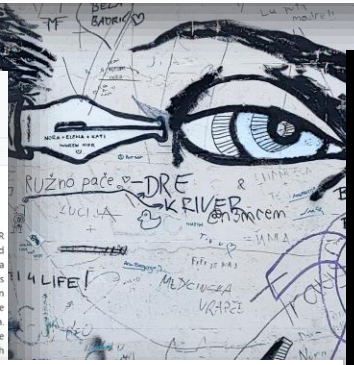
International Conference on Conceptual Modeling
ER 2020: Advances in Conceptual Modeling pp 138-147 | Cite as

Reusable FAIR Implementation Profiles as Accelerators of FAIR Convergence

Authors | Authors and affiliations

Erik Schultes, Barbara Magagna, Kristina Maria Hettne, Robert Pergl, Marek Suchánek, Tobias Kuhn





CREATE FAIR IMPLEMENTATION PROFILES REUSBALE BY YOUR COMMUNITY - KEYWORD: CONVERGENCE

FAIR Implementation Profile

FAIR principle	Question	FAIR enabling resource types
F1	What globally unique, persistent, resolvable identifiers do you use for metadata records?	Identifier type
F1	What globally unique, persistent, resolvable identifiers do you use for datasets?	Identifier type
F2	Which metadata schemas do you use for findability?	Metadata schema
F3	What is the technology that links the persistent identifiers of your data to the metadata description?	Metadata-Data linking mechanism
F4	In which search engines are your metadata records indexed?	Search engines
F4	In which search engines are your datasets indexed?	Search engines
A1.1	Which standardized communication protocol do you use for metadata records?	Communication protocol
A1.1	Which standardized communication protocol do you use for datasets?	Communication protocol
A1.2	Which authentication & authorisation technique do you use for metadata records?	Authentication & authorisation technique
A1.2	Which authentication & authorisation technique do you use for datasets?	Authentication & authorisation technique
A2	Which metadata longevity plan do you use?	Metadata longevity
I1	Which knowledge representation languages (allowing machine interoperation) do you use for metadata records?	Knowledge representation language
I1	Which knowledge representation languages (allowing machine interoperation) do you use for datasets?	Knowledge representation language
I2	Which structured vocabularies do you use to annotate your metadata records?	Structured vocabularies
I2	Which structured vocabularies do you use to encode your datasets?	Structured vocabularies
I3	Which models, schema(s) do you use for your metadata records?	Metadata schema
I3	Which models, schema(s) do you use for your datasets?	Data schema
R1.1	Which usage license do you use for your metadata records?	Data usage license
R1.1	Which usage license do you use for your datasets?	Data usage license
R1.2	Which metadata schemas do you use for describing the provenance of your metadata records?	Provenance model
R1.2	Which metadata schemas do you use for describing the provenance of your datasets?	Provenance model

Support / How to be FAIR

zenodo

Search

Upload Communities

January 11, 2022 2022

Book Open Access

D7.4 How to be FAIR with your data. A teaching and training handbook for higher education institutions

Engelhardt, Claudia; Biernacka, Katarzyna; Coffey, Aoife; Cornet, Ronald; Danciu, Alina;

Demche

Germer, Ke

Jetten, Mij

Viviana;

Petrus, Ana

Saenen, Br

den Eynde

Wuttke,

5 – FAIR lesson plans

6 – Implementing FAIR

6.1 Introduction

6.2 Getting to FAIR institutional policies

6.3 Data management planning

6.4 Data processing and documentation

FAIR cookbook

FAIR Cookbook

FAIR Cookbook

Search this book...

FAIR Cookbook

FOREWORD

Introduction

Ethical values of FAIR

Glossary

RECIPES

Findability

Accessibility

Interoperability

Reusability

FAIR Cookbook

Created by researchers and data managers professionals, the FAIR Cookbook is an online resource for the Life Sciences with recipes that help you to make and keep data Findable, Accessible, Interoperable and Reusable (FAIR).

Turning FAIR into practice

The FAIR Principles put specific emphasis on enhancing the ability of machines to automatically find and use the data, in addition to supporting its reuse by individuals. However, the FAIR Principles are aspirational and generic. The FAIR Cookbook guides researchers and data stewards of the Life Science domain in their FAIRification journey; and also provides policy makers and trainers with practical examples to recommend in their guidance and use in their educational material.

Learning objectives

How to FAIR

HOW TO FAIR

What is FAIR Why FAIR How to FAIR About Quiz

A deep dive into FAIR data

This website will take you on a deep dive into the subject matter of FAIR research data. Over the course of

https://fairconnect.pro/

HOME PUBLISH CHANNELS DISCUSSIONS

FAIR Connect

Empowering Data Stewardship

FAIR Connect is an Open Access publishing platform for the development and dissemination of good practices for professional FAIR-Data stewardship.

JOIN OUR COMMUNITY

HOW TO FAIR

What is FAIR Why FAIR How to FAIR About Quiz

18 min read Documentation

12 min read File formats

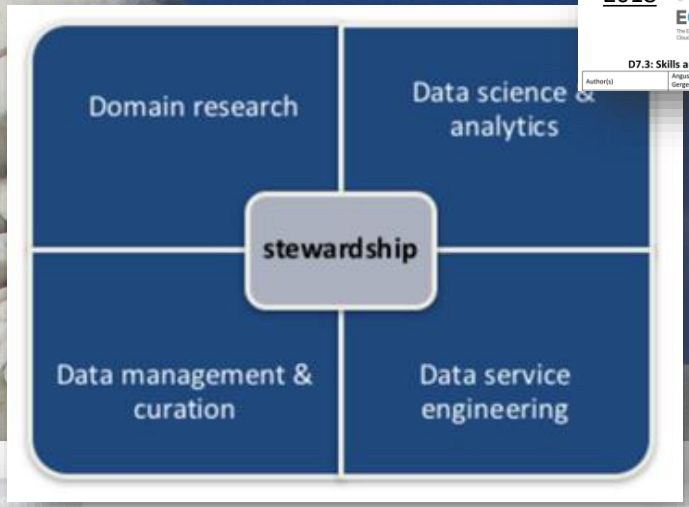
20 min read Metadata

10 min read Access to data

7 min read Persistent identifiers

5 min read Data licences

…and we need data



2018

EOSCpilot

D7.3: Skills and Capability Framework

Author(s): Angus Whyte, Jerry de Vries, Rahul Thorat, Eileen Kuehn, Gergely Sipos, Valentino Cavalli, Vasso Kalaitzi, Kevin Ashley

KØBENHAVNS UNIVERSITET

Competence Profile

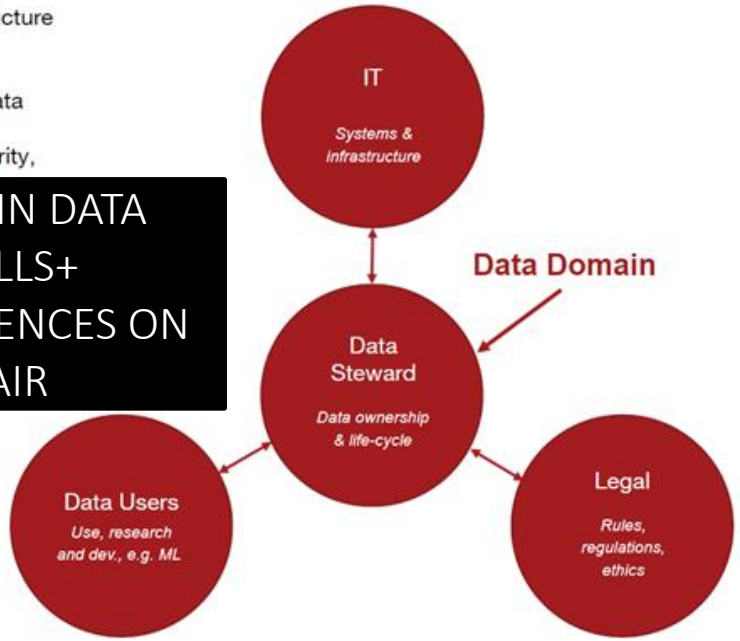
A data steward is a data specialist with strong domain-specific knowledge who understands and appreciates the relevance of data, data sources, data infrastructure and constraints within a scientific or other application domain.

The future Data Steward must assume ownership and responsibility for data, data quality, and the data life-cycle as their primary function. They should ensure collaboration and coherence between IT competences, quality assurance, security, rules & regulations, and facilitate the application and use of [illegible] externally in the organisation.

Competence profile examples

- Domain-specific data understanding
- Ability to ensure that structured and unstructured data data is modelled, harvested, stored, and maintained in documented, and regulated fashion with focus and findability, accessibility, interoperability, and reusability.
- Competences to facilitate HPC (High Performance Computing) during development and research through handling of large-scale data in public and private enterprises.
- Understanding of and competences within legal, ethical and security aspects of data handling, data sharing, e.g., integrity and GDPR.

DOMAIN DATA SKILLS+ COMPETENCES ON FAIR



Copenhagen Univ. June 17 2020

What is data stewardship?

Data stewardship is the responsible planning and executing of all actions on digital data before, during and after a research project, with the aim of optimising the usability, reusability and reproducibility of the resulting data.

It differs from data management, in the sense that data management concerns all actual, operational data-related activities in any phase of the data lifecycle, while data stewardship refers to the assignment of responsibilities in, and planning of, data management.

DATA STEWARDSHIP IS THE RESPONSIBLE PLANNING AND EXECUTING OF ALL ACTIONS ON DIGITAL DATA BEFORE, DURING AND AFTER A RESEARCH PROJECT, WITH THE AIM OF OPTIMISING THE USABILITY, REUSABILITY AND REPRODUCIBILITY OF THE RESULTING DTAA

Data ste

Data Stewardship: Addressing Disciplinary Data Management Needs 2018

Marta Teperek
Research Data Services
TU Delft Library

Maria J. Cruz
4TU.Centre for Research Data
TU Delft Library

- **Analyse data management needs** – through undertaking a mixture of semi-structured qualitative interviews and quantitative surveys;
- **Provide advice and consultancy** – meet with researchers, discuss their data management practices, make suggestions for possible improvements and become the trusted person for any questions about data management;
- **Liaise with key faculty stakeholders** – ensure that the various faculty service providers (such as contracts managers or faculty information coordinators) are aware of good data stewardship and that requirements of good data stewardship are aligned with their workflows (for example, budgeting for data management in grant applications);
- **Train and inspire** – advocate for good data management, deliver information sessions, analyse training needs, develop and deliver workshops to ensure that researchers have the skills necessary for responsible data stewardship;
- **Help comply with funders' and journals' policies** – assist researchers with drafting their data management plans, preparing their research data for deposit and advise them on changes to data policies;
- **Develop faculty research data policies** – organise and facilitate policy consultations across the faculty, help faculty define roles and responsibilities of the different faculty-level stakeholders, and drive policy implementation, evaluation and revision;
- **Prepare the faculty for the future** – keep the faculty up to date with new developments and policy changes related to data stewardship, and keep abreast of new developments in the faculty's research area to ensure that researchers have the right skills to manage their data, despite of evolving research methodologies;
- **Liaise with the Data Stewardship Coordinator and other stewards** – liaise with other members of the Data Stewardship programme to exchange practice and to discuss relevant issues;
- **Deliver regular reports** – regularly evaluate, monitor and report on data management practices within the faculty.

You need skilled people

Skills 4 eosc

ABOUT KERS NEWS

https://www.skills4eosc.eu/

- Skills for the European
- Open Science
- Commons

SKILLS4EOSC PROJECT
CURRICULA FOR DATA STEWARDS AND COMPETENCE CENTER COORDINATON

Objectives of the project are:

1. **Map career profiles related to Open Science** and define, through co-creation the "**Minimum Viable Skillset**" (MVS) for each of them; create a shared framework for the recognition of competencies acquired by university students, trainers and new professionals as a part of an academic path or a lifelong learning process.
2. **Define a methodology and a Quality Assurance process** to ensure the quality and relevance of OS learning materials and the management of their life-cycle, thus enhancing their re-usability.
3. **Offer training on OS and the usage of data in evidence-based policy for civil servants** and policymakers and empower CCs, researchers and "honest brokers" through the offering of resources to carry out training for this target.
4. **Define "OS and data-intensive science essentials"** for inclusion in generic undergraduate, postgraduate and PhD curricula as a key skill that anyone doing research is expected to acquire.
5. Design and implement **a collaboration model between national and regional CCs and international Research Infrastructures** and communities to provide specialised OS competencies targeting the needs of researchers and thematic RI professionals.
6. **Support lifelong learning** through professional networks as an enabling environment to discuss, cocreate and exchange best practices and solutions among OS professionals and researchers.
7. **Coordinate national, regional and thematic Competence Centres on OS and EOSC** in Europe and leverage their expertise to create a widespread user support network and an environment that fosters and harmonises training and skills activities.
8. Create and implement a strategy for engaging with **relevant stakeholders to co-create and promote the project outputs** (Curricula, shared certification and QA frameworks, human networks), building partnerships to embed project activities and results among the broadest network of stakeholders.
9. **Establish synergies with key actors within the Member States and in the EOSC arena**, and with human capital and training programmes at the national, regional and European levels to maximise the impact of the project activities and results and pave the way for their long-term sustainability.

[BTW, time to rethink…]

nature

Explore content · About the journal · Publish with us · Subscribe

nature › career column › article

CAREER COLUMN | 14 April 2022

Time to re-think the divide between academic and support staff

Apr. 2022

Research professionals should not be split into two categories, say Marta Teperek, Maria Cruz and Danny Kingsley.

In recent years, we have seen 'support' jobs become more important at research organizations, including roles such as data stewards, research software engineers, scientific community managers and programme managers. We have seen how a diversity of roles and contributions drives progress and success in research and innovation.

We have come to see the sharp distinction between 'academics' and 'support staff' as a barrier to effective research because it discourages a culture of collaboration and appreciation of a diversity of roles and contributions.

drives rift between academic and non-academic staff

As professionals, we make a significant contribution alongside conventional academics. Like many of our colleagues in 'support' roles, we are well connected with the academic community. We work in partnership with researchers, contributing unique expertise and skills. We have academic credentials. We write papers, books, grant proposals, reports and manuals. We train students and academic staff; manage projects; organize and present at conferences and workshops; and lead developments in our areas of expertise. We are knowledge brokers, able to translate generic infrastructure, tools and policies into practical solutions that make research more efficient.

- DIVERSITY OF CONTRIBUTIONS IS A SUCCESS FACTOR
- CULTURE OF COLLABORATION

[AS NOW WE HAVE THE EOSC!]

The Vienna Declaration on the European Open Science Cloud

Vienna, 23 November 2018

e u 2 0 1 8 . a t

Vienna, Nov.23, 2018

We, Ministers, delegates and other participants attending the launch event of the European Open Science Cloud (EOSC):

1. Recall the challenges of data driven research in pursuing excellent science as stated in the "EOSC Declaration" signed in Brussels on 10 July 2017.

2. Reaffirm the potential of the European Open Science Cloud to transform the research landscape in Europe. Confirm that the vision of the European Open Science Cloud is that of a research data commons, inclusive of all disciplines and Member States, sustainable in the long-term.

3. Recognise that the implementation of the European Open Science Cloud is a process, not a project, by its nature iterative and based on constant learning and mutual alignment. Highlight the need for continuous dialogue to build trust and consensus among scientists, researchers, funders, users and service providers.

4. Highlight that Europe is well placed to take a global leadership position in the development and application of cloud services for Science. Rea and open to the world, reaching out over time to

5. Recall that the Council roadmap and the federated

SEAMLESS ACCESS
TO OPEN BY DEFAULT FAIR DATA

9. Call for the European Open Science Cloud to provide all researchers in Europe with seamless access to an open-by-default, efficient and cross-disciplinary environment for storing, accessing, reusing and processing research data supported by FAIR data principles.

Science Cloud a reality, hinting at the need to further strengthen the ongoing dialogue across institutions and with stake-holders, for a new governance framework to be launched in Vienna, on 23 November 2018.

What is EOSC?

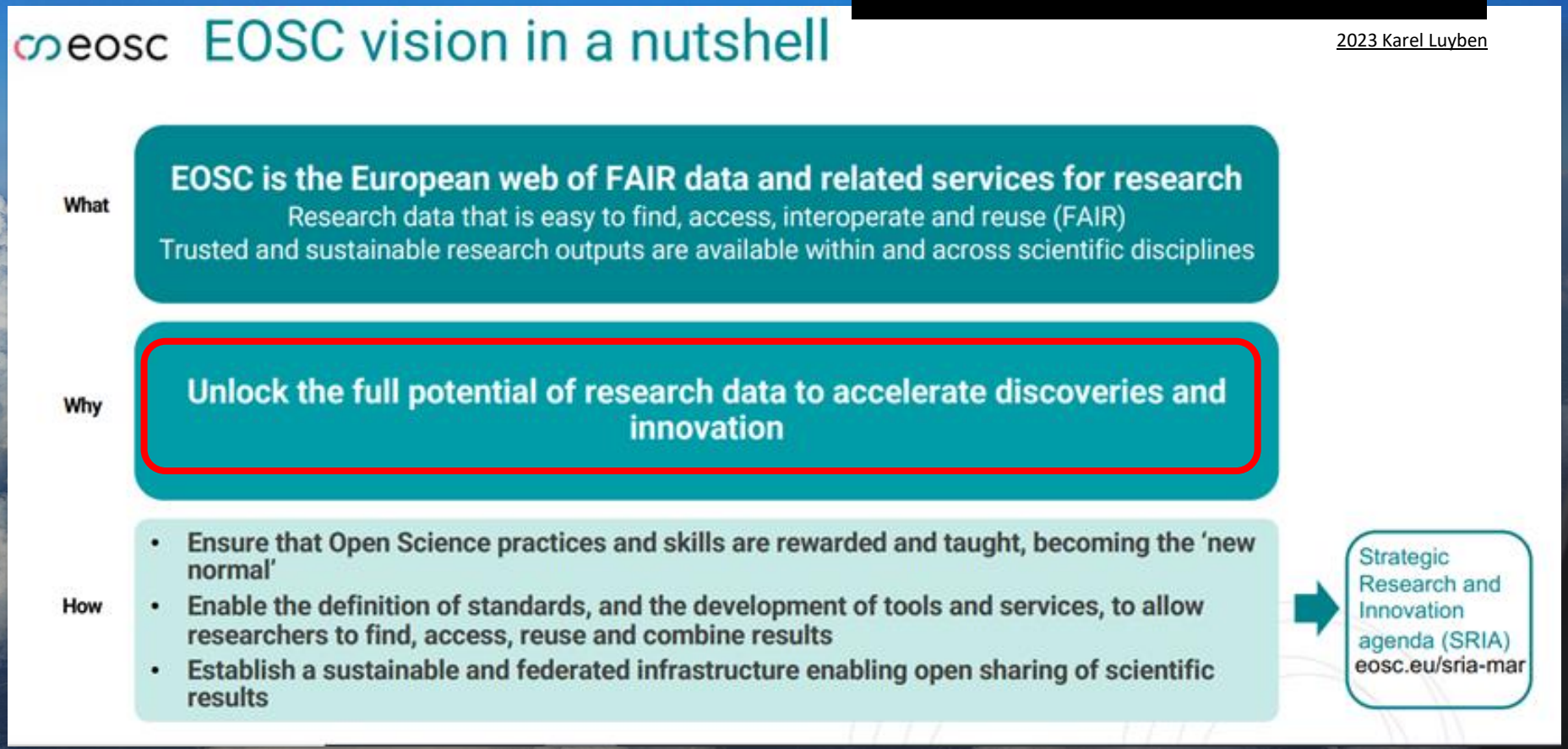
OSC

"A web of scientific insight"

- Web of FAIR Data and related Services
- Federation of relevant existing and future data sources
- Virtual space where science producers and consumers come togethe
- An open-ended range of content and services
- Based on the FAIR principles
- Meeting all European data requirements
- In interaction with other regions of the world

What is EOSC?

EU WEB OF
FAIR DATA AND SERVICES
TO UNLOCK THE FULL POTENTIAL
OF RESEARCH DATA



What EOSC is NOT

2023 Karel Luyben

EOSC is not …

1. …a cloud infrastructure
Despite the word "cloud" part of its name, EOSC is not a new cloud computing platform

2. … a new research data repository or research data management system
The federation of existing infrastructures, i.e. EOSC, is a new infrastructure which does not exist today

3. … a new pan-European e-infrastructure
EOSC is not building a new e-infrastructure. EOSC is building i. the components to enable the federation of existing data, research and e- infrastructures nodes and ii. the additional services needed to enable the Web of FAIR data and related services.

4. … synonymous of Open Science
EOSC is the enabler that will support the deployment of Open Science in Europe. EOSC does not substitute any existing Open Science networks.

5. … the EOSC Association
The EOSC Association as representative of the various stakeholders in Europe is the legal entity established to work together with the European Commission to support the realisation of the EOSC strategy.

6. … substituting any existing national, regional, pan-European, agnostic nor thematic Research Infrastructures o e-infrastructures
EOSC will enable the federation of existing data, research and e-infrastructures nodes. The new developments are focused on components enabling the federation and on the additional services needed to enable the Web of FAIR data and related services

7. … the EOSC Portal
The EOSC Portal is one of the results of the EOSC Future EC funded project (2019-2023). The EOSC Portal is piloting the EOSC AAI and the idea of a European marketplace for services supporting researchers.

8. … owning any data or services
EOSC is an enabler. The ownership of the federated elements (data, services, research infrastructures, e-infrastructures, etc.) will remain with the providers.

9. … engaging directly individual researchers.
Individual researchers will benefit from EOSC through their existing channels (e.g. universities, research institutes, research infrastructures, associations, etc.) that will act as intermediaries.

EOSC IS NOT A BIG BOX]

THE EUROPEAN OPEN SCIENCE CLOUD? SOME NUANCES AND DEFINITIONS

Imagine a federated, globally accessible environment where researchers, innovators, companies and citizens can publish, find and re-use each other's data and tools for research, innovation and educational purposes. Imagine that this all operates under well-defined and trusted conditions, supported by a sustainable and just value for money model. This is the environment that must be fostered in Europe and beyond to ensure that European research and innovation contributes in full to knowledge creation, meet global challenges and fuel economic prosperity in Europe. This we

EOSC IS NOT A REPOSITORY NOR A «CLOUD»

YOU MAKE YOUR DATA FAIR SO THAT EOSC *SERVICES* CAN «FIND» THEM…

A SUPPORTING ENVIRONMENT FOR OPEN SCIENCE AND NOT AN «OPEN CLOUD» FOR SCIENCE

YOU DON'T «UPLOAD» YOUR DATA INTO EOSC

AND GIVE SEAMLESS ACCESS TO 20 M EU RESEARCHERS

EOSC association

BORN DEC. 2020
MAKE YOUR VOICE HEARD

https://eosc.eu/

EOSC Association: Advancing Open Science to accelerate the creation of new knowledge, inspire education, spur innovation and promote accessibility and transparency

The European
environment
open and sea
data
, across borde

EOSC is being

ICDI

HOME ABOUT ACTIVITIES DOCUMENTS COVID-19 NEWS CONTACTS

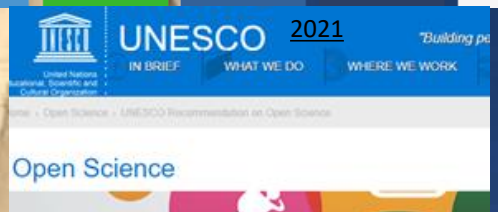
IN ITALY: ICDI TO SYNERGISE

https://www.eosc.eu/


WHAT'S GOING ON IN EUROPE

actually not on ... be...
... who supports Op... e?

2019



2021

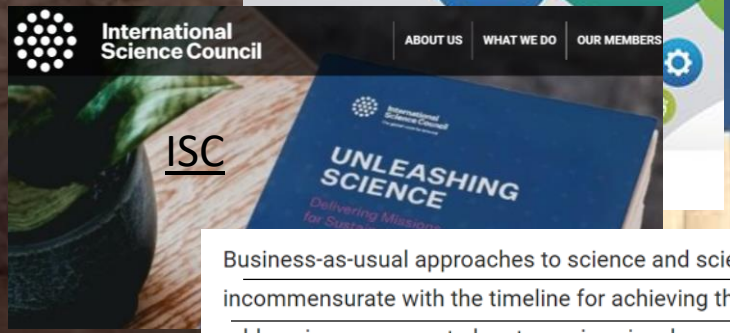
OECD data

Feb.4, 2021

Oct. 27, 2020

Acknowledging that Open Science should not only foster enhanced sharing of scientific knowledge solely among scientific communities but also promote inclusion of scholarly knowledge from traditionally underrepresented or excluded groups (such as women, minorities, Indigenous scholars, scholars from less-advantaged countries and low-resource languages) and contribute to reducing inequalities in access to scientific development, infrastructures and capabilities among different countries and regions,¶

Appeal for Open Science UNESCO, WHO, HCHR, CERN



ISC

Aug. 26, 2022

US FEDERAL RESEARCH OPEN BY DEFAULT

OSTP Issues Guidance to Make Federally Funded Research Freely

Business-as-usual approaches to science and science funding are incommensurate with the timeline for achieving the SDGs or that of addressing our current planetary crises in a humane, dignified and equitable manner. A major qualitative and quantitative step-change is needed in science to support critical societal transformations toward more sustainable, equitable and resilient future.

"When I led the Cancer Moonshot as Vice President, one of the biggest issues I talked about was how federally funded cancer researchers were not sharing their results with their peers or the public... We made federally funded cancer research more available to any patient, to any doctor, anywhere for free. And today as President, we're making sure that transparency applies to all federally funded science, beyond just cancer."

- President Joe Biden
September 12, 2022

#OAintheUSA

Sept. 12 2022

In his remarks just now on the Cancer Moonshot, @POTUS raised research sharing as "one of the biggest issues" necessary to speed discovery and highlighted his administration's work to ensure "transparency applies to all federally funded science." #OAintheUSA

Traduci il Tweet

Towards Op e

NATIONAL POLICIES FOR TEXTS AND DATA (RECOMMENDATION 790/2018)

Council of the European Union

Brussels, 27 May 2016
(OR. en)

9526/16

RECH 208
TELECOM 100

OUTCOME OF PROCEEDINGS

From:	General Secretariat of the Council
To:	Delegations
No. prev. doc.:	8791/16 RECH 133 TELECOM 74
Subject:	The transition towards an Open Science system - Council conclusions (adopted on 27/05/2016)

OPEN ACCESS BY DEFAULT IN 2020 (COMPETITIVENESS COUNCIL 2016)

2018

EUROPEAN COMMISSION

Brussels, 25.4.2018
C(2018) 2375 final

COMMISSION RECOMMENDATION

of 25.4.2018

on access to and preservation of scientific information

26.6.2019 IT Gazzetta ufficiale dell'Unione europea L 172/56

DIRETTIVA (UE) 2019/1024 DEL PARLAMENTO EUROPEO E DEL CONSIGLIO

del 20 giugno 2019

pertura dei dati e al riutilizzo dell'informazione del settore pubblico

RESEARCH DATA=PUBLIC SECTOR INFORMATION (DIRECTIVE 1024/2019) + D.Lgs 200/2021

NEED TO REFORM RESEARCH ASSESSMENT (COUNCIL CONCLUSIONS ON THE FUTURE GOVENRANCE OF THE ERA – COM 14308/21)

14308/21

RECH 538
COMPET 865

Dec. 2021

OUTCOME OF PROCEEDINGS

From:	General Secretariat of the Council
On:	26 November 2021
To:	Delegations
No. prev. doc.:	14126/21
Subject:	Future governance of the European Research Area (ERA) - Council conclusions (adopted on 26/11/2021)

EUROPEAN STRATEGY FOR DATA (COMMUNICATION 66/2020)

EUROPEAN COMMISSION

Brussels, 19.2.2020
COM(2020) 66 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

A European strategy for data

Council of the European Union

May 23, 2023

Brussels, 23 May 2023
(OR. en)

9616/23

RECH 190
EDUC 169
PI 77
DIGIT 96

OUTCOME OF PROCEEDINGS

From:	General Secretariat of the Council
On:	23 May 2023
To:	Delegations
No. prev. doc.:	8827/23
Subject:	High-quality, transparent, open, trustworthy and equitable scholarly publishing - Council conclusions (approved on 23 May 2023)

Framework conditions

11. ENCOURAGES Member States and the Commission to step … of aligned institutional and funding policies and strategies regarding not-for-profit open access multi-format scholarly publishing models in Europe with no costs for authors or readers, and to set and implement roadmaps or action plans for a significant expansion of such publishing models;

Council of the EU Press release 23 May 2023 10:27

2023

Council calls for transparent, equitable, and open access to scholarly publications

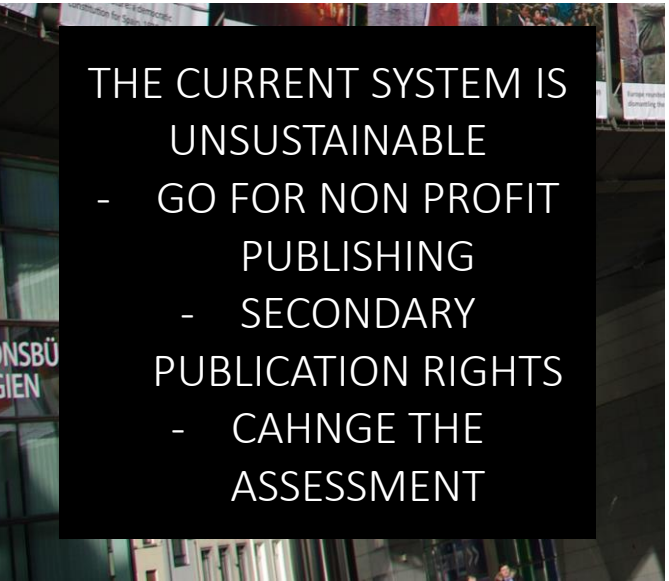
Today the Council has adopted conclusions on the 'high quality, transparent, open, trustworthy and equitable scholarly publishing', in which it calls for immediate and unrestricted open access in publishing research involving public funds.

If we really believe in open science, we need to make sure that researchers can make their findings available and re-usable and that high-quality scientific articles are openly accessible to anyone that needs to read them. This should be particularly the case for research that benefits from public funding: what has been paid by all should be accessible to all.

— Mats Persson, Swedish Minister for Education, Ministry of Education and Research

The hazards of scholarly publishing

Scientific articles and other forms of scholarly publishing continue to be the primary means of disseminating research results and scientific findings. However, far from every article is available to other researchers or other interested readers. The costs of paywalls to access and publish articles are becoming unsustainable and the publication channels for



THE CURRENT SYSTEM IS UNSUSTAINABLE
- GO FOR NON PROFIT PUBLISHING
- SECONDARY PUBLICATION RIGHTS
- CAHNGE THE ASSESSMENT

12. WELCOMES the introduction of secondary publication rights by a number of Member States into their national copyright legislation, enabling open access to scholarly publications involving public funds; ENCOURAGES the Commission, in the context of ERA action 2 in the ERA Policy Agenda 2022–2024, to examine and propose measures at EU level aiming at removing barriers to access to and reuse of publicly funded research results, as well as publications and data for research purposes, while guaranteeing the author's consent; INVITES Member States to update their national open access policies and guidelines to make scholarly publications immediately openly accessible under open licences and to apply the principles of FAIR (findable, accessible, interoperable and reusable) and "as open as possible, as closed as necessary" to research data, taking into account the OECD Recommendation concerning Access to Research Data from Public Funding[7];

13. EMPHASISES the need for a change in research culture that recognises diverse research activities with the overarching goal to maximise high quality and impact of the research;

Integrated advice of the Open Science Policy Platform on 8 prioritised Open Science ambitions 2018

- Rewards and Incentives
- Research Indicators and Next-Generation Metrics
- Future of Scholarly Communication
- European Open Science Cloud
- FAIR Data
- Research Integrity
- Skills and Education
- Citizen Science

2019

As representatives of key stakeholders in the research system, we call on all European Member States and other relevant actors from the public and private sectors to help co-create, develop and maintain a 'Research System based on shared knowledge' by 2030. As a start, we commit to working together to implement a system with the five attributes outlined below.

1. An academic career structure that fosters outputs, practices and behaviours to maximise contributions to a shared research knowledge system. To this

The conclusion is actually simple: the evaluation of research is the keystone, and it has already been identified by scholars around the world, and by various expert groups within the European Commission, as structuring a global research architecture characterised by an unlimited quest for rankings. The ranking imperative affects all levels of the research structure, and it tends to constrain change for nearly all actors. This is true of individual

«make science fit for the 21th century»

Transition to open science is a multidimensional and multistage process. There is value and risk of being a first mover, but there is higher risk of being a follower. The European Commission has taken

THERE IS A HIGHER RISK OF BEING A FOLLOWER

Open science will make science more efficient, reliable, and responsive to societal challenges. The European Commission

E ARTICLE Provisionally accepted The full-text will be published soon Notify me
Front. Big Data | doi: 10.3389/fdata.2019.00043

Open science, open data and open scholarship: European policies to make science fit for the 21st century

[Nov.2019]

Jean-Claude Burgelman[1*], Corina Pascu[1*], Katarzyna Szkuta[1], Rene Von Schomberg[1], Athanasios Karalopoulos[1], Konstantinos Repanas[1] and Michel Schouppe[1]

Open science (or in fact, open scholarship) has shifted the prime focus of researchers away from publishing toward knowledge sharing.

and access will be maximized. In Horizon Europe, research data will be open by default while taking into account the need to balance openness and protection of scientific information, commercialization and Intellectual Property Rights, privacy concerns and security, following the principle "as open as possible, as closed as necessary." Data management plans (DMP) will become mandatory, even if not making research data open. The requirement for responsible data management will be separated from the requirement for providing open access to research data. Emphasis will be placed on supporting as much as possible the proliferation of data that are findable, accessible, interoperable, and re-usable (FAIR). Finally, the use of trusted or certified repositories and infrastructures like the European Open Science Cloud (EOSC) will be required for research data in some Horizon Europe work programs.

OVERVIEW OF THE EU POLICIES TOWARDS OPENNESS

Changing the reward and incentive system for researchers is a key open science challenge and a broader issue for which primarily the responsibility lies in the scientific community (universities and funders). This includes making open science practices rewardable and fundable as well as the employment of specific indicators for researchers' engagement with open science. A change of the reward and incentive system can only be stakeholders-driven, and it has to be bottom-up. This change also includes changing mind-sets of researchers to open up and share data and "seduction" to make open science easy, useful, and affordable[3].

The European Open Science agenda contain the ambition to make FAIR data sharing the default for scientific research by 2020. To

«How to» in Horizon Europe

Open Science in HEU

OPEN SCIENCE PRACTICES
EVALUATED UNDER
«EXCELLENCE»
a) MANDATORY
b) RECOMMENDED
BOTH TO BE EMBEDDED IN
THE PROPOSAL

Open science

Open science in Horizon Europe

Open science is an approach based on open cooperative work and systematic sharing
knowledge and tools as early and widely as possible in the process. It has the potenti
to increase the quality and efficiency of research and accelerate the advancement
knowledge and innovation by sharing results, making them more reusable an
improving their reproducibility. It entails the involvement of all relevant knowledg
actors.

Horizon Europe moves beyond open access to open science for which it feature
a comprehensive policy implemented from the proposal stage to project reporting. Th
Horizon Europe Regulation sets the legal basis for the open science obligations an
incentives that apply to Horizon Europe beneficiaries. The Annotated Grant Agreemer
provides guidance on how to comply with the open science obligations required in th
Model Grant Agreement. **The present guide complements the information**
pro
the

In Horizon Europe, open science practices are considered in the evaluation of proposals, under 'excellence' and under the 'quality and efficiency of implementation'.[17] There are mandatory open science practices, which are required for all projects through the Model Grant Agreement and/or through the work programme or call conditions, and recommended practices (all open science practices that are not mandatory). Recommended open science practices are incentivised through their the evaluation at the proposal stage. Proposers should be aware of both mandatory and recommended practices and integrate them into their proposals.

V.1 June 17 2021

Horizon Europe

Programme Guide

Open Science in HEU

IN EXCELLENCE – METHODOLOGY /QUALITY OF IMPLEMENTATION

1) EXPLAIN HOW YOU WILL IMPLEMENT MANDATORY OS PRACTICES
2) HOW YOU WILL ADOPT RECOMMENDED OS PRACTICES – GETTING A HIGHER SCORE!
3) JUSTIFY IF YOU RECKON NO OPEN SCIENCE PRACTICE FITS IN YOUR PROPOSAL

Open science practices are evaluated under the **'Excellence'** criterion (in particular under methodology) and under the **'Quality and efficiency of implementation'** award criterion. Proposers should address open science practices in the relevant section on open science under methodology[20].

Proposers will have to provide concrete information on **how** they plan to comply with the **mandatory open science** practices. Failure to sufficiently address this, will result in a lower evaluation score.

A clear explanation of how they will adopt **recommended practices**, as appropriate for their projects, will result in a higher evaluation score.

If proposers believe that none of the open science practices (mandatory or recommended) apply to their project, then they have to provide a **justification**.

Under the 'excellence' part of their proposals, in the section on methodology, proposers should describe how open science practices (mandatory and recommended, as appropriate) are implemented as an integral part of the methodology and show how their implementation is adapted to the nature of their work, therefore increasing the chances of the project delivering on its objectives. Information relevant to the specific area of the proposal should be provided in no more than one page. If open science practices are not applicable to the proposal, justifications should be provided sp that, if

Horizon Europe


V.1 Feb 2021

Horizon Europe (HORIZON)
Euratom Research and Training Programme (EURATOM)

General Model Grant Agreement
EIC Accelerator Contract


Pre-draft July 2021

EU Grants

AGA – Annotated Model Grant Agreement

EU Funding Programmes 2021-2027

ART. 6.2 SPECIFIC ELIGIBILITY CONDITIONS FOR EACH BUDGET CATEGORY C.3 OTHER GOODS [P.30]
ART. 17 COMMUNICATION, DISSEMINATION AND VISIBILITY [P.49]
ANNEX 5, TO ART. 17, OPEN SCIENCE [P.107-109]

- ART. 6.2.C.3 OTHER COSTS (DISSEMINATION) P.[69]
- ART.17 COMMUNICATION& DISSEMINATION [P.113-115]
- ANNEX 5 IPR RULES [P.124-125 E 133-146 EXPLOITATION&PROTECTION]
- ANNEX 5 DISSEMINATION & OPEN SCIENCE [P.153-161]

DEFINTION OF «TRUSTED REPOSITORY» P. 156

- ANNEX 5 DISSEMINATION PLAN [P. 162]

Horizon Europe

- DISSEMINATION & IPR MANAGEMENT [P.30-37]
- OPEN SCIENCE [P.38-52]

RIGHTS RETENTION CLAUSE [P.49] AND USEFULT TOOLS

- CITIZIEN SCIENCE [P.52-54]

PART A – LIST OF PUBLICATIONS (OPEN ACCESS) [P.12]

PART B – 1.EXCELLENCE – 1.2 METHODOLOGY (OPEN SCIENCE+DATA MANAGEMENT) [P.8]

PART B – 2.IMPACT

PART B – 3.2 CONSORTIUM CAPACITY [P.15]

Open Science in Horizon Europe

MANDATORY AND RECOMMENDED PRACTICES TO BE ADAPTED TO YOUR PROJECT – EVALUATED AT THE PROPOSAL STAGE

Open Science in Horizon Europe RIA/IA/CSA

IN THE METHODOLOGY YOU NEED TO ADDRESS BOTH:
1) HOW YOU WILL COMPLY WITH THE MANDATORY PRACTICES
2) HOW YOU WILL ADOPT RECOMENDED PRACTICES

RECOMMENDED PRACTICES

IN THE **LIST OF ACHIEVEMENTS:** 5 RELEVANT OUTPUTS (publications, data) OPENLY ACCESSIBLE + PERSISTENT IDENTIFIER + «AS OPEN AS POSSIBLE»

IN THE PROJECT **METHODOLOGY**
1) EMBEDDED OPEN SCIENCE PRACTICES
2) FAIR DATA MANAGEMENT + DMP SCHEMA

MAXIMIZING IMPACT USING OPEN SCIENCE (OS IS AMONG KEY PATHWAY INDICATORS) + SCHEMA OF DISSEMINATION PLAN (DELIVERABLE M6)

OPEN SCIENCE PRACTICES/SKILLS IN PREVIOUS PROJECTS TO EVALUATE **QUALITY OF IMPLEMENTATION AND CONSORTIUM CAPACITY**

MANDATORY PRACTICES

DEPOSIT+ IMMEDIATE ACCESS (ZERO EMBARGO + CC BY) =
1. OPEN RESEARCH EUROPE
2. OA JOURNAL
3. TRADTIONAL JOURNAL [RETAINING RIGHTS]

1. RESPONSIBLE MANAGEMENT ACCORDING TO **FAIR PRINCIPLES**
2. DATA AND OTHER OUTPUTS **«AS OPEN AS POSSIBLE, AS CLOSED AS NECESSARY»**
3. DATA MANAGMENT PLAN BY M6

INFORMATION ON OUTPUTS/TOOLS AND **ACCESS** TO DATA/RESULTS FOR **VALIDATION OF RESEARCH**

LIST OF ACHIEVEMENTS	EXCELLENCE	IMPACT	QUALITY OF IMPLEMENTATION	OPEN SCIENCE	OPEN SCIENCE	ENSURE REPRODUCIBILITY
Template PartA	Template PartB	Template PartB	Template PartB	Publications	FAIR data	

PROJECT PROPOSAL WILL BE EVALUATED ON
a) HOW IT WILL ADOPT RECOMMENDED PRACTICES AND b) HOW IT WILL BE COMPLIANT TO MANDATORY ONES

Giglia 2021

Horizon Europe

How do I address open science in my proposal?

HORIZON EUROPE

Open science (OS) takes a central place in Horizon Europe and open science practices are considered in the evaluation of Horizon Europe proposals. If not applicable to the proposal, justifications should be provided so that, if evaluators agree, open science will not be taken into consideration in the evaluation.

...in a nutshell...

Infographic created by Open science team, Ghent University Library and adapted by Elena Giglia

Giglia 2021

Open Science in Horizon Europe

EXAMPLES OF MANDATORY/RECOMMENDED PRACTICES

Open Science practices

What?	How?	Mandatory in all calls/recommended
Early and open sharing of research	Preregistration, registered reports, preprints, etc.	Recommended
Research output management	Data management plan (DMP)	**Mandatory**
Measures to ensure reproduciblity of research outputs	Information on outputs/tools/instruments and access to data/results for validation of publications	**Mandatory**
Open access to research outputs through deposition in trusted repositories	• Open access to publications • Open access to data • Open access to software, models, algorithms, workflows etc.	• **Mandatory** for peer-reviewed publications • **Mandatory** for research data **but** with exceptions ('as open as possible…') • Recommended for other research outputs
Participation in open peer-review	Publishing in open peer-reviewed journals or platforms	Recommended
Involving all relevant knowledge actors	Involvement of citizens, civil society and end-users in co-creation of content (e.g. crowd-sourcing, etc.)	Recommended

Slide courtesy Victoria Tsoukala, EC

Mandatory/recommended

IN THE PROPOSAL YOU NEED TO ADDRESS BOTH:

1. HOW YOU WILL BE COMPLIANT TO THE MANDATORY
2. HOW YOU WILL ADOPT THE RECOMMENDED

MANDATED OPEN SCIENCE PRACTICES ARE DETAILED IN THE GRANT AGREEMENT:

- OPEN ACCESS TO PUBLICATIONS
- OPEN ACCESS TO DATA
- RESEARCH OUTPUTS MANAGEMENT
- REPRODUCIBILITY

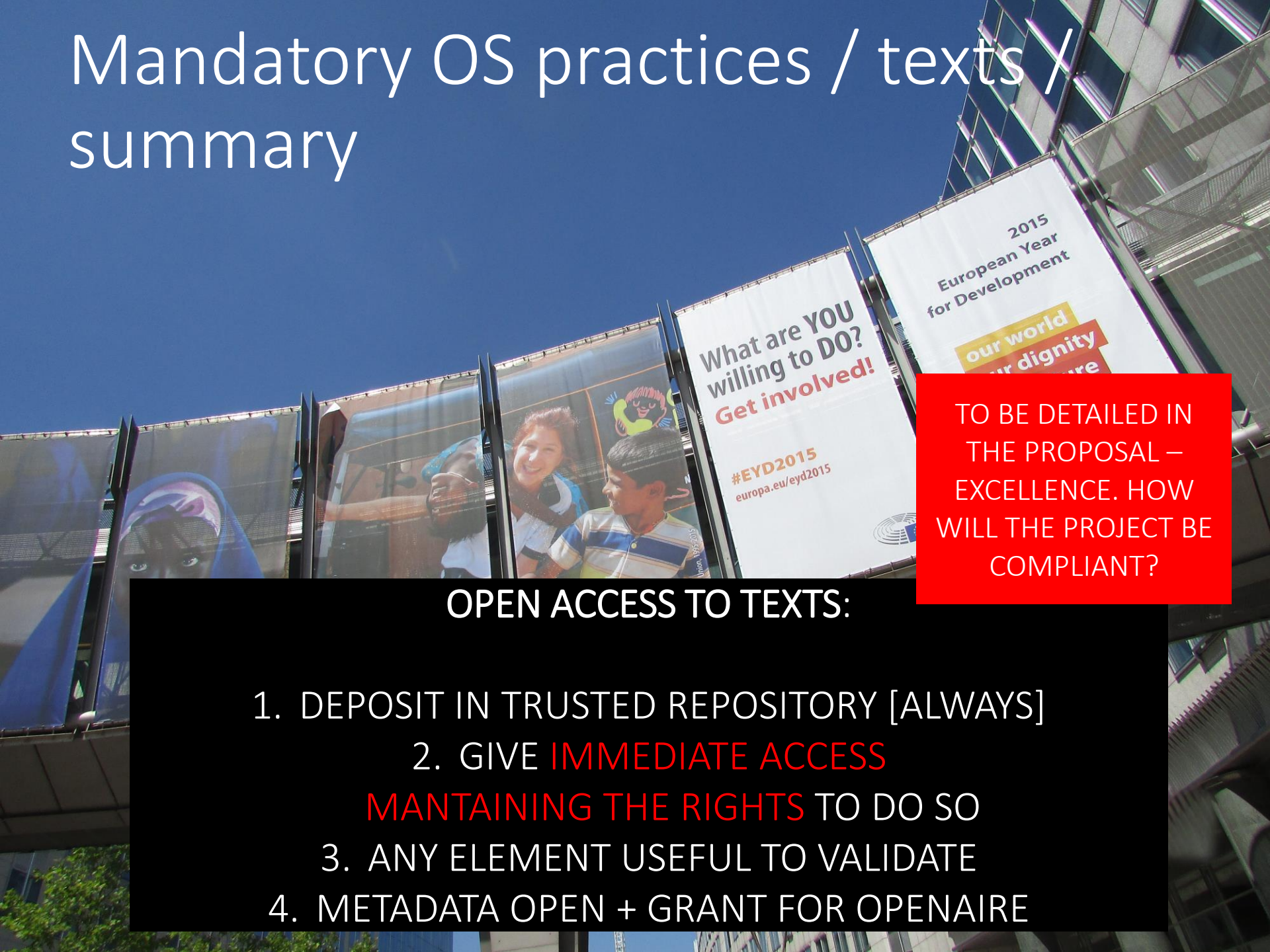
RECOMMENDED OPEN SCIENCE PRACTICES :

e.g. open peer review, pre-registration, citizen science…

SOME CALLS COULD MANDATE MORE PRACTICES

«RECOMMENDED» BUT THE PROPOSAL IS EVALUATED ALSO ON THIS BASIS

Mandatory OS practices / texts / summary



TO BE DETAILED IN THE PROPOSAL – EXCELLENCE. HOW WILL THE PROJECT BE COMPLIANT?

OPEN ACCESS TO TEXTS:

1. DEPOSIT IN TRUSTED REPOSITORY [ALWAYS]
2. GIVE IMMEDIATE ACCESS MANTAINING THE RIGHTS TO DO SO
3. ANY ELEMENT USEFUL TO VALIDATE
4. METADATA OPEN + GRANT FOR OPENAIRE

[Patents and Open Science]

European Commission

IP Helpdesk

Home | Services | Regional helpdesks | IP management and resources | About | News & Events

European Commission > IP Helpdesk > News & Events > News > Open Science vs. IPR in Horizon Europe – which one wins?

NEWS ARTICLE | 17 September 2021 | European Innovation Council and SMEs Executive Agency

Open Science vs. IPR in Horizon Europe – which one wins?

1) MANDATORY TO PROTECT (IF THE CASE)
2) MANDATORY TO DISSEMINATE IN OPEN ACCESS DOES NOT MEAN «MANDATORY TO PUBLISH».

IF YOU PUBLISH, IT MUST BE OPEN

Our enquirer's concerns were the following: is it possible to first file for a patent (his proposed project would involve the development of a new invention), and only then to proceed to the dissemination of results via an open access article? Or does the Open Science policy applicable in Horizon Europe prevail over IPR protection, and imposes the disclosure of the invention in an open access journal as soon as possible?

To answer this, it is essential to keep in mind that in Horizon Europe (including MSCA), grant beneficiaries have the **obligation to protect their results** - see Annex 5 to the model GA for Unit ants incl. MSCA (page 88 onwards).

the other hand, Open Science practices, while compulsory in Horizon Europe, are not ompatible with this obligation… even though they may seem so. Indeed, the open access gation (for example) is NOT an obligation to publish. Simply, if/when fellows publish a scientific cle, it will have to be in open access.

ther words, Open Science obligations in Horizon Europe are NOT a general obligation to seminate. **They are even less an obligation to surrender IP rights, and for this reason uld not be construed in opposition to IP protection**. The dissemination of Horizon results can postponed to allow the appropriate protection of results beforehand - see the grant agreement uses on dissemination (annex 5 to the MGA for Unit Grants, pp.94-95) according to which **the semination obligation is made subject to any restrictions linked to the protection of ellectual property**.

is is confirmed by the European Commission in the annotated model grant agreement for Horizon Europe (see page 153).

To sum up: not only is it possible for fellows and beneficiaries to protect their results first (e.g. via a patent filing), but **it is also necessary to ensure compliance with the obligation to protect the project results**. This is something that can be explained in the proposal – that the strategy is, first, to secure IP protection, and that once this is completed, dissemination obligations will be fulfilled, including via open access if publications are foreseen.

3 ways to be compliant

1. PUBLISH IN ORE – OPEN RESEARCH EUROPE

NO COSTS

2. PUBLISH IN AN OPEN ACCESS JOURNAL + DEPOSIT [IN HE ALWAYS NEEDED]

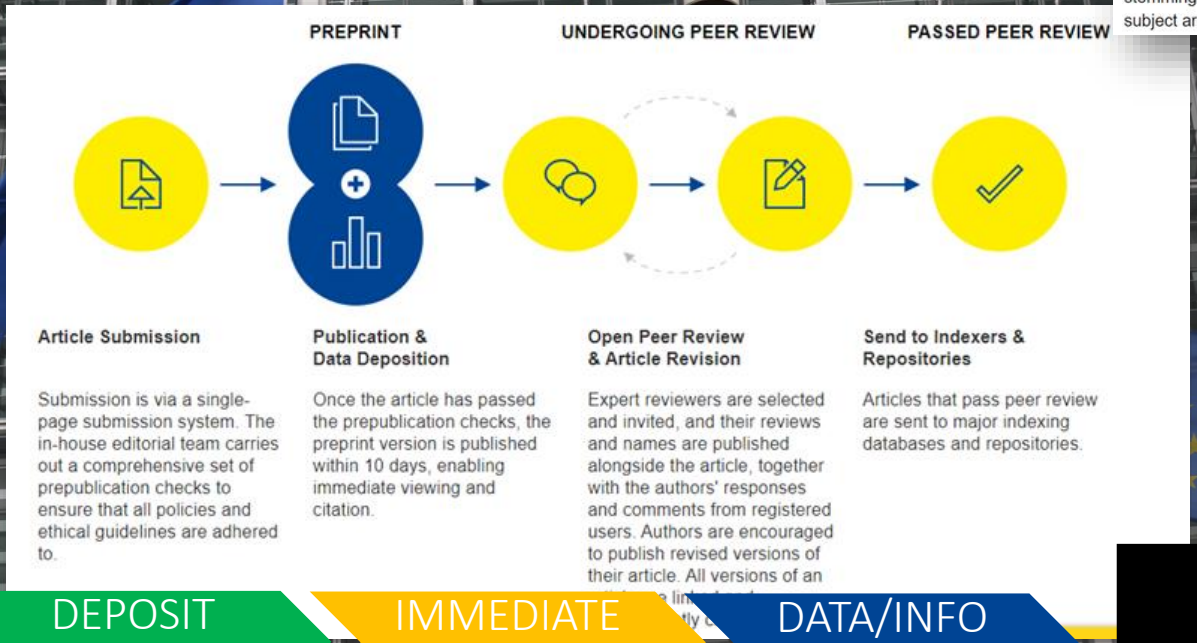
POSSIBLE APC - REIMBURSED

NO REIMBURSE FOR HYBRID

3. PUBLISH IN A SUBSCRITPION BASED JOURNAL + RETAIN RIGHTS TO DEPOSIT+ IMMEDIATE ACCESS

1. Publishing in ORE

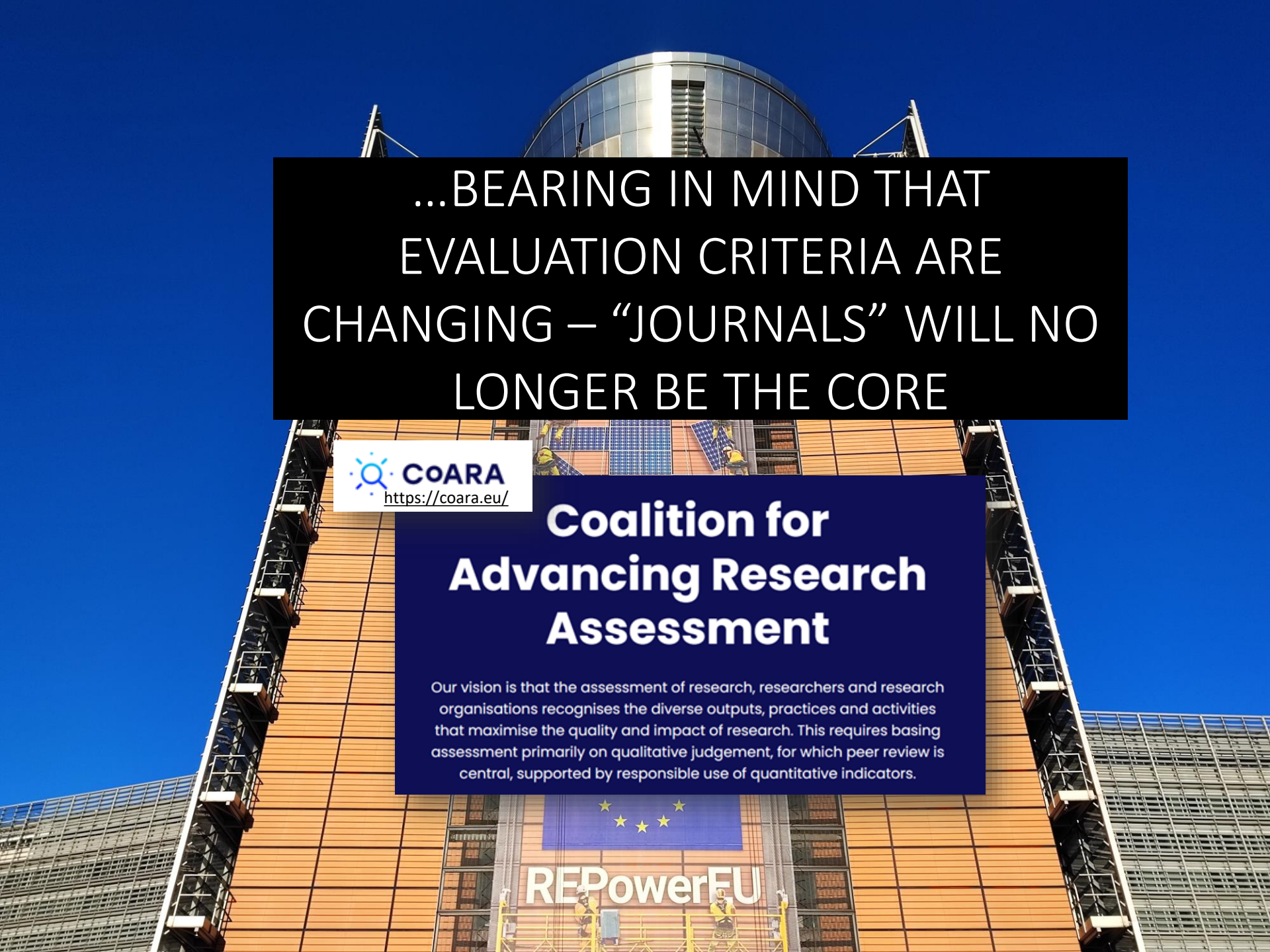
ORE



DEPOSIT [INCLUDED] → IMMEDIATE OPEN → DATA/INFO [INCLUDED] → COMPLIANT

PLUS:

- GRATIS
- OPEN PEER REVIEW
- INDEXING
- NOT TO BE IN THE BUDGET
- OPEN PRACTICE
- MAX IMPACT


...BEARING IN MIND THAT EVALUATION CRITERIA ARE CHANGING – "JOURNALS" WILL NO LONGER BE THE CORE
CoARA
https://coara.eu/
Coalition for Advancing Research Assessment
Our vision is that the assessment of research, researchers and research organisations recognises the diverse outputs, practices and activities that maximise the quality and impact of research. This requires basing assessment primarily on qualitative judgement, for which peer review is central, supported by responsible use of quantitative indicators.
REPowerEU

2. Publishing on an Open Access journal [Gold o Diamond]

Three tips to choose a publishing venue using the Directory of Open Access Journals (DOAJ)

Published on January 11, 2021

Jan. 11, 2021

Andrea Chiarelli
Senior Consultant at Research Consulting | Enhancing the effectiveness and impact of research
4 articles ✓ Following

DOAJ DIRECTORY OF OPEN ACCESS JOURNALS
Apply News About For Publishers API

DOAJ

> 17.000
FULL OPEN ACCESS

DEPOSIT
[UP TO YOU]

- IR
- ZENODO

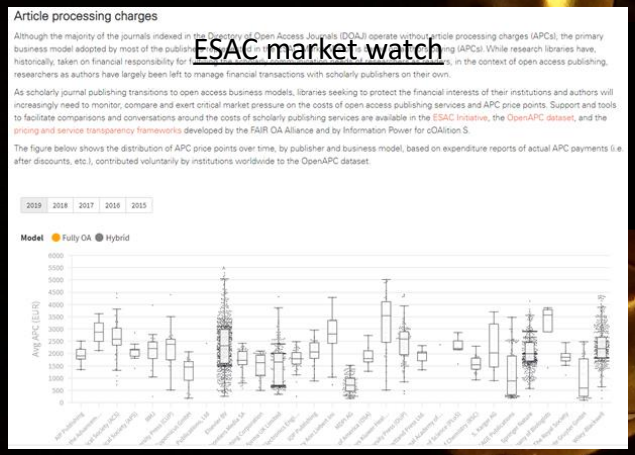
IMMEDIATE OPEN

COSTS
?

DATA/INFO
[UP TO YOU]

- ZENODO
- [RE3DATA]

COMPLIANT



ESAC market watch

29% ASK FOR APCs
250-2900 $

- COSTS TO BE INCLUDED INTO YOUR BUDGET
- MEAN COST IN ESAC MARKET
- CHECK YOUR SPECIFIC JOURNAL

ELIGIBLE ONLY COSTS FOR
- FULL OPEN ACCESS (NO HYBRID)
- DIGITAL (NO PRINT FOR BOOKS)

3. Publishing on a traditional journal (subscritpion based)

DEPOSIT [UP TO YOU]

IMMEDIATE OPEN

DATA/INFO [UP TP YOU]

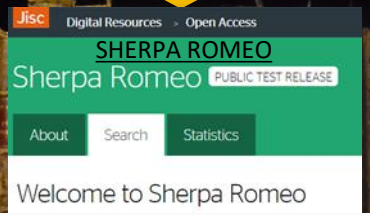
COMPLIANT

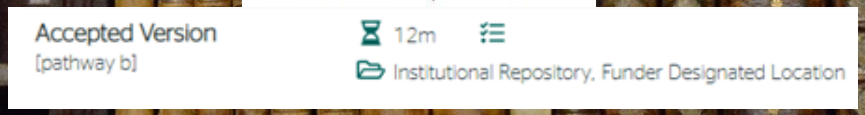
- IR
- ZENODO

CAN I?

- ZENODO
- [RE3DATA]

CHECK FOR EMBARGO (SHERPA ROMEO)





IF AN EMBARGO IS REQUIRED, YOU MUST RETAIN RIGHTS TO GIVE IMMEDIATE ACCESS IN THE ARCHIVE

IT'S A PRIOR OBLIGATION TO THE FUNDER

IN THE PROGRAMME GUIDE P.49 CLAUSE TO BE ADDED

3. Traditional journal

HYBRID APCs NOT ELIGIBLE

⚠ Publishing fees (including page charges or colour charges) for publications in other venues, for example in subscription journals (including hybrid journals) or in books that contain some scholarly content that is open and some that is closed are NOT eligible costs. Publishing fees for open access books may be eligible to the extent that they cover the first digital open access edition of the book (which could include different formats such as html, pdf, epub, etc.). Printing fees for monographs and other books are NOT eligible.

PRINT COSTS NOT ELIGIBLE («OPEN» ONLINE)

[reminder]

"WE DO NOT TELL RESEARCHERS WHERE TO PUBLISH, SO NOTHING IS PROHIBITED. HOWEVER, WE DO CARE WHERE WE SPEND TAXPAYER MONEY"

«TRUSTED REPOSITORY»

Trusted repositories are:

- Certified repositories (e.g. CoreTrustSeal, nestor Seal DIN31644, ISO16363) or disciplinary and domain repositories commonly used and endorsed by the research communities. Such repositories should be recognised internationally.
- General-purpose repositories or institutional repositories that present the essential characteristics of trusted repositories, i.e.:
  - display specific characteristics of organisational, technical and procedural quality such as services, mechanisms and/or provisions that are intended to secure the integrity and authenticity of their contents, thus facilitating their use and re-use in the short- and long-term. Trusted repositories have specific provisions in place and offer explicit information online about their policies, which define their services (e.g. acquisition, access, security of content, long-term sustainability of service including funding etc.).
  - provide broad, equitable and ideally open access to content free at the point of use, as appropriate, and respect applicable legal and ethical limitations. They assign persistent unique identifiers to contents (e.g. DOIs, handles, etc.), such that the contents (publications, data and other research outputs) are unequivocally referenced and thus citeable. They ensure that contents are accompanied by metadata sufficiently detailed and of sufficiently high quality to enable discovery, reuse and citation and contain information about provenance

facilitate mid- and long-term preservation of the deposited material. They have mechanisms or provisions for expert curation and quality assurance for the accuracy and integrity of datasets and metadata, as well as procedures to liaise with depositors where issues are detected. They meet generally accepted international and national criteria for security to prevent unauthorized access and release of content and have different levels of security depending on the sensitivity of the data being deposited to maintain privacy and confidentiality.

- INTEGRITY
- PRESERVATION
- SECURITY
- IDENTIFIERS
- REUSE/LICENSES

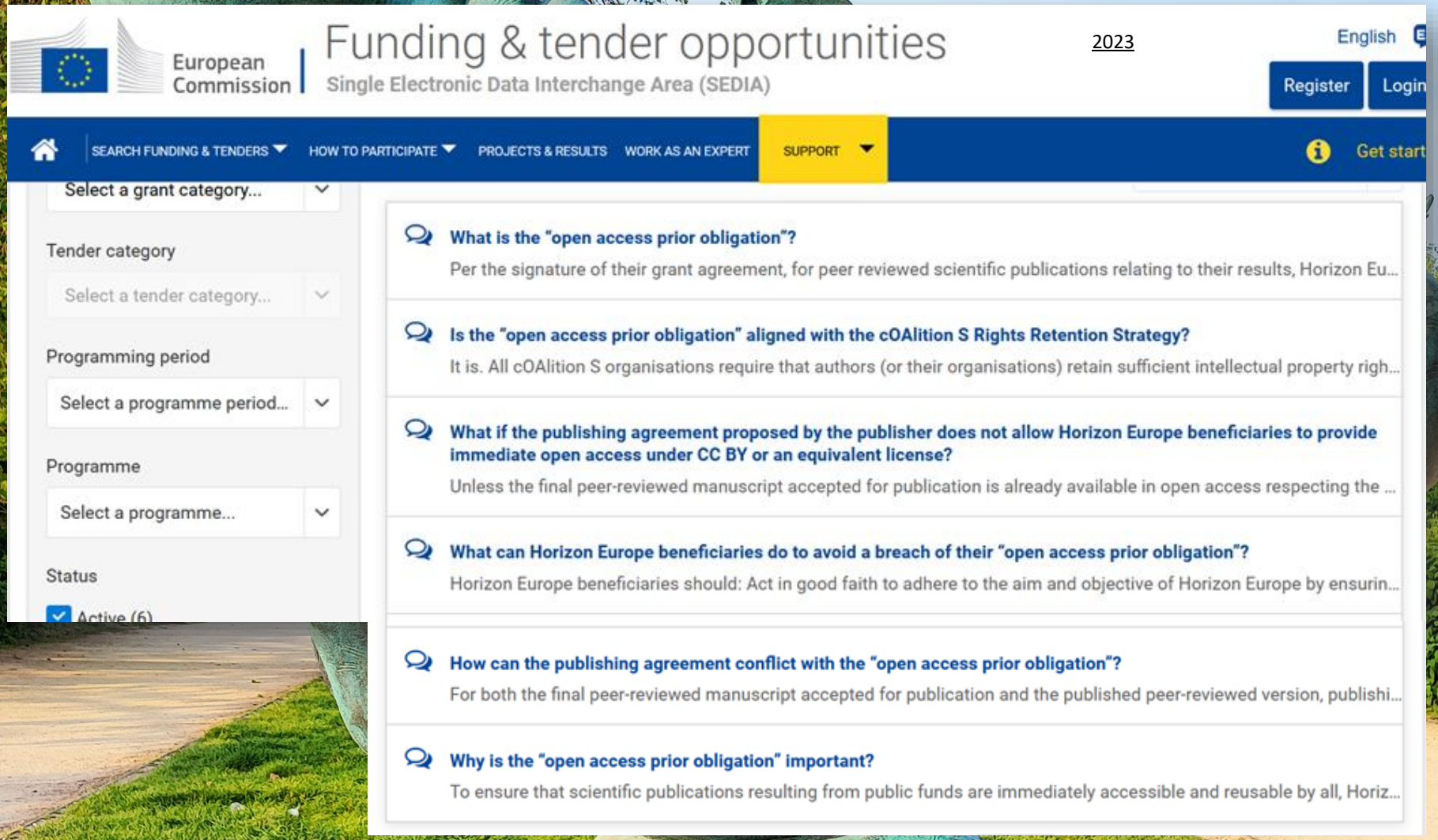
Rights retention clause

CLAUSE TO BE USED UPON SUBMISSION
[PRIOR OBLIGATION]

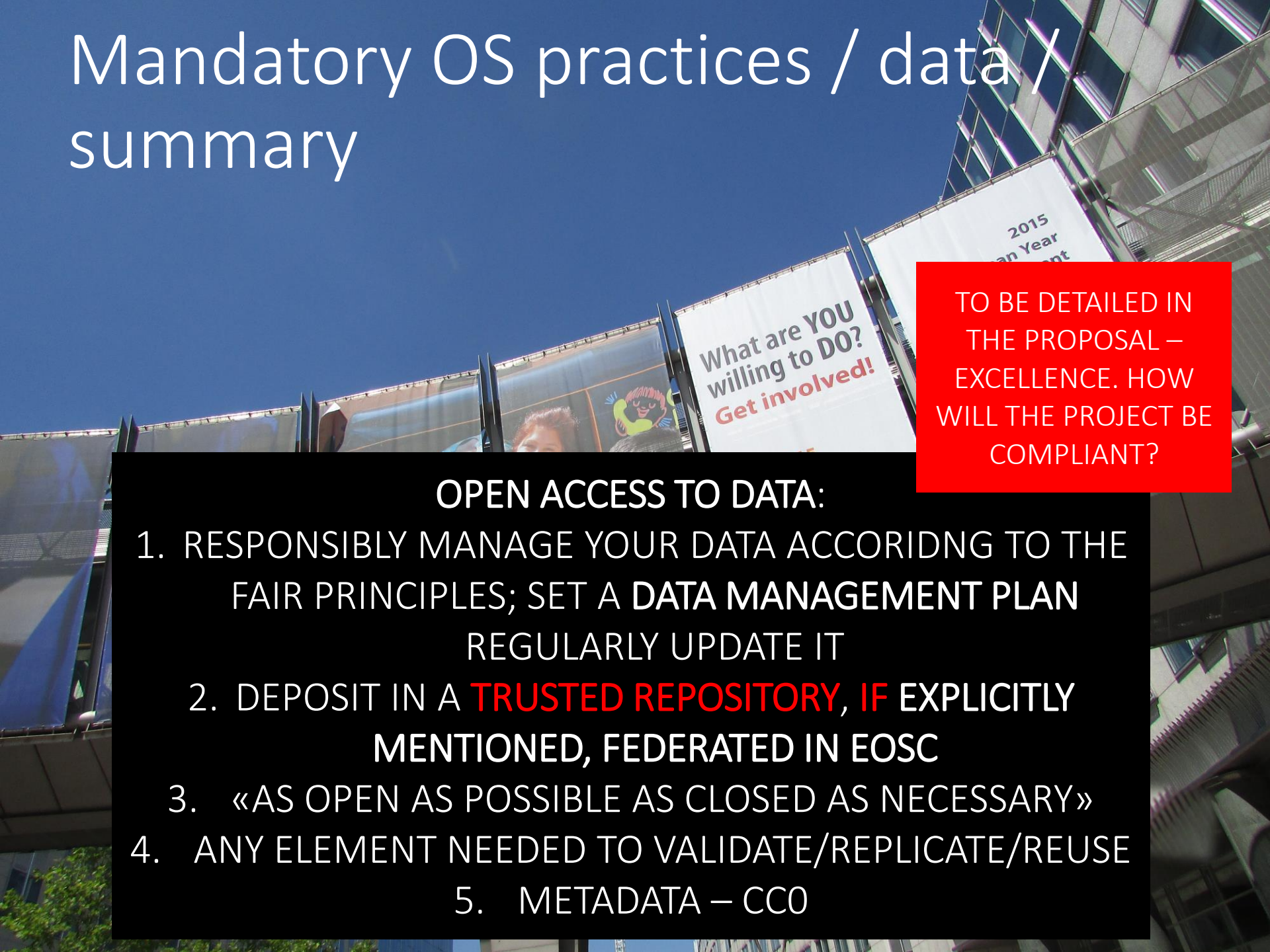
beneficiaries/researchers are encouraged to notify publishers of their grant agreement obligations (including the licensing requirements) already at manuscript submission. For example, by adding the following statement to their manuscript: "*This work was funded by the European Union under the Horizon Europe grant [grant number]. As set out in the Grant Agreement, beneficiaries must ensure that at the latest at the time of publication, open access is provided via a trusted repository to the published version or the final peer-reviewed manuscript accepted for publication under the latest available version of the Creative Commons Attribution International Public Licence (CC BY) or a licence with equivalent rights. CC BY-NC, CC BY-ND, CC BY-NC-ND or equivalent licenses could be applied to long-text formats.*" If the publishing agreement is contrary to the grant agreement obligations, authors should negotiate its terms and, alternatively, look for a different publishing venue/options.

IF THE PUBLISHERS REFUSES, LOOK FOR A DIFFERENT ONE!

Still in doubt?



Mandatory OS practices / data / summary



TO BE DETAILED IN THE PROPOSAL – EXCELLENCE. HOW WILL THE PROJECT BE COMPLIANT?

OPEN ACCESS TO DATA:

1. RESPONSIBLY MANAGE YOUR DATA ACCORIDNG TO THE FAIR PRINCIPLES; SET A **DATA MANAGEMENT PLAN** REGULARLY UPDATE IT
2. DEPOSIT IN A TRUSTED REPOSITORY, IF **EXPLICITLY MENTIONED, FEDERATED IN EOSC**
3. «AS OPEN AS POSSIBLE AS CLOSED AS NECESSARY»
4. ANY ELEMENT NEEDED TO VALIDATE/REPLICATE/REUSE
5. METADATA – CC0

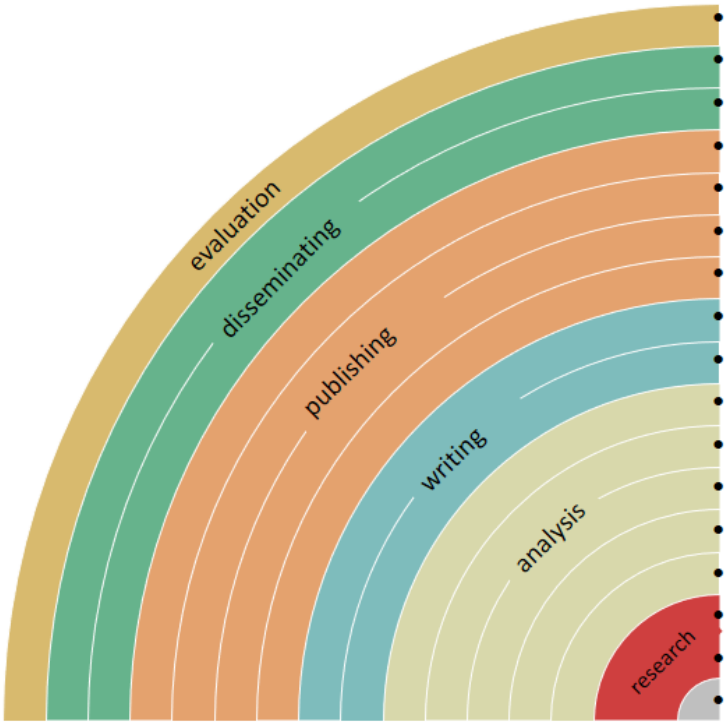
Mandatory OS practices / validation / summary

MEASURES TO ENSURE REPRODUCIBILITY:

1. INFORMATION ON TOOLS AND MATERIALS NEEDED TO VALIDATE THE RESULTS PUBLISHED IN THE PAPER
2. INFORMATION ON TOOLS AND MATERIALS NEEDED TO VALIDATE AND REUSE THE DATA
3. WHENEVER POSSIBLE, GIVE ACCESS TO IT

Recommended Open Science practices

YOU CAN MAKE YOUR WORKFLOW MORE OPEN BY...



- adding alternative evaluation, e.g. with. altmetrics
- communicating through social media, e.g Twitter
- sharing posters & presentations, e.g. at FigShare
- using open licenses, e.g. Creative Commons BY
- self archiving in archives or publishing on Open journals
- using open peer review, e.g. at PubPeer o F1000
- sharing preprints, e.g. at OSFpreprint, arXiv o biorXiv
- using actionable formats, e.g. with Jupyter o CoCalc
- open XML-drafting, e.g. at Overleaf o Authorea
- sharing protocols & workflows, e.g. at Protocols.io
- sharing notebooks, e.g. at OpenLabNotebook
- sharing code, e.g. at GitHub licensing GNU/MIT
- sharing data, e.g. at Dryad, Zenodo o Dataverse
- pre-registering, e.g. at OSFregistry o AsPredicted
- commenting openly, e.g. with Hypothes.is o Pund.it
- using shared reference libraries, e.g. with Zotero
- sharing (grant) proposals, e.g. with RIO Journal

Interactive rainbow 2021

[Guide]

PROGRAMME GUIDE, p.41-42

- EARLY SHARING
- FAIR DATA MANAGEMENT
- REPRODUCIBILITY
- OPEN ACCESS
- OPEN PEER REVIEW
- CITIZIEN SCIENCE

Early and open sharing: Provide specific information on whether and how you will implement early and open sharing and for which part of your expected output. For example, you may mention what type of early and open sharing is appropriate for your discipline and project, such as preprints or preregistration/registration reports, and which platforms you plan to use.

Research data management (RDM): RDM is mandatory in Horizon Europe for projects generating or reusing data. If you expect to generate or reuse data and/or other research outputs (except for publications), you are required to outline in a maximum of one page how these will be managed. Further details on this are provided

Reproducibility of research outputs: you should outline the measures planned in the project that tend to increase reproducibility. Such measures may already be interweaved in other parts of the methodology of a proposal (such as transparent research design, the robustness of statistical analyses, addressing negative results, etc) or in mandatory/non-mandatory open science practices *(e.g. the DMP, early sharing through preregistration and preprints, open access to software, workflows, tools, etc)* to be implemented. More detailed suggestions on good practices for enhancing

Open access: Offer specific information on how you will meet the open access requirements, that is deposition and immediate open access to publications and open access to data (the latter with some exceptions and within the deadlines set in the DMP) through a trusted repository, and under open licenses. You may elaborate on the (subscription-based or open access) publishing venues that you will use. You may also

Open peer review: Anytime it is possible, you are invited to prefer open peer review for your publications over traditional ('blind' or 'closed') peer review. When the case, you should provide specific information regarding the publishing venues you envisage to make use of, and highlight the venues that would qualify as providing open peer review.

Citizen, civil society and end-user engagement: Provide clear and succinct information on how citizen, civil society and end-user engagement will be implemented in your project, where/if appropriate. The kinds of engagement activities will depend on the type of R&I activity envisaged and on the disciplines and sectors implicated.

MSCA Application form – Part A

2022

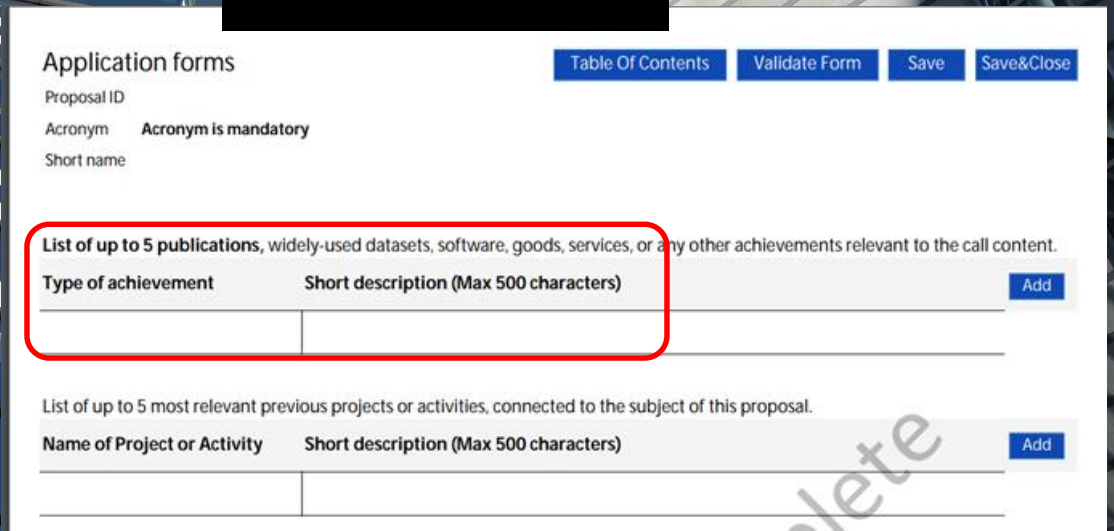
Horizon Europe Programme

Marie Skłodowska-Curie Actions
Postdoctoral Fellowships (HE MSCA PF)

Application form (Part A)
Project proposal – Technical description (Part B)

Version 1.1
5 May 2022

PART A – 5 ACHIEVEMENTS



MSCA App

2022

Horizon Europe Programme

Marie Skłodowska-Curie Actions
Postdoctoral Fellowships (HE MSCA PF)

Application form (Part A)
Project proposal – Technical description (Part B)

Version 1.1
5 May 2022

Part B-1

1. Excellence

1.1 Quality and pertinence of the project's research and innovation objectives (and the extent to which they are ambitious, and go beyond the state of the art)

At a minimum, address the following aspects:

- Describe the quality and pertinence of the R&I objectives; are the objectives measurable and verifiable? Are they realistically achievable?
- Describe how your project goes beyond the state-of-the-art, and the extent to which the proposed work is ambitious.

1.2 Soundness of the proposed methodology (including interdisciplinary approaches, consideration of the gender dimension and other diversity aspects if relevant for the research project, and the quality of open science practices)

At a minimum, address the following aspects:

- Open science practices: Describe how appropriate open science practices are implemented as an integral part of the proposed methodology. Show how the choice

gy, including the
ain how this will
nt challenges you
end to overcome

that will increase the chances of the project delivering on its objectives *[e.g. up to 1/2 page, including research data management]*. If you believe that none of these practices are appropriate for your project, please provide a justification here.

Open science is an approach based on open cooperative work and systematic sharing of knowledge and tools as early and widely as possible in the process. Open science practices include early and open sharing of research (for example through pre-registration, registered reports, pre-prints, or crowd-sourcing); research output management; measures to ensure reproducibility of research outputs; providing open access to research outputs (such as publications, data, software, models, algorithms, and workflows); participation in open peer-review; and involving all relevant knowledge actors including citizens, civil society and end users in the co-creation of R&I agendas and contents (such as citizen science).

Please note that this does not refer to outreach actions that may be planned as part of the communication, dissemination and exploitation activities. These aspects should instead be described below under 'Impact'.

MSCA Application form – Part B1

- Open science practices: Describe how appropriate open science practices are implemented as an integral part of the proposed methodology. Show how the choice of practices and their implementation is adapted to the nature of your work in a way

[2] Interdisciplinarity means the integration of information, data, techniques, tools, perspectives, concepts or theories from two or more scientific disciplines.

2022

Horizon Europe Programme

Marie Skłodowska-Curie Actions
Postdoctoral Fellowships (HE MSCA PF)

Application form (Part A)
Project proposal – Technical description (Part B)

Version 1.1
5 May 2022

1-2 PAGES ON APPROPRIATE OPEN SCIENCE PRACTICES

that will increase the chances of the project delivering on its objectives *[e.g. up to 1/2 page, including research data management]*. If you believe that none of these practices are appropriate for your project, please provide a justification here.

Open science is an approach based on open cooperative work and systematic sharing of knowledge and tools as early and widely as possible in the process. Open science practices include early and open sharing of research (for example through pre-registration, registered reports, pre-prints, or crowd-sourcing); research output management; measures to ensure reproducibility of research outputs; providing open access to research outputs (such as publications, data, software, models, algorithms, and workflows); participation in open peer-review; and involving all relevant knowledge actors including citizens, civil society and end users in the co-creation of R&I agendas and contents (such as citizen science).

Please note that this does not refer to outreach actions that may be planned as part of the communication, dissemination and exploitation activities. These aspects should instead be described below under 'Impact'.

[...real life]

..THE RISK IS HAVING A DMP ILLUSTRATING HOW AND WHEN A PRIVACY CONSENT FORM WILL BE SIGNED... INA A RESEARCH WITH MICE...[A POLISH COLLEAGUE TOLD ME]

...I HOPE IT'S CLEAR THIS IS PRECISELY WHAT YOU **DO NOT** HAVE TO DO...

«COME ON, IT'S LIKE HORIZON 2020... UHM NO? DID THEY ADD OPEN SCIENCE? SO YOU WRITE A PAGE ON OPEN SCIENCE AND THEN WE ALL COPY/PASTE, YOU WRITE A DMP SCHEMA AND THEN WE ALL COPY/PASTE»

MSCA Application form – Part B1

2022

Horizon Europe Programme

Marie Skłodowska-Curie Actions
Postdoctoral Fellowships (HE MSCA PF)

Application form (Part A)
Project proposal – Technical description (Part B)

Version 1.1
5 May 2022

- Research data management and management of other research outputs: Applicants generating/collecting data and/or other research outputs (except for publications) during the project must explain how the data will be managed in line with the FAIR principles (Findable, Accessible, Interoperable, Reusable).

- *For guidance on open science practices and research data management, please refer to the relevant section of the HE Programme Guide on the Funding & Tenders Portal.*

INCLUDING FAIR DATA MANGEMENT
[IF YOU COLLECT OR GENERATE DATA]

MSCA action Application form

2022

2. Impact

2.1 Credibility of the measures to enhance the career perspectives and employability of the researcher and contribution to his/her skills development

At a minimum, address the following aspects:

- **Expected** skill development of the researcher.
- **Expected** impact of the proposed research and training activities on the researcher's career perspectives inside and/or outside academia.

2.2 Suitability and quality of the measures to maximise expected outcomes and impacts, as set out in the dissemination and exploitation plan, including communication activities

At a minimum, address the following aspects:

- Plan for the dissemination and exploitation activities, including communication activities:* Describe the planned measures to maximize the impact of your project by providing a first version of your 'plan for the dissemination and exploitation including communication activities'. Describe the dissemination, exploitation measures that are planned, and the target group(s) addressed (e.g. scientific community, end users, financial actors, public at large). Regarding communication measures and public engagement strategy, the aim is to inform and reach out to society and show the

- Strategy for the management of intellectual property, foreseen protection measures if relevant, discuss the strategy for the management of intellectual property, foreseen protection measures, such as patents, design rights, copyright, trade secrets, etc., and how these would be used to support exploitation.

DISSEMINATION & EXPLOITATION PLAN

[THERE IS NO CONFLICT BETWEEN OPEN/PATENTS]

MSCA Application form – Part B1

Be specific, referring to the effects of your project, and not R&I in general in this field. State the target groups that would benefit.

- Expected scientific impact(s): e.g. contributing to specific scientific advances, across and within disciplines, creating new knowledge, reinforcing scientific equipment and instruments, computing systems (i.e. research infrastructures);
- Expected economic/technological impact(s): e.g. bringing new products, services, business processes to the market, increasing efficiency, decreasing costs, increasing profits, contributing to standards' setting, etc.
- Expected societal impact(s): e.g. decreasing CO2 emissions, decreasing avoidable mortality, improving policies and decision-making, raising consumer awareness.

2022

Horizon Europe Programme

Marie Skłodowska-Curie Actions
Postdoctoral Fellowships (HE MSCA PF)

Application form (Part A)
Project proposal – Technical description (Part B)

Version 1.1
5 May 2022

March 24, 2021

HORIZON EUROPE LEGISLATION defines three types of impact, tracked with Key Impact Pathways

1. Creating high-quality new knowledge
2. Strengthening human capital in R&I
3. Fostering diffusion of knowledge and Open Science

Scientific Impact

4. Addressing EU policy priorities & global challenges through R&I
5. Delivering benefits & impact via R&I missions
6. Strengthening the uptake of R&I in society

Societal Impact

7. Generating innovation-based growth
8. Creating more and better jobs
9. Leveraging investments in R&I

Economic/ Technological Impact

Article 50 & Annex V *'Time-bound indicators to report on an annual basis on progress of the Programme towards the achievement of the objectives referred to in Article 3 and set in Annex V along impact pathways'*

European Commission

EXPECTED IMPACT – DO NOT FORGET THE IMPACT PATHWAYS
[AMONG WHICH, OPEN SCIENCE!]

MSCA application form – Part B2

2022

Horizon Europe Programme

Marie Skłodowska-Curie Actions
Postdoctoral Fellowships (HE MSCA PF)

Application form (Part A)
Project proposal – Technical description (Part B)

Version 1.1
5 May 2022

Part B2 (no overall page limit applied)

4. CV of the researcher (indicative length: 5 pages)

Any information provided in Parts A and B of the proposal should be fully consistent. Always mention full dates (using format: dd/mm/yyyy). The CV should include the standard academic and research record. Any research career gaps and/or unconventional paths should be clearly explained.

At a minimum, the CV should contain:

a) The name of the researcher;
b) Professional experience (most recent first, with exact dates in format dd/mm/yyyy);
c) Education, including PhD award date (most recent first, with exact dates in format: dd/mm/yyyy).

CV should include information on:

Publications in peer-reviewed scientific journals, peer-reviewed conference proceedings, and/or monographs (they are expected to be open access either published or through repositories) and other outputs such as data, software, algorithms significant for your research path (they are expected to be open access in appropriate repositories to the extent possible; they should be accompanied by a very short qualitative assessment of their scientific significance and not by the Journal Impact Factor);

Invited presentations to internationally established conferences and/or international advanced schools;

IN YOUR CV
- PUBLICATIONS ARE SUPPOSED TO BE OPEN (PUBLISHED OR DEPOSITED)
- SCIENTIFIC IMPACT NOT BY IMPACT FACTOR

…once the project is approved…

BY MONTH 6 YOU HAVE TO PROVIDE
A DATA MANAGEMENT PLAN

What if I generate no data?

Research data management (RDM): RDM is mandatory in Horizon Europe for projects generating or reusing data. If you expect to generate or reuse data and/or other research outputs (except for publications), you are required to outline in a maximum of one page how these will be managed. Further details on this are provided

YOU SIMPLY DON'T HAVE TO DRAFT ANY DATA MANAGEMENT PLAN!
JUST STATE IN THE PROPOSAL THAT YOUR PROJECT IS NOT GOING TO GENERATE DATA

IF YOU GENERATE SOFTWARE, THEN THIS IS AN OUTPUT TO BE DEPOSITED (IN GITHUB?) AND ADDRESSED IN A SHORT DMP

… DMP?

DATA MANAGEMENT PLANS ARE YOUR FIRST RESEARCH «PRODUCT» IF YOU WANT YOUR DATA TO BE AVAILABLE AND REUSABLE (EVEN BY YOURSELVES!!!)

BROWSE PUBLISH ABOUT

PLOS COMPUTATIONAL BIOLOGY

OPEN ACCESS

EDITORIAL

Ten simple rules for getting and giving credit for data

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Rule 3: Data management plans are your first research product

Now that you have mastered the complexity (or at least scratched the surface) of what it takes to create FAIR, comparable, and reproducible data, we need to talk about data management plans (DMPs). These are often required by funders as supplementary documents to research grants, where you outline when, where, and how data from the project will be preserved and shared. We won't go into best practices for creating a DMP, as that is well articulated by Michener [28]. However, we do want to emphasize that DMPs are no longer just supplementary pdfs. They can (and should) be created as FAIR, machine-actionable, living documents [29]. DMPs establish the initial node in your upcoming research product network (data, code, etc.). DMPs connect the people and data to the funding agency and put a stake in the ground for the


IT IS A STRUCTURED WAY TO THINK OF YOUR DATA
CLEAR RULES, LESS MISTAKES FROM THE BEGINNING
IT'S A FORMAL DOCUMENT ABOUT HOW YOU ARE GOING TO MANAGE YOUR DATA
IT'S A «LIVING DOCUMENT», IT GROWS WITH THE PROJECT
A NEW WAY OF THINKING TO YOUR RESEARCH, FROM THE PERSPECTIVE OF YOUR DATA
IT IS THE RIGHT VENUE TO JUSTIFY YOUR CHOICES ON OPEN/CLOSED
...LET'S BE CLEAR:
THE ISSUE HERE IS NOT «LEARNING» HOW TO DRAFT A DMP
BUT LEARNING HOW TO RESPONSIBLY MANAGE FAIR DATA.
DMP IS ITS PRACTICAL DECLARATION
IT IS CRUCIAL TO ENSURE FUNDING TO COVER THE COSTS OF DATA MANAGEMENT
DATA MANAGEMENT PLAN

Tips and tricks

SINTETIC AND SPECIFIC

DO NOT COPY/PASTE

BEING GENERIC IS USELESS
[we expect a huge size of data; data will be available]

EVERY DATASET IS UNIQUE, EVERY INFRASTRUCTURE IS DIFFERENT, EVERY RESEARCH HAS DIFFERENT PARTNERS/POLICIES

- LET'S USE TABLES AND BULLET POINTS
- BE CLEAR, SHORT SENTENCES. IT'S NOT A DISSERTATION

- IF YOU DON'T KNOW IT, SAY IT [THEN YOU'LL UPDATE]
- IF NOT, IT SEEMS YOU ARE NOT AWARE [SAME DIFFERENCE BETWEEN BLANK CELL AND A CELL WITH N.A.]

WHAT YOU STATE IN THE DMP THEN HAS TO BE DONE…
DON'T SHOW OFF
DON'T DECLARE SOMETHING YOU CAN'T GET
e.g. PSEUDONIMYZED DATA, not ANONIMYZED

Some help

OA@unito.it

Come scrivere un DMP

In UniTO | Come | Cos'è utile | Perché è importante | Editori e Politiche Open Access (EPOcA) | Eventi

Come scrivere un Data Management Plan

Il Data Management Plan (DMP) è un documento strutturato, vivo, che cresce con il progetto. Serve a dichiarare come si producono i dati, come li si conserverà e come li si condividerà (se possibile).

Pensatelo come le "Istruzioni per l'uso" dei vostri dati.

Deve essere

- **sintetico**: evitate sproloqui, non è una dissertazione. Frasi
- **schematico**: utilizzate il più possibile tabelle e punti elenco
- **preciso**: evitate frasi (viste davvero) tipo "we expect a huge
far perdere tempo a chi lo scrive e achi lo legge. Quantifica

Preparing a Data Management Plan (DMP)

A Data Management Plan is a document specifying how research data will be **handled both during and after a research project**. It identifies key actions and strategies to ensure that research data are of a high-quality, secure, sustainable, and – to the extent possible – accessible and reusable.

Preparing a DMP

Why develop a DMP?

Creating a DMP is **considered good practice** for any research project using or generating data. After all, planning is the first step towards proper research data management.

Decisions made early on affect what you can do later, so good and timely planning can **save you a lot of time and problems** in the longer run. It also helps you consider the necessary **resources and** costs for data management, so you can include these in your grant applications.

In addition, you may be **required** to draft a DMP, for example by your research funder.

DMP online

FREE TEXT. YOU HAVE TO KNOW WHAT TO ADDRESS NOT TO FORGET ANYTHING

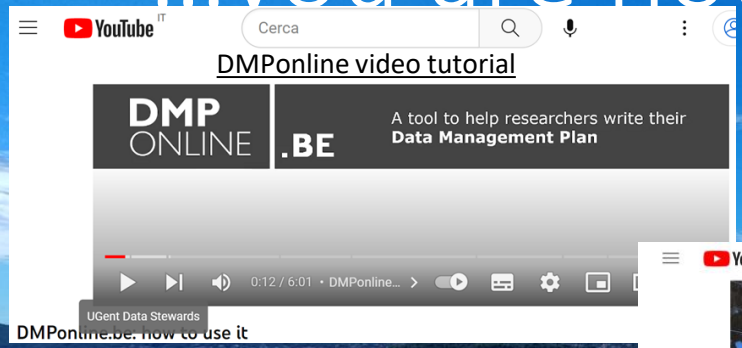
Data stewardship wizard

GUIDED STEP TO STEP FILLING. YOU MIGHT FIND IT MORE COMPLEX, BUT IN THE END IT'S THE SYSTEM WHICH AUTOMATICALLY GENERATE THE DMP EXTRACTING THE RELEVANT INFORMATION

Argos

GUIDED STEP TO STEP FILLING. YOU MIGHT FIND IT MORE COMPLEX, BUT IN THE END IT'S THE SYSTEM WHICH AUTOMATICALLY GENERATE THE DMP EXTRACTING THE RELEVANT INFORMATION

...you are not alo

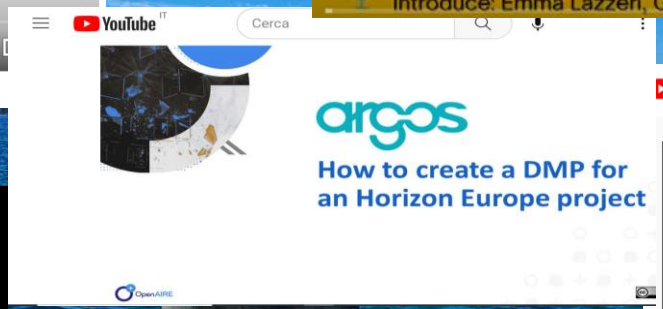


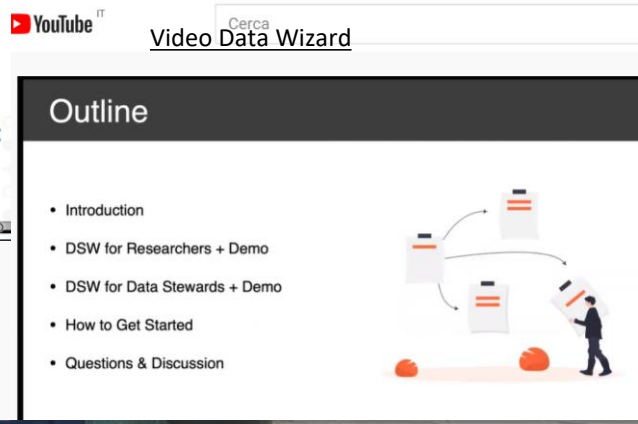
DMPonline video tutorial

DMPonline.be: how to use it

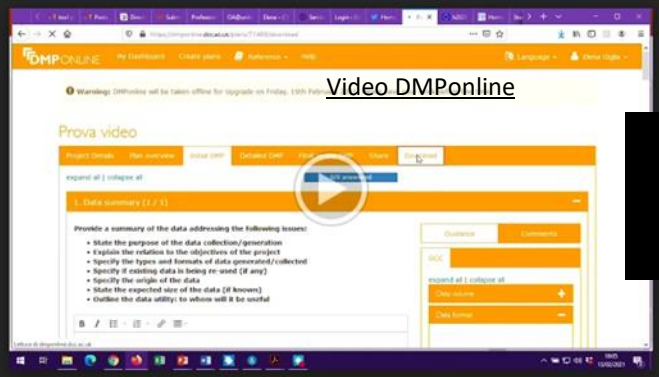
2023

VIDEO TUTORIALS



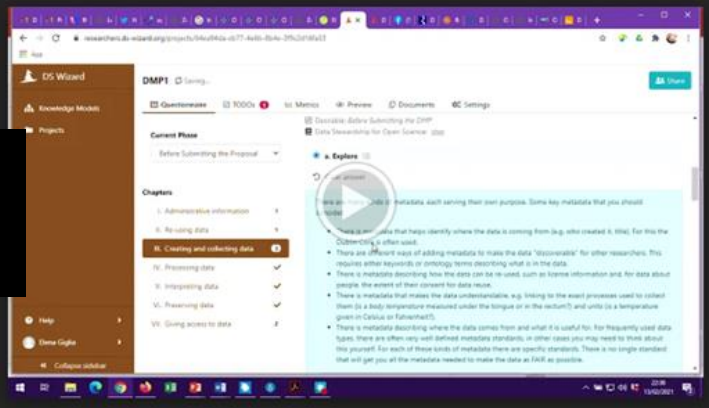


Video Data Wizard



Video DMPonline

TUTORIAL (IT)



THANK YOU!