

#VisitEP

The future is
in your hands



Open Science
why and how

Elena Giglia

CEOS_SE,
Zagreb,
21.09.2022

Make your voice heard

<https://doi.org/10.5281/zenodo.7082967>

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@egiglia



Conference
on the Future
of Europe



BY

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Why are we here today / 1

Slides available in Zenodo and at
<https://www.oa.unito.it/new/materiale-scaricabile/>

TO HELP EACH OTHER IN
FOCUSING ON WHAT'S
RELEVANT FOR OUR
RESEARCHERS (AND CITIZENS)
IN OPEN SCIENCE

TO SHARE LESSONS LEARNED
GIVING TRAINING (WHAT
WORKS, WHAT DOES NOT,
WHAT CATCH THE
ATTENTION...)

NOT TO LEARN ABOUT OPEN
SCIENCE – WHICH YOU MIGHT
KNOW BETTER THAN ME...

IT WILL BE A SORT OF
«METALESSON» – USING MY
TRADITIONAL SLIDE DECK,
AND HIGHLIGHTING SOME
METHODOLOGICAL ISSUES

TO DISCUSS EFFECTIVE
FUTURE TRAINING IN OPEN
SCIENCE (WITH A FOCUS ON
CITIZEN SCIENCE)

WHENEVER
YOU SEE THE
CLOUD!

Why are we here today?

TRY TO BE UP-TO-
DATE (TO THE
NIGHT BEFORE!!!)



Excellence – aspects to be taken into account.

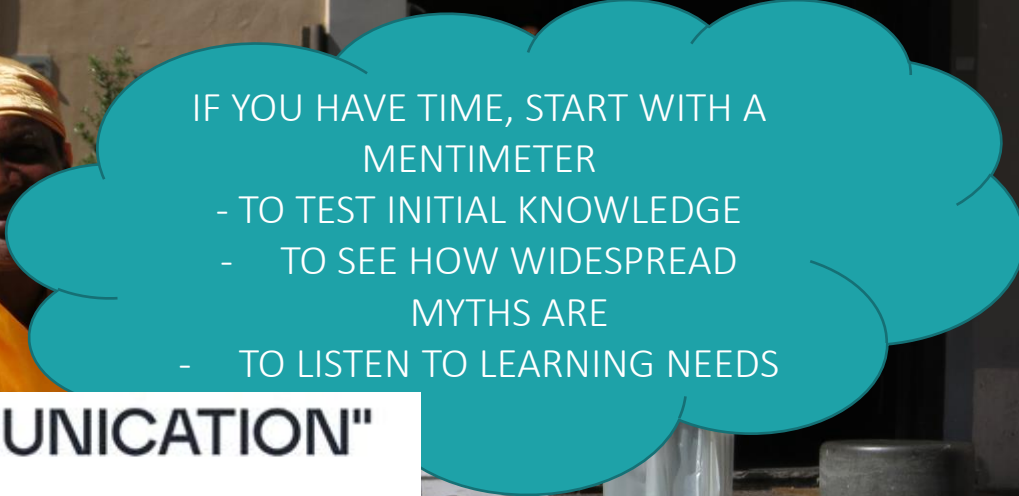
- Clarity and pertinence of the project's objectives, and the extent to which the proposed work is ambitious, and goes beyond the state of the art.
- Soundness of the proposed methodology, including the underlying concepts, methods, assumptions, interdisciplinary approaches, appropriate consideration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

SUBSTANTIATE
WITH SOURCES

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 OUR RESEARCHERS WILL BE EVALUATED
ON HOW YOUR PROPOSAL ADOPTS/ADAPTS OS PRACTICES

STRESS
«WHAT'S IN IT
FOR ME»



IF YOU HAVE TIME, START WITH A
MENTIMETER

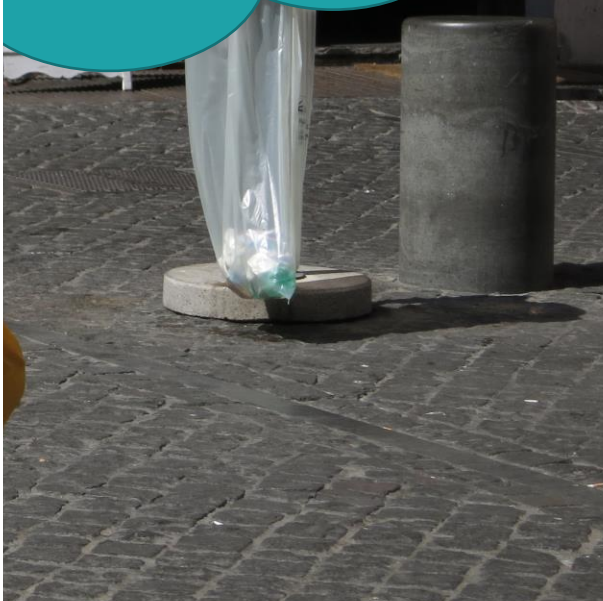
- TO TEST INITIAL KNOWLEDGE
- TO SEE HOW WIDESPREAD MYTHS ARE
- TO LISTEN TO LEARNING NEEDS

COMMUNICATION"

- TO LISTEN TO LEARNING NEEDS

IF I SAY "SCHOLARLY COMMUNICATION" YOU THINK OF...

OPEN SCIENCE IS...?



OPEN SCIENCE IS...?

open access

Public and open peer-review articles

indication of contents

The information that can be freely accessed by everyone

pay for publish

free consultation

Sharing free science

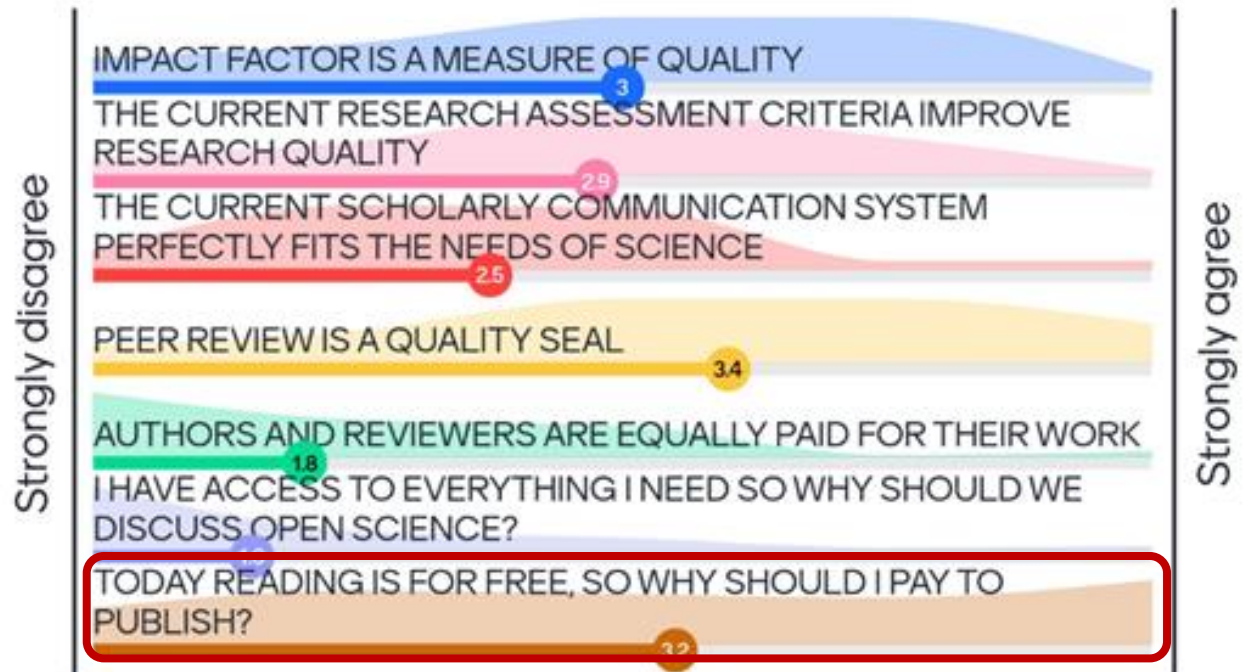
free access to knowledge

Sci-hub

Tips&tricks / 2

DO YOU AGREE THAT

NONE IS
TRUE!



Tips&tricks / 3

...AND THEN
REMEMBER TO
CHECK AT THE
END!

PLEASE TYPE SOME ISSUES YOU EXPECT TO BE DEALT WITH DURING THIS COURSE (WE'LL CHECK AT THE END)

Mentimeter

better knowledge

Could open science help us to make a publication in an A level Journal?

equality

discrimination and choice of journals in which to publish

Understand to have an opinion

immense amount of opensource publications. It is hard to distinguish between them and sometimes the content is overwhelming without having a concise overview (especially when it comes to reviews)

To Know openscience better and how it helps me in my research activities

haow to publish to contribute to open science

how to contribute in open science; know more about it

writing techniques

how can we contribute and support open science?

know more about open science

No issues that I can predict. I would love to know more about promoting open science

What is Open science and how we can contribute to it without destroying our career

The fundamental concepts of open science

vantages from publishing in open sciences

How can I publish my article in a good journal at the same time making sure it is contributing to open science?

how to communicate effectively

Tips&tricks / 5

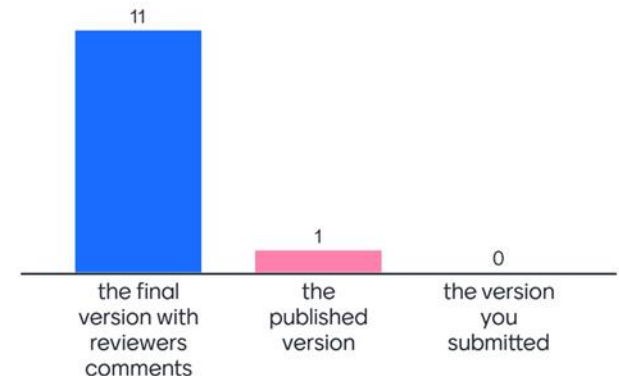
FIX THE CONCEPTS

- WORD CLOUD
- SHORT TEST

PLEASE WRITE 3 CONCEPTS THAT STRUCK YOU DURING THE PRESENTATION



by "accepted manuscript" we mean



What are we going to see?

I LIKE TO TELL FIRST
WHY, AND THEN
HOW – NOT JUST
RULES TO STICK TO:
SEE THE VALUE FIRST!

Why should we care about Open Science

What is Open Science / and what is not

FAIR and Open as the «new normal» in EOSC

Open Science, Citizen Science and DMPs in
your Horizon Europe proposal

Some starting points

CLEAR MESSAGES
TO SET THE SCENE

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»...



Jon Tennant
@Protohedgehog

Following

My first talk of the year! Message is going to be that the opposite of 'open science' isn't 'closed science' - it's bad science.

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

MESSAGE IS: EITHER
YOU ARE IN, OR
YOU'LL BE OUT FOR
YEARS

Horizon Europe: what's new on C

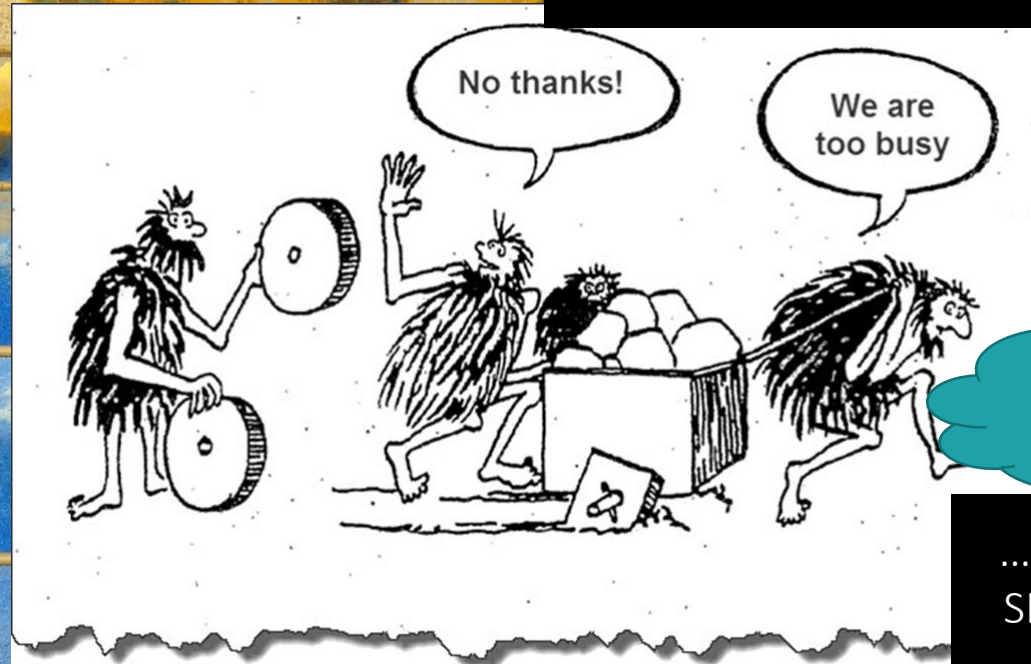
Open Science, Open Innovation, EOSC, FAIR: be ready!

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



THE WHY
BEFORE THE
HOW

...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

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, we outline valid reasons for researchers not to participate in open science practices.

Discussion

There are no valid reasons.

IF YOU LAUGH YOU
ENJOY LEARNING
(AND TEACHING!)

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

...towards



EVOLVING TOWARDS AN ERA OF OPEN RESEARCH

YOU, AS RESEARCHERS, WANT TO
GET FROM POINT a TO b...YOU
DON'T CARE ABOUT OUR
ACRONYMS
WE MUST MAKE IT SEAMLESS AND
«TOO EASY NOT TO DO»

When you think of a researcher, what do you think of?

- Most of us here are infrastructure people.
- The researcher, our "end user," is torn between teaching obligations, committee work, conference organization, and social life, in addition to research.
- They appreciate what we (infra people) do, but not enough (SSHOC, DARIAH, COST Action, CLARIN, EOSC, etc.)
- They have limited time and want to get from point a to point b. That is where we come in!

Apr. 6 2022

CATCH PHRASES

**TOO EASY
NOT TO DO**

Scriberia

Open Science in practice?

"Vague but exciting"

CERN DD/OC
Information Management: A Proposal

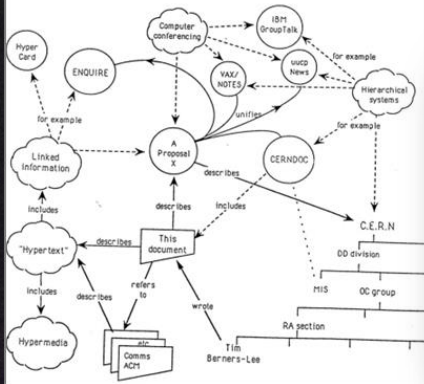
Tim Berners-Lee, CERN/DD
March 1989

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



BE CONCRETE. USE
SOMETHING ANYONE
CAN RELATE TO

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

WHY DO YOU DO RESEARCH?

...but first, a question

THIS IS REALLY VERY MUCH APPRECIATED. THEY ARE SO CAUGHT UP IN THE SYSTEM THAT THEY NEVER REFLECT ON THEIR INITIAL CHOICE – AND DREAMS. I RECEIVED TOUCHING EMAILS TO REPLY TO THIS 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 Nilsson and Toma Susi

Share [f](#) [t](#) [in](#) [e](#)

Scholarly communication...

ACCESS

RIGHTS
MANAGEMENT
(authors,
readers,
publishers...)

PRESERVATION

PRODUCTION

IT'S CRUCIAL TO SHOW
HOW IT WORKS – IF NOT,
THERE WILL ALWAYS BE
SOMETHING MISSING.
STRESS THAT RESEARCH
EVALUATION IS THE KEY

ECONOMY
(AND PROFITS)

COSTS

(REAL COSTS – PRESTIGE - «ANELASTIC MARKET»)

TECNOLOGY

DISCIPLINES/CHANNELS
(BOOKS, JOURNALS...)

NEW MODELS
(SUSTAINABILITY)

**RESEARCH
EVALUATION**

Scholarly communication: functions

REGISTRATION

[Impact Factor]

REWARD

CERTIFICATION

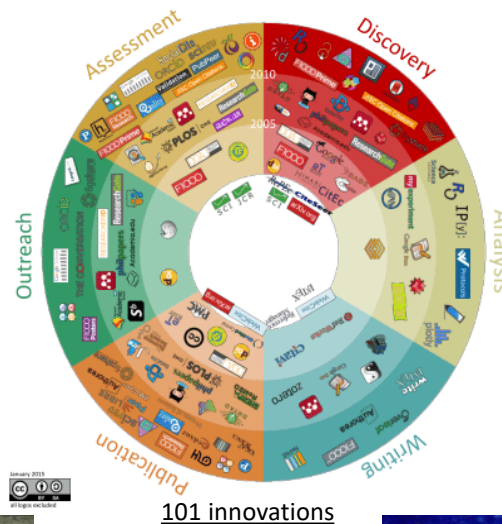
AWARENESS

PUBLICATION IS
GETTING IN THE
WAY OF
COMMUNICATION

ARCHIVING

Guest Post by Jean-Claude Guéron:
Scholarly Communication and Scholarly
Publishing

101 Innovative tools and sites in 6 research workflow phases
(< 2000 - 2015)



CASPA

Open Access
Scholarly Publishing
Association

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.
Published online 2020 Aug 25.
doi: [10.12688/f1000research.2020.2020](#)

PMCID: PMC7590891
2020
PMID: 33145014

WE CAN'T GO BACK TO
THE «NORMAL»!!! AS
IT'S DISFUNCTIONAL
FOR SCIENCE



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

Feb. 4 2022

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



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.

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.



Lessons learned from COVID

TRADITIONAL SUBSCRIPTION
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

Sanjee Baksh, PhD @S_Baksh · 21h

Congratulations to the authors but I am not strong enough for this

[Mostra questa discussione](#)

<https://doi.org/10.1038/s41586-022-04627-y>

Received: 25 June 2019

Accepted: 4 June 2021

Published online: 20 April 2022

VIEWPOINTS

Opinion: A Lesson of the Pandemic: All Prints Should Be Preprints

*A flourishing of Covid-19 literature dispels
the idea that pre-publication peer review is
essential for academic rigor.*

Visual: Wenjin Chen / Getty Images

2020

Lessons learned from the pandemic

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



Impact Factor is a
toxic indicator



Use of pre-prints – calling time on subscription

- 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



<https://app.magicapp.org/#/guidelines>

Lessons learned from COVID / 5

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 climate of open science suggests that science-as-usual creates barriers. (Amélie Philibert)

Health · Second Opinion

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

Feb.1, 2020

...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.

...publishers and COV



Heather Joseph @hjoseph

Unreal. Acknowledging that making these papers #openaccess will help speed progress and save lives but at the same time only doing it for limited time - and for a single disease.

UNREAL. THEY KNOW THEY SAVE LIVES BUT THEY OPEN

- ONLY FOR 1 DISEASE
- ONLY FOR LIMITED TIME



WE DON'T KNOW WHICH RESEARCH PAPERS THAT TODAY REMAIN LARGELY INACCESSIBLE COULD INSPIRE SOLUTIONS AND BRIGHT IDEAS FOR TOMORROW'S CHALLENGES

ONLY CORONAVIRUS?
ALZHEIMER, CANCER,
CLIMATE CHANGE,
VIOLENCE AGAINST
WOMEN ARE LESS
IMPORTANT?...

THEY KNOW THEY SAVE LIVES BUT OPEN ARTICLE ONLY FOR THE DURATION OF THE OUTBREAK...

March 13, 2020

NEWS RELEASE



For Immediate Release

the significant threat that COVID-19 represents to public health. In order to aid the efforts to slow the spread of the virus and, fundamentally, to save lives, STM publishers are committed to

- Provide immediate free access to all relevant peer-reviewed publications to ensure that for the duration of the outbreak, research and data quickly reaches the widest possible

Scholarly communication today...

... WE ARE PAYING COMMERCIAL PUBLISHERS TO
LOCK UP A **CONTENT PRODUCED BY PUBLIC MONEY**
YOU **AUTHORED FOR FREE**, YOU **REVIEWED FOR FREE**

"Learning on knowledge graph dynamics
provides an early warning of impactful
research"

You are viewing an article preview. The following formats
are available to purchase through ReadCube:

\$8.99 [Rent for 48 hours](#)
Printing and saving restrictions apply

\$22 [Buy Cloud Access](#) ☐
Printing and saving restrictions apply

\$32 [Buy PDF](#) ☐

RELATE TO
THEIR DAILY
EXPERIENCE

The purpose of publications
in a pandemic and beyond

distinction than dissemination. And when it comes to a global
emergency, we're still having to [beg publishers for access to our
own research](#) so that we might save large swathes of the human

Apr. 22, 2020

AND THEN WE HAVE TO BEG THEM FOR ACCESS
DURING A CRISIS



[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.”

”

Scholarly communication: some numbers

1 billion \$

4

4,4 million €

7.6 billion \$

36%

521%

GIVE THE NUMBERS!!!
THEY DON'T IMAGINE HOW
MUCH WE SPEND IN
SUBSCRIPTIONS!!!

Scholarly communication money

Aczel et al. *Research Integrity and Peer Review*
<https://doi.org/10.1186/s41073-021-00118-2>

(2021) 6:14

Research Integrity and
Peer Review

RESEARCH

Open Access

A billion-dollar donation: estimating the cost of researchers' time spent on peer review

Balazs Aczel^{1*}, Barnabas Szasz^{1*} and Alex O.



1 billion \$

4

TIMES ANY INSTITUTION
PAYS FOR RESEARCH

For researchers, it's like going to a restaurant, bringing all of your own ingredients, cooking the meal yourself, and then being charged \$40 for a waiter to bring it out on a plate for you.

You are the provider, the product, and the consumer.
J. Tennant, 2018

WAGES

RES. FUNDING

RES. OUTPUTS PUBLISHED

SUBSCRIPTIONS

4,4 million €

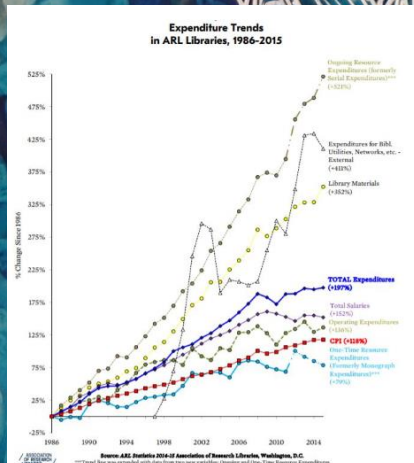
REUSE RIGHTS

521%

INCREASE IN SERIALS
EXPENDITURES 1986-2015

GUESS: LIBRARY BUDGET
INCREASED BY 521%?

CUTS, CUTS, CUTS



... school

on today...

IF YOU HAVE TO GIVE
ONLY ONE MESSAGE, THIS
IS THE ONE: READING IS
NOT FOR FREE.

2016

READING IS NOT
FOR FREE

TODAY, WE PAY
3800/5000 \$ PER
ARTICLE IN THE
SUBSCRIPTION
SYSTEM

WE PAY TO CLOSE

7.6 billion \$

[UNDERESTIMATED] AMOUNT OF MONEY
SPENT IN SUBSCRIPTION IN 2016

36%

ELSEVIER NET GAIN

Science

A new mandate highlights costs, benefits of making
all scientific articles free to read

By Jeffrey Brainard | Jan. 1, 2021, 12:01 AM

Jan 1, 2021

Eloy Rodrigues
20 h · 🌐

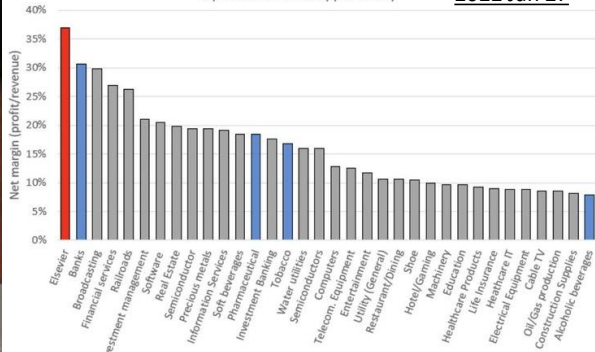
This is the publishers perspective (from the concluding paragraphs):

"The journal publishing industry's annual revenues of about \$10 billion represent less than 1% of total global spending on R&D—and, in this view, it's reasonable to divert more of the total to scholarly communications that are essential to making the entire enterprise run."

So it doesn't matter if there is growing evidence that we could have a much better scholarly communication system (more efficient, more innovative, more inclusive, more transparent and self-correcting) for a fraction of this \$10 billion. Let's focus on maintaining the current system, and especially the current big commercial companies that benefit from it, even if we (research institutions, governments and their taxpayers) need to use more resources to feed it. Right?

Wrong!

Elsevier is more profitable than any industry
Top industries ranked by profitability
2022 Jan 27



Profit	Company	Industry
10%	BMW	automobiles
23%	Rio Tinto	mining
25%	Google	search
29%	Apple	premium computing
35%	Springer	scholarly pub
37%	Elsevier	scholarly pub

...PUBLISHER
WOULD WANT
MORE...

Scholarly communication: let's talk money

TAKE THE
QUIZ...AND ASK
YOUR PROFESSORS
TO TAKE IT TOO



UNIVERSITY
of VIRGINIA

LIBRARY

What costs more Univ. of Virginia

What costs more?

Which is more expensive? (required)

- ☐ Estimated cost of access to Wiley Online Library in 2025, if the Library stayed with the traditional model
- ☐ Two months at sea off the south of France, with 12 of your closest friends and a crew of 12 on a 211' yacht.

Next Slide

Nope!

A summer-long trip on a private yacht in the French Riviera doesn't run cheap, but you can get it for less than 7 figures. Access to Wiley Online Library under traditional models is estimated to cost more than a million dollars in 2025.

In the course of 9 years, the collections budget consumed by the four Big Deal vendors went from 21% (2009) to 43% (2018), a clearly unsustainable pace of increase.

Next Slide



Jean-Sebastien Caux
@jscaux

Following

The prospectus for the IPO of Springer Nature
[proxy.dbagproject.de/mediacenter/re ...](https://proxy.dbagproject.de/mediacenter/re...)
should be compulsory reading for any funder/university/agency representative negotiating with publishers. You can then question whether you should support #SciPost and similar initiatives, or can afford not to.

Traduci il Tweet

13:38 - 5 May 2018

22 Retweet 28 Mi piace



Prospectus dated April 25, 2018

SPRINGER NATURE

Prospectus

for the public offering

Focus on Research, with a High-Quality Brand Portfolio, Global Scale Benefit from Strong Growth in the Open Access Publishing Market.

increasingly important, as market participants increasingly differentiate in the open access market with regard to APCs according to a journal's impact factor. Our open access portfolio includes a large number of leading brands, such as such as Nature Communications, Scientific Reports and Springer Open, and high impact factor publications, positioning us well to command premium APCs from authors.

Springer Prospectus Apr. 25

REALITY VS
MARKETING: SHOW
THE REAL PUBLISHERS'
INTEREST AND TARGET

THE WORLD
UNIVERSITY
RANKINGS

PROFESSIONAL JOBS SUMMITS RANKINGS

g impact factor to 'open access' charges
s more inequality in academic publishing

document aimed at potential investors, not a marketing tool for authors or librarians). In fact, for more than 10 years, long before DORA, *Nature* editorials have expressed concerns about the overuse

needed to fulfil our obligations. This has seen us stop using journal impact factors in isolation in our marketing (note: a prospectus is a legal

10.2.5 Increasing Share in Revenues from Open Access

«PRESTIGE» IS A RECIPE FOR
DISASTER

Springer Nature was one of the first academic publishers to actively embrace the opportunities offered by open access, which provides us additional opportunities to generate revenues, as open access publications are funded by authors and/or their funders or the relevant research institutions, not libraries. Accordingly, revenues stemming from APCs are in the short- to medium-term supplementary to the subscription business, not cannibalistic. Some of our journals are among the open access journals with the highest impact factor, providing us with the ability to charge higher APCs for these journals than for journals with average impact factors.

Scientific, Technical & Medical

	Year ended 31 December				
	2021 £m	2020 £m	Change	Change at constant currencies	Change underlying
Revenue	2,649	2,692	-2%	+4%	+3%
Adjusted operating profit	1,001	1,021	-2%	+3%	+3%
Adjusted operating margin	37.8%	37.9%			

88% of revenue electronic

Improved underlying revenue growth driven by further development of datasets and analytics.

In Primary Research growth was driven by broader content sets, increasing sophistication of analytics, and evolving technology platforms. Article submissions remained at last year's elevated levels. The number of articles published grew strongly, with continued growth in subscription articles and particularly strong growth in open access articles, leading to further market share gains in both payment models.

REPORT ELSEVIER
2021
NET GAIN 37,8%

- **PROFIT** IS THEIR ONLY TARGET (NOT ADVANCING SCIENCE, WHICH IS IMPOSSIBLE IF YOU KEEP KNOWLEDGE BEHIND A PAYWALL)
- OPEN ACCESS = SECOND REVENUE STREAM [THAT'S WHY THEY ARE MAKING THE «TRANSITION» LASTING MORE THAN 18 YEARS – NOT A TRANSITION, A NEVERENDING EXPLOITATION]

- **Paid subscriptions** - Our Scientific, Technical & Medical (STM) primary research content, like that of most of our competitors, is sold largely on a paid subscription basis. There is continued debate in government, academic and library communities, which are the principal customers for our STM content, regarding to what extent such content should be funded instead through fees charged to authors or authors' funders and/or made freely available in some form after a period following publication. Some of these methods, if widely adopted, could adversely affect our revenue from paid subscriptions.

- OPEN SCIENCE «COULD ADVERSELY AFFECT OUR REVENUE FROM SUBSCRIPTIONS»
- PLEASE STOP TRUSTING THEM WHEN THEY PRETEND «WE ARE HERE TO COLLABORATE AND HELP RESEARCHERS ADVANCING OPEN SCIENCE/OPEN ACCESS»



Discussione

Jan 21, 2022



The academic journal
Nature

Hey Tristopher. Yeah, boss what's up?



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

TRAGICOMIC VIDEO ON NATURE
ASKING A 11.500\$ APC FOR A SINGLE
ARTICLE...

[it's up to you]



METROPOLITAN
POLICE



THE
ROYAL
PARKS

[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 doesn't! Science seems to serve publishers”, Kostas Glinos [@KGlinos](#) [@EU_Commission](#) [#KRECon2021](#)

[Traduci il Tweet](#)

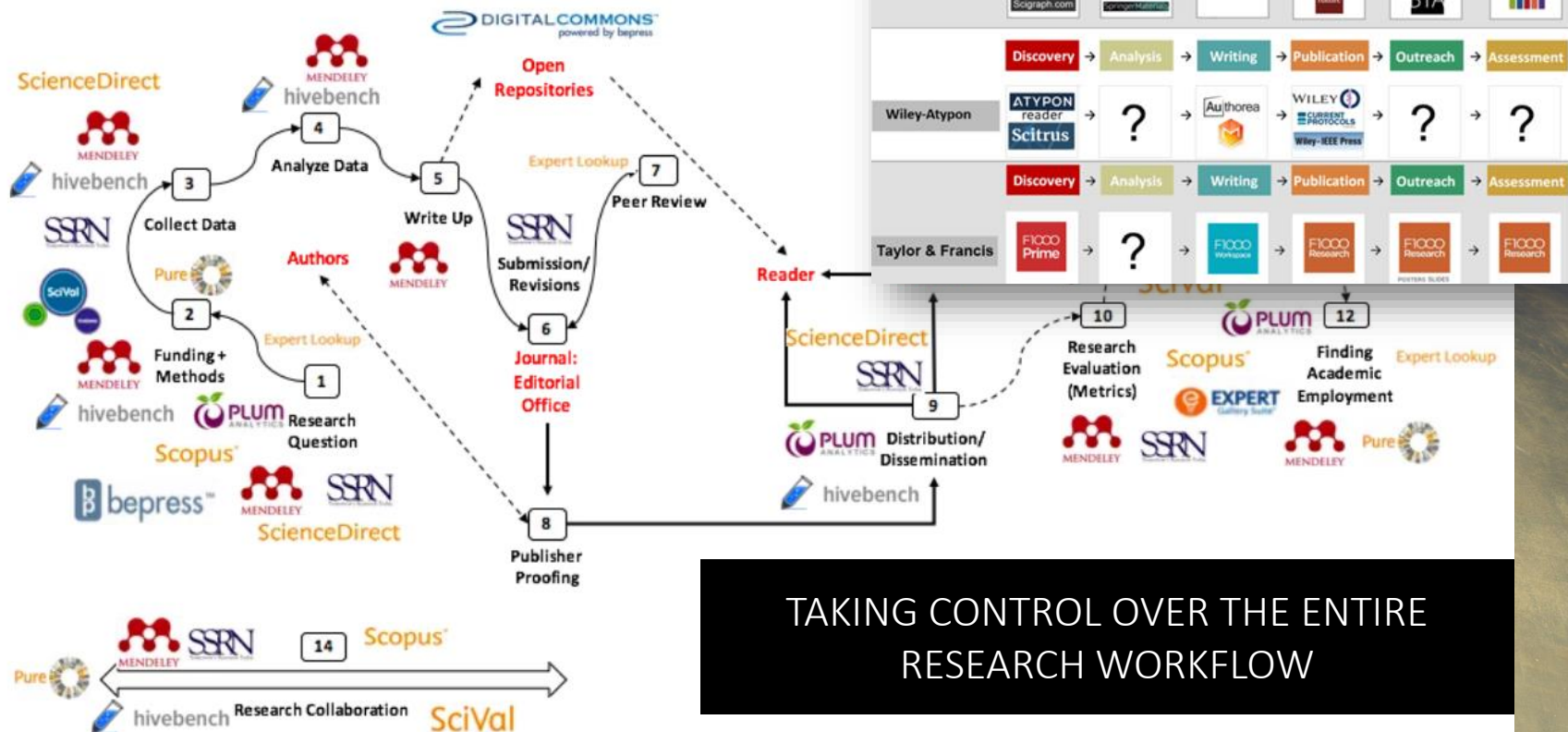
1:32 PM · 11 nov 2021 · Twitter for iPhone [Nov. 11, 2021](#)

Elsevier world

THIS SHIFT IS
CRUCIAL. LET THEM
REFLECT ON IT



The Academic Knowledge Process The Publishing Process



TAKING CONTROL OVER THE ENTIRE
RESEARCH WORKFLOW

Publishers are increasingly in control of scholarly infrastructure and why we should care

A Case Study of Elsevier

Written by: Alejandro Posada and George Chen, University of Toronto Scarborough

Published on September 20th 2017

2017



2020 Update: SPARC Landscape Analysis & Roadmap for Action

This report takes a look at the events of 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.

PLEASE NOTICE!

About



ELSEVIER

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 TEXTS TO DATA
ANALYTICS



WE ARE THE
PRODUCT (AND WE
PAY FOR IT!)

Surveillance Publishing

Nov. 2021

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

It's a good business for Elsevier to 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*

2021
UPDATE

SPARC Landscape Analysis
and Roadmap for Action

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 highlighting 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

...BUT:
is scholarly communication a market?

Principles of the Self-Journal of
Science: bringing ethics and
freedom to scientific publishing

VERSION 1 Released on 24 January 2015 under Creative Commons Attribution 4.0 International License

2017

Michaël Bon¹

Authors' affiliations

1. SJS - The Self Journal of Science

Inappropriateness

The dissemination of Science is organized as a free market, where publishers compete for reputation and scientists compete for limited number of slots in journals. The rationale of the free market economy is to have efficient exchanges of rare and substitutable goods (apples, mobile phones, money...) between those who own them and those who want them. Yet scientific knowledge, unlike money, is something its owners want to share. It is not a substitutable good. Scientists do want to be paid, but in a different currency – one that involves recognition and credit – whose amount on Earth is not limited. Therefore, the current system is deeply inappropriate to disseminate Science: it creates an artificial rarity that overrides the exchanges naturally underlying Science.

KNOWLEDGE IS SOMETHING YOU WANT
TO SHARE – UNLIKE MONEY

SMEs, START-UPS,
PRACTITIONERS

STUDENTS ONCE GRADUATE

DATA + DAILY
EXPERIENCE

NOBODY CAN READ THE
OUTPUTS OF RESEARCH (WHICH
IS FUNDED BY PUBLIC MONEY)

Access is still an issue

95% HIT A PAYWALL



Joanne Kamens ✓

@JKamens

Segui

In risposta a @jasonpriem e @unpaywall

and btw the "everyone who needs it has access" is completely wrong. I have worked in small biotechs for the last 10 years and hit frustrating paywalls EVERY DAY trying to do good science.

Traduci dalla lingua originale: inglese

15:14 - 4 gen 2018

permesso di accesso

Posta in arrivo x



Niccolò

[redacted]@gmail.com

a me

Buongiorno,
sono uno studente UNIMI e sto preparando la tesi, spesso nelle mie ricerche per il materiale, mi imbatto nel vostro sito IRIS ma non posso accedere all'articolo a cui sono interessato. Come posso ottenere il permesso?

The Results Are In of our Open
Access Survey

Oct.2021

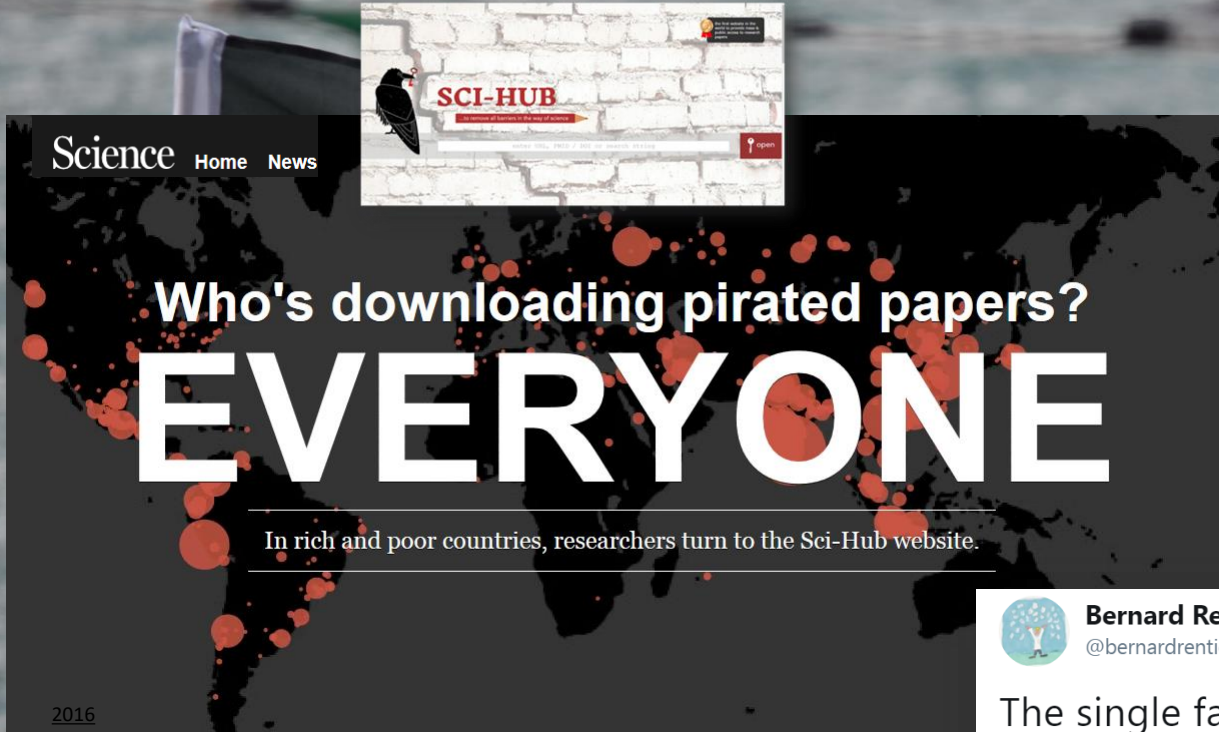
November 1, 2021 * Author: Mary Kennedy

There were three parts to this survey. In the first part, we asked some general questions on the topic of open access. Here is what we found:

- **83% of the respondents agree that the scholarly community could perform research more effectively if all scientific communication were made freely available under an open access license.**
- **95% of respondents have had the experience of being unable to access a research article they needed due to paywalls.**
- **83% have downloaded an open access book for their research.**
- **Half of the respondents admitted to at least once illegally downloading a research paper that they couldn't access because it was behind a paywall.**

Also, interestingly about **one-fifth of respondents said that the COVID-19 pandemic changed their view of open access research.** One responder commented particularly that they felt this when the

... if not, Sci-Hub would not exist



Bernard Rentier
@bernardrentier

Following

The single fact that providing free information on universal Science is illegal tells us a lot about how absurd it has become, in the Internet era, to rely on the old research publication model. [#FreeOpenAccessNow](#)

Jon Tennant  @Protohedgehog

Oh wow. Looks like anyone can now create their own @sci_hub mirror github.com/bsidio/sci-hub You can use this to help accelerate research and society by providing free access to millions of research articles. But it's probably illegal, so don't do it.

 Traduci il Tweet

08:37 - 10 mag 2018

March 10, 2018

[alternative ways to g

 open access.nl
2020

News and events What

Alternative ways to access journal articles

Aleksandra Lazic

2021

A place [Mesto] where [gde] I write [pišem] about [o] science

Ten ways to find open access articles

November 05, 2021

unpaywall

UNPAYWALL – IT WORKS ONLY IF AUTHORS SELFARCHIVE

**An open database of 17.025.907 free
scholarly articles.**

We harvest Open Access content from over 50,000 publishers and repositories, and make it easy to find, track, and use.

GET THE EXTENSION

1. Unpaywall

Install the free [Chrome](#) or [Firefox](#) extension and then click on it from a paywalled article's page to download its open access version.

2. Open Access Helper

Install the free [Chrome](#) or [Firefox](#) extension and access version. You can also get the [iOS](#) or [Android](#)

3. Open Access Button

Install the free [Chrome](#) or [Firefox](#) extension and access version. You can also enter an article's

When free access is not found, the OA Button

4. Google Scholar

Search for articles through Google Scholar. To locate the full text of an article, try clicking (a) a right of the search result or (b) "All versions" under the search result to explore the alternative s are available [here](#).

You can also install the free [Chrome](#) or [Firefox](#) browser if you're reading and then click the button to find

5. Open repositories & portals

Here are examples of repositories and portals

- **OSF Preprints** (an aggregator of various preprints, e.g. as SocArXiv, PsyArXiv, ArXiv, engrXiv, bioRxiv)
- **Zenodo**
- **ScienceOpen**
- **Research Square** (for preprints)
- **Qeios** (for preprints)
- **Social Science Research Network (SSRN)**

6. A simple Web search

Why not try a simple Web search using your fav

Using some advanced search strategies can co
filetype:pdf. Google Advanced Search is autom

7. Sources of dubious legality

Please be aware that the following sources are
rely on them or not. Their content may be pirac

8. Author's website

Authors often post PDFs of their published articles on their institutional or personal



This image was created by [Scriberia](#) for The Turing Way community and is used under a CC-BY license.

9. Ask the author

- Sci-Hub is a shadow library website that provides free access to millions of articles by bypassing publishers' paywalls. It was founded by Alexandra Elbakyan in 2011. Find out more on the [Wikipedia page](#).
- Library Genesis (Libgen) is a shadow library website. Find out more on the [Wikipedia page](#).
- [ResearchGate](#) is a for-profit social networking site for scientists to share their papers. You don't have to register – scroll down to the website footer and click on "Publications".
- [Academia.edu](#) is a for-profit social networking site for scientists to share their papers. You don't have to register – scroll down to the website footer and click on "Papers".

What do we get in change?

43%

AVERAGE
PUBLICATION TIME

9-18 MONTHS

DURING A
PANDEMIC?



Paola Masuzzo
@pcmasuzzo

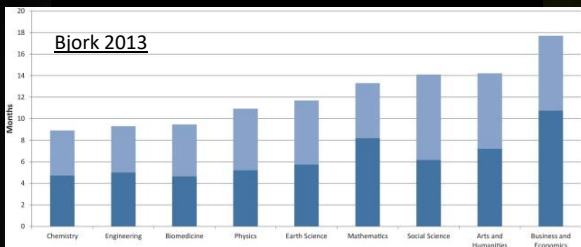
Today I witnessed the celebration of a research article published in a (famous & glam) journal after 2 and a half years of revisions. I do feel happy for the authors, of course, but I cannot help wondering what's there to celebrate in such a slow scientific dissemination process.

Traduci il Tweet

6:58 PM · 9 mag 2019 · Twitter for Android

P.Masuzzo, Sept. 2019

Bjork 2013



179%

Science

NON-REPRODUCIBLE
RESEARCHES

nature

Home | News & Comment | Research | Careers & Jobs | Current Issue | Archive | Audio & Video

Archive | Volume 533 | Issue 7604 | News Feature | Article

Nature 2016

NATURE | NEWS FEATURE

1,500 scientists lift the lid on reproducibility

Survey sheds light on the 'crisis' rocking research.

70%

More than half of high-impact cancer lab studies could not be replicated in controversial analysis

Cancer reproducibility project couldn't assess many papers because of uncooperative authors and other challenges

7 DEC 2021 · 8:00 AM · BY JOCELYN KAISER

Dec. 7, 2021

SELF CITATIONS INCREASE IN
ITALY AFTER VQR

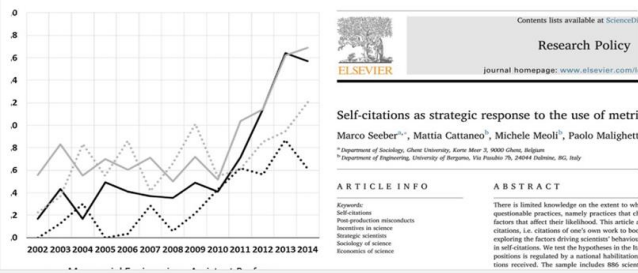
← Tweet March 2018



Jelte Wicherts
@JelteWicherts

Gaming the system: When in 2010 Italian universities incorporated citations in promotion decisions, self-citation rates among social scientists went up by 81-179%

[sciencedirect.com/science/article/...](https://www.sciencedirect.com/science/article/...)



[Houston, we ha

No academic post for fraudster Diederik Stapel, after all

Recently, we reported that social psychologist and renowned data faker Diederik Stapel had found himself a [new gig supporting research at a vocational university in the Netherlands](#) — but it appears that was short-lived.

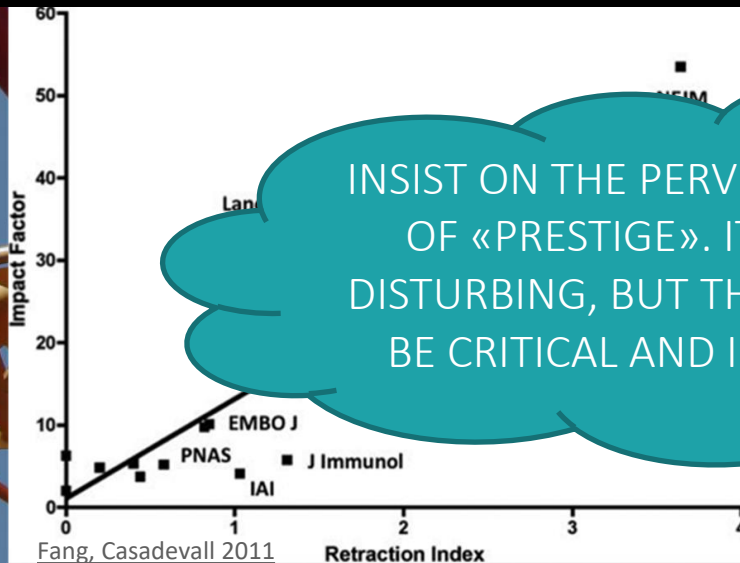


According to multiple news reports, NHTV Breda will not be employing Stapel, after all.

Here's our Google translate of a portion from *De Telegraaf*: [Continue reading](#) →

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

DIRECT CORRELATION #RETRACTIONS/IMPACT FACTOR



INSIST ON THE PERVERSE EFFECT OF «PRESTIGE». IT WILL BE DISTURBING, BUT THEY NEED TO BE CRITICAL AND INFORMED

ROYAL SOCIETY
OPEN SCIENCE

rsos.royalsocietypublishing.org

The natural selection
of bad science

P. Smaldino, 2016

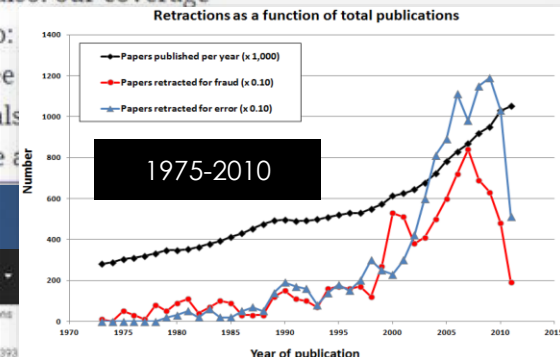
The Retraction Watch

Retraction Watch

Tracking retractions as a window into the scientific process

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 coverage](#)
2. Joachim Boldt (136) See also: [Editors-in-chief statement](#), [our coverage](#)
3. Yoshihiro Sato (102) See also: [our coverage](#)
4. Jun Iwamoto (78) See also: [our coverage](#)
5. Ali Nazari (62) See also: [our coverage](#)
6. Diederik Stapel (58) See also: [our coverage](#)
7. Yuhji Saitoh (53) See also: [our coverage](#)



RETRACTIONS FOR FRAUD 43%

All retractions: 62
Fraud: 29

All retractions: 419
Fraud: 252

2014
All retractions: 946
Fraud: 411

J. Brainard, [Rethinking retractions](#), Science 2018

... because evaluation = obsession

I was told impact metrics could make or break careers. Instead, they broke my faith in scientific research 2018

Apr. 2022

Russian site peddles paper authorship in reputable journals for up to \$5000 a pop

Advertisements promised adding names to articles that appeared in dozens of journals

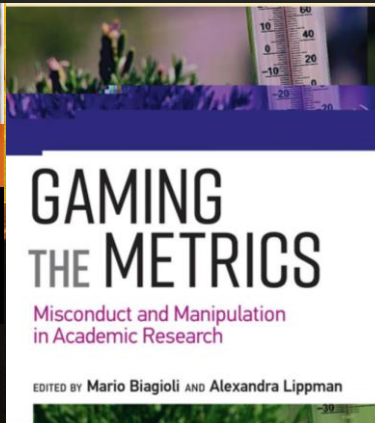
Performance-driven culture is ruining scientific research

The Guardian Opinions

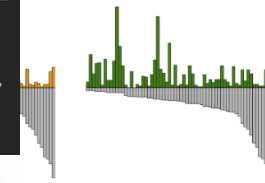
COBRA EFFECT: WHEN INDIANS WERE PAID FOR EVERY DEAD COBRA THEY HANDED, THEY STARTED BREEDING COBRAS

THE ROYAL SOCIETY

The future of scholarly scientific communication
2015
Conference 2015

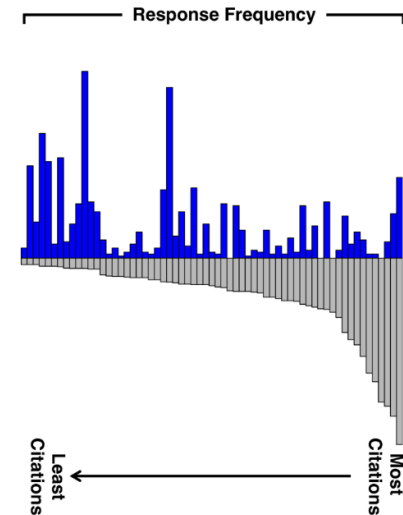


Times Chosen in Survey
Most Significant



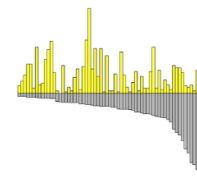
Citations (2013)

Times Chosen in Survey
Most Cited



2018 Citations (2013)

Times Chosen in Survey
Shared: Chemists



Citations (2013)

Citations (2013)

EVALUATION BECAME AN OBSESSION

- «NOT ONLY ARE WE FAILING TO PROVIDE THE RIGHT INCENTIVES, WE ARE PROVIDING PERVERSE ONES»
- GOODHART'S LAW: «WHEN A MEASURE BECOMES A TARGET, IT CEASES TO BE A GOOD MEASURE»
- «PEOPLE GAME THE SYSTEM AT EVERY LEVEL»

... 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**

...THERE IS SOME
BREAKING NEWS AT
EUROPEAN
LEVEL...STAY TUNED

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

The old system is broken

Kostas Glinos based on Danny Kingsley, May 30, 2022

Some of the challenges for science today

- Skewed perceptions of quality; reproducibility, replicability
- Focus on 'stars' rather than collaboration
- Publishing in a market where client is not the king; closed access
- Obsession with rankings
- Risk-averse research
- Hyper-publishing and hyper-authorship
- Fight for funding
- Wasting (data) resources, repeating doomed research
- Gaming the system

Is this the culture we want?

Slide adapted from a presentation by Danny Kingsley, Victoria University



IS THIS THE RESEARCH
CULTURE WE REALLY
WANT?



Research Culture is Broken, Open Science can Fix It | Rachael Ainsworth | TEDxMacclesfield

RESEARCH CULTURE IS BROKEN,
OPEN SCIENCE CAN FIX IT

The purpose of scholarly communication



But let's not ignore the facts: the science system is in landslide transition from sparse to data-saturated. Meanwhile, scholarly communication, data management methodologies, reward systems and training curricula do not adapt quickly enough if at all to this revolution. Researchers, funders and publishers (I always thought that meant making things public) keep each other hostage in a deadly embrace by continuing to conduct, publish, fund and judge science in the same way as in the past century.

So far, no-one seems to be able to break this deadlock. Open research data solve only a fraction of the problem. Neither 'open research data' alone will do. We still try to press

A DEADLY EMBRACE

The virus is reminding us that the purpose of scholarly communication is not to allocate credit for career advancement, and neither is it to keep publishers afloat. Scholarly communication is about, well, scholars communicating with each other, to share insights for the benefit of humanity. And whilst we've heard all this before, in a time of crisis we realise afresh that the coffin will be closed?!" If we've created a generation of

scholars who are just in it for the glory of papers in glamorous journals, and not to do good research that changes the world a little bit, then we really are in trouble.

IF WE HAVE CREATED A GENERATION OF SCHOLARS WHO ARE IN IT ONLY FOR THE GLORY OF A PAPER IN A PRESTIGIOUS JOURNAL, THEN WE ARE IN TROUBLE

OPEN
SCIENCE
MIGHT HELP?

WONKHE ABOUT US • EVENTS • LATEST • JOBS • SUBSCRIPTION • SUS • 🔍

2020

The purpose of publications
in a pandemic and beyond

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

[Houston, we have a problem]



1/12 Open Science is just a gimmick...	2/12 Open Science is all about publishing Open Access	3/12 Open Science is a plot against publishers	4/12 I already deposit my works on ResearchGate
5/12 An open access dissertation has less chances of being published	6/12 I'm afraid of plagiarism	7/12 There is no open access journal in my discipline	8/12 Open Science is for STEM. As a researcher in SSH this is not important to me
9/12 Science is for researchers only. Citizens cannot improve my research	10/12 A Data Management Plan is useless	11/12 I am not a Data Manager	12/12 Open access to research data is not mandatory

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

10 Myths around Open Scholarly Publishing March 11, 2019

Myth 1 Preprints will get your research 'scooped' Preprints typically provide a time-stamp and a DOI, therefore establishing priority of discovery	Myth 6 Copyright transfer is required to publish and protect authors Copyright transfer procedures do not protect authors nor contribute to the advancement of scientific progress
Myth 2 JIF and journal branding are measures of quality for researchers The JIF is a flawed metrics that was never meant to be used for evaluation of research and researchers	Myth 7 Gold Open Access is synonymous with the APC business model Most DOAJ-indexed journals do not have APCs and are funded from other sources, such as research institutes and grants
Myth 3 Approval by peer review proves that you can trust a research article The current peer review system is prone to a number of flaws including corruption, human bias and ghostwriting	Myth 8 Embargo periods on 'green' OA are needed to sustain publishers Traditional journals can peacefully coexist with zero-embargo self-archiving policies on author manuscripts
Myth 4 Without journal peer review, the quality of science suffers Researchers are more than responsible and competent enough to ensure their own quality control as part of intrinsic scientific integrity	Myth 9 Web of Science and Scopus are global databases of knowledge Neither represent the sum of current global research knowledge including Africa, Latin America and Southeast Asia
Myth 5 Open Access has created predatory publishers Predatory journals have been around for a long time before the recent push towards Open Access publishing	Myth 10 Publishers add no value to the scholarly communication process Publishers are responsible for quite some key functions, from peer-review management to production and archiving of final version articles

DIFFUSED MISCONCEPTIONS:
OPEN SCIENCE=OPEN ACCESS, YOU ALWAYS PAY TO PUBLISH, OA= PREDATORY, I CAN'T OPEN MY DATA.....

Ope

Embrace open and reproducible research to the extent you want and you can. Seek allies and support around you, but do not feel pressured. It isn't open or closed. It is certainly not the same open or close for everybody.

So my very first take-home messages are:

- Open and reproducible aren't binary, they are gradients, multidisciplinary and multidimensional.
- How to be an open scientist and implement RR:
- Let's be open and understanding of different situations and constraints, including our own.

- OPEN IS A WORK IN PROGRESS, A GRADIENT
 - OPEN IS NOT «GOOD BY DEFAULT»

Open != reproducible

Open != good (by default)

Reproducible != good (by default)

Open research and reproducible research aren't the same thing, and one doesn't imply the other. Even though in our modern understanding of these terms and concepts, they are intimately linked, historically, they are very different. And research being open or reproducible doesn't make it good (whatever the definition of good).

HOW TO MANAGE DATA: DATA STEWARDSHIP AND FAIR SKILLS



Marta Teperek
October 26, 2021

0 Comments

Open

«AS OPEN AS POSSIBLE, AS CLOSED AS NECESSARY»



Carlos Moedas

@Moedas

2/4 "Open as possible, as closed as necessary" is the new principle for all #data from publicly funded #research in Europe #openaccess

RETWEET
76

MI PIACE
32



What key advice would you give to new ERC grantees?

Be as open as you can, publish as openly as you can, submit preprints and open data – but continue publishing in the journals that you think are the best for your career. No one has to become an open science martyr, you can be open without harming your career chances. But at the same time, recognize the deep flaws of the current system of evaluation and rewards and call for a reform – as an ERC grantee your voice carries weight.

“

“Be as open as you can, [but] you don’t have to become an open science martyr”

”

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

Oct. 2021

28 October 2021



Open Science definition



Open science
increases scientific
collaborations and sharing
of information for the benefits
of science and society



**OPEN
SCIENCE**

UNESCO video



makes multilingual scientific
knowledge openly available,
accessible and reusable for
everyone



opens the processes of scientific
knowledge creation, evaluation and
communication to societal actors
beyond the traditional scientific
community.



Open Science



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



**THE REVOLUTION
OF OPEN SCIENCE**



BY JONATHAN TENNANT 2020

Open Science = Open Outputs + Open Infrastructure

Access, reuse &
discoverability

X Culture
(change)

Evaluation &
Researcher behaviour

C. Mac Callum, UKSG, April 2018

Open Science Depends on Open Minds



Neelie Kroes ✓



Iscriviti

851



Video

[...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.

14 September 2021

One scientist said without referring to said.

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

One astrophysicist 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,



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.



Yvonne Nobis @yvonnenobis · 1h

Aug. 20

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

Sent 14 2021

rdian.com/education/2021...

Twitter

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

Open Science

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

OPEN
SCIENCE ≠ OPEN
ACCESS

CLARIFY / DEBUNK
ALL THE MYTHS



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

...but...

Jan. 2022

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

IT'S US TO
BLAME!

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).

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.

fortunate people of their playful youth and natural resources so that we in 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

Members of the Open Science community react to the UNESCO Recommendation

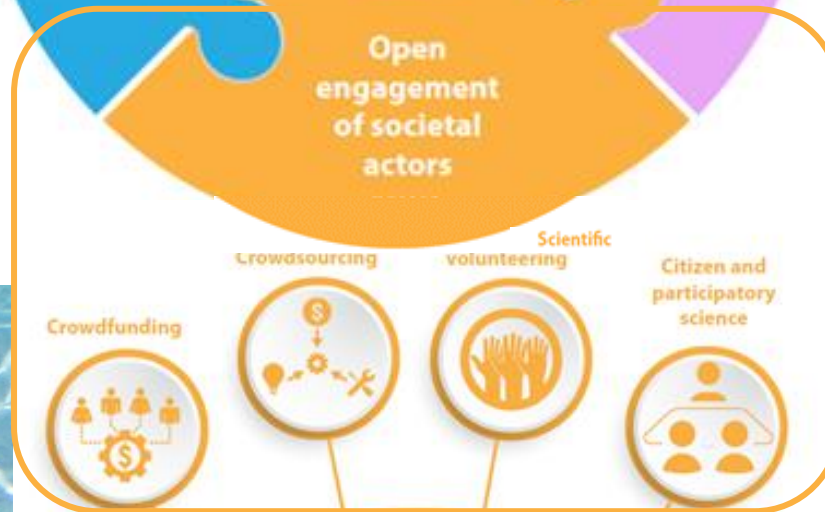
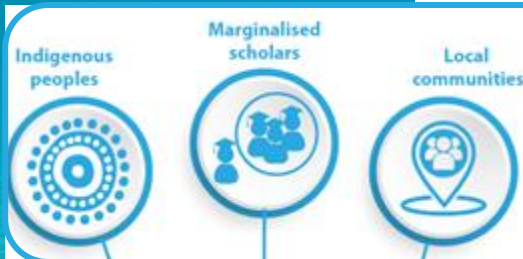
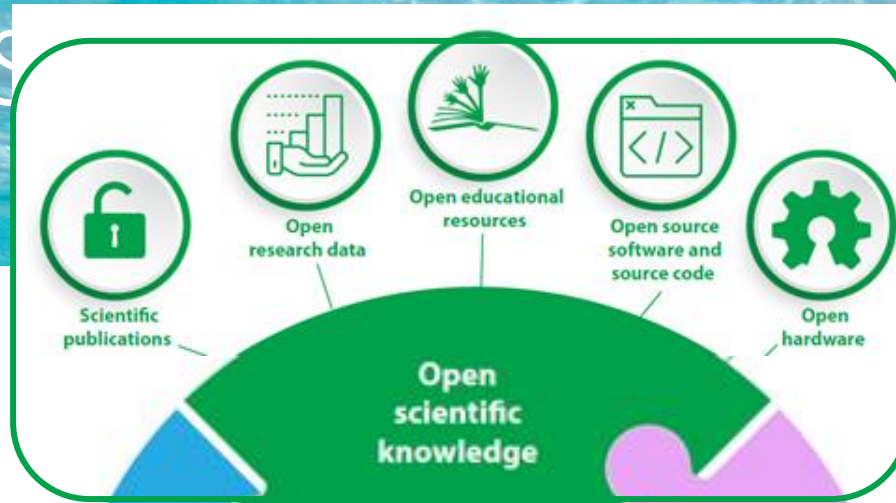
We asked 11 leading experts and advocates of the Open Science and Open Access movement to share their views on the significance of the UNESCO Recommendation on Open Science adopted in late 2021. Here are their responses and their own recommendations for how to achieve the objectives set by UNESCO.



Barend Mons

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

...Open Science



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

Open Science pillars

BEAR IN MIND: IT'S
PUBLIC MONEY!

THE RESULTS OF PUBLICLY FUNDED RESEARCH
MUST BE PUBLICLY AVAILABLE (+ LESSONS FROM COVID!!!)



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.

VALUES

Quality and integrity

Collective benefit

Equity and fairness

Diversity and
inclusiveness

**OPEN SCIENCE:
JUST
SCIENCE
DONE RIGHT**

PRINCIPLES

Transparency, scrutiny,
critique and reproducibility

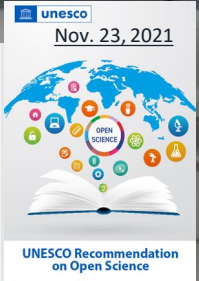
Equality of opportunities

Responsibility, respect
and accountability

Collaboration,
participation and inclusion

Flexibility

Sustainability



Closed/bad science



From Jon's Slideshow

Academic: *"This research paper has been published and therefore is scientifically valid."*

Non-academic: *"But it's paywalled. I can't access it. How do I know it's valid?"*

Academic: *"Because it has been peer reviewed."*

Non-academic: *"Can you show me the peer reviews?"*

Academic: *"No. But it was done by two experts in the field."*

Non-academic: *"Which experts?"*

Academic: *"We don't know. But it's in a top journal."*

Non-academic: *"Why is it in a top journal?"*

Academic: *"Because it has a high impact factor, so is highly cited."*

Non-academic: *"Why does that make the research better?"*

Academic: *"Trust me. I'm a scientist."*



D@sapta Erwin Irawan

@dasaptaerwin

I remember he told this dialogue when we first met in person in Bali, April 2018. :).
[@BreznauNate](#) And then I flashed my t-shirt showing a quote "Impact Factor is a Myth"

[Traduci il Tweet](#)



Nate Breznau @BreznauNate · 4 gen

1/6 "Open science is just good science".
So said Jon Tennant; and I've transcribed, edited and appended one of his talks to deliver this message with maximum impact.
crowdid.hypotheses.org/548
[@hypothesesorg](#)

[Mostra questa discussione](#)

Jan 11 2022

9:34 AM · 11 gen 2022 · Twitter Web App

Open Science

Building a global consensus on Open Science

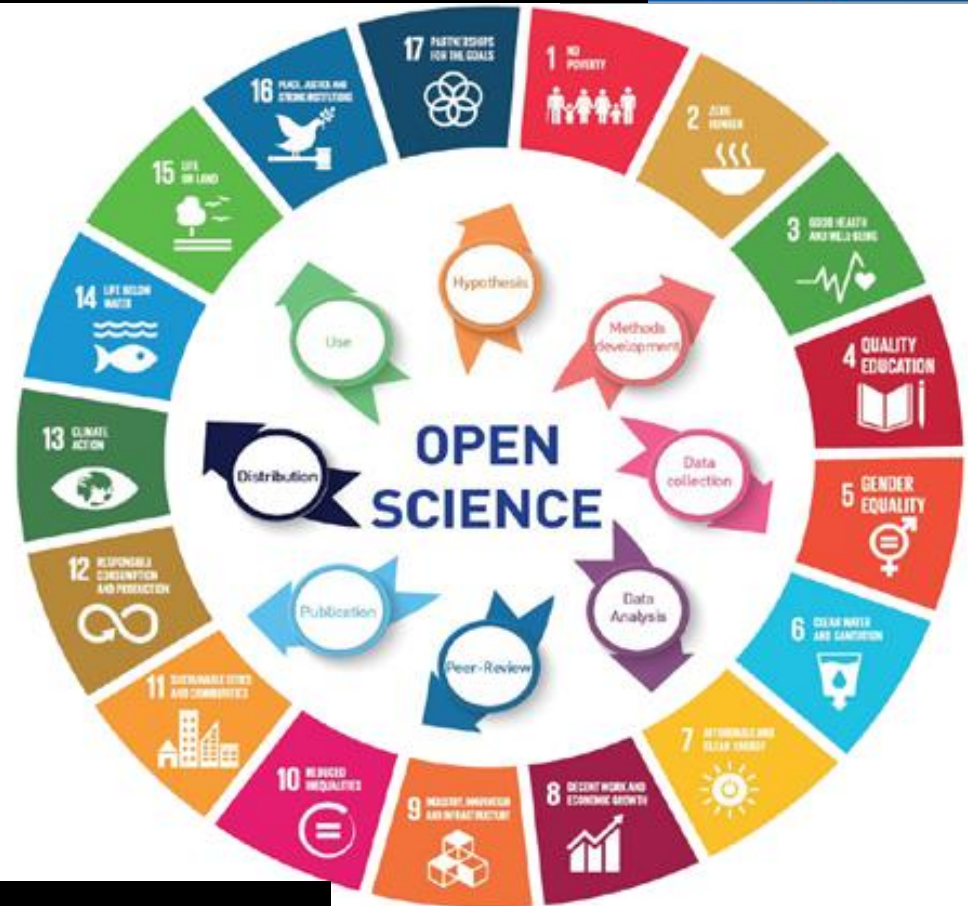
Science Specialist, UNESCO

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
SDGs – A GAME CHANGER

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.

<https://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



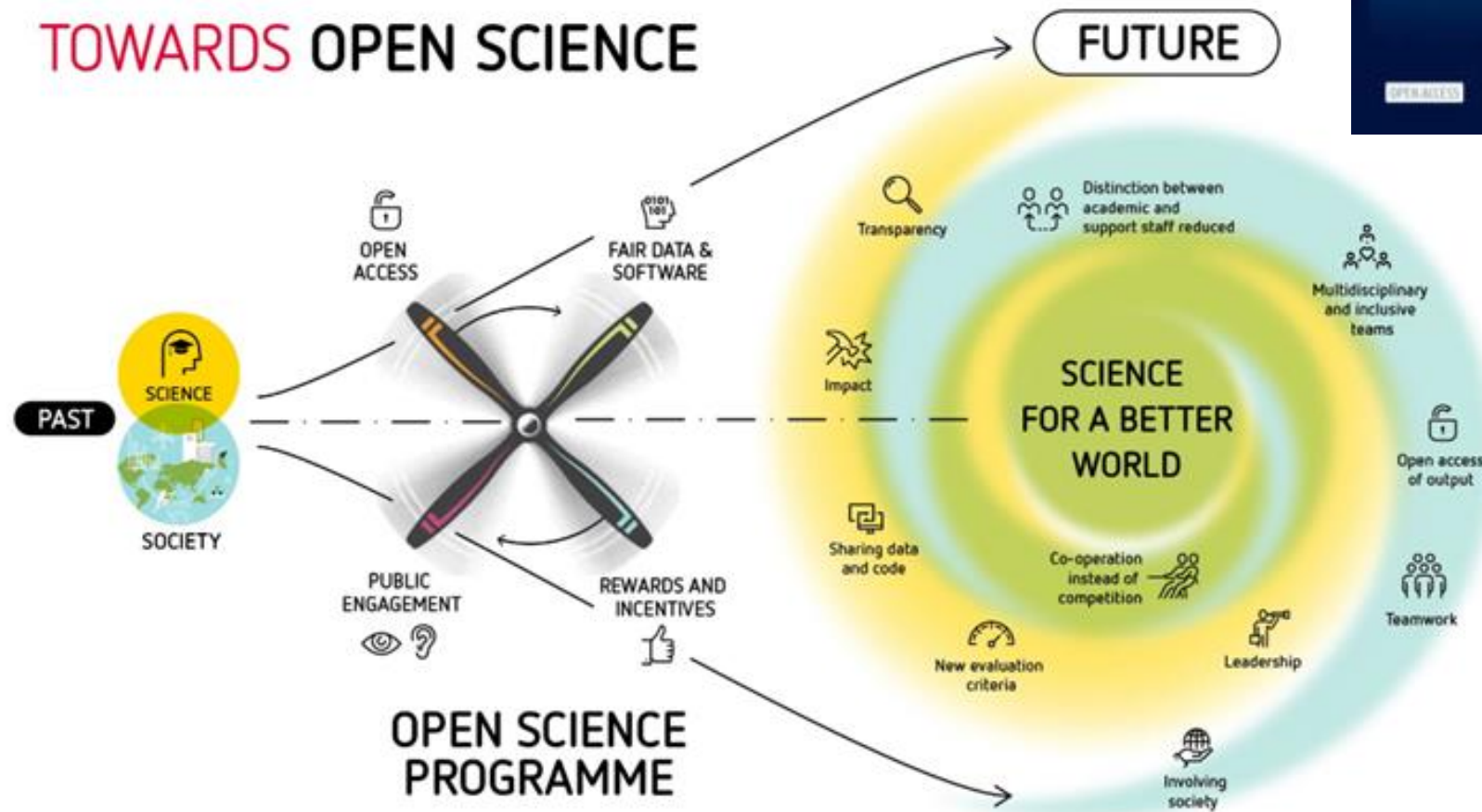
UNESCO Recommendation
on Open Science

Open Science

SCIENCE FOR A BETTER
WORLD



TOWARDS OPEN SCIENCE



<https://www.uu.nl/en/research/open-science>

2022

Frank Miedema

Open Science: the Very Idea

OPEN ACCESS

Springer

Open Science

onmeritt

Open Science
as a driver to change?

on-merrit webinar - 11 June 2021
pcmasuzzo | pcmasuzzo@gmail.com



June 2021

ARTICLES? ALSO DATA,
CODE, PROTOCOLS...

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



REDEFINE
«EXCELLENCE»...

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
people to participate in the process



it is: redefine failure, nurture
possible science, shift the focus
from outputs to the practice



CRUCIAL ISSUES

TAKE BACK CONTROL,
ENGAGE PEOPLE...



@pcmasuzzo
Oct.5, 2020

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

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.

+ Open Science]

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

Library Element Report

SWG OSI Guideline Report on Research Integrity and Open Science

2021

Uploaded by RRI Tools on January 26, 2022

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.

KEYWORD=TRANSPARENCY/
RESPONSIBILITY

[Responsible con

Open and Responsible Research

Roles and Responsibilities for Data Stewards

2021

LOUISE BEZUIDENHOUT

Responsible Conduct of Research

- Research misconduct (fabrication, falsification, plagiarism) is a familiar topic for most researchers
- Responsible research extends beyond research misconduct to many other areas of responsibility
- Areas of responsibility reflect multiple roles that researchers play in academic environments
- Responsible Conduct of Research (RCR) is a framework that brings together these different areas of responsibility



<https://www.nao.edu/catalog/12192/on-being-a-scientist-a-guide-to-responsible-conduct-in>

Openness as an Extension of Responsibility

Open Lab Books: Transparency in research practices
Sharing and openness: enhance transmission of values

Open Peer Review:
Transparency in peer review leads to better dialogue and collegial behaviour

Open Access: Improves availability of research outputs
Open publishing: leads to improved citations, credit and collaboration



Open Data and Open Methodologies:
Improve transparency and reproducibility of research

Open Science Tools:
Improve collaboration

[Integrity?]

Webinar March 24, 2021

Advancing science or advancing careers? Researchers' opinions on success indicators

2. Interviews and focus groups

1. What is research **SUCCESS?**

2. What threatens research **INTEGRITY?**



Current research assessments

...overvalue outputs	→	ignores research process
...expect exceptional output	→	discourage realism
...look at researchers individually	→	discourage collaboration
...are based on competition	→	discourage openness and collegiality



Noémie Aubert Bonn

We know there are **core problems with research systems** but approaches for integrity tend to focus on researchers

The way in which we measure **success is problematic** and could even lead to integrity issues

Indicators used to advance **research careers are misaligned** with indicators needed to advance **science**

THE RESEARCHER
IS NOT THE
FOCUS

RESEARCH
CAREERS
INDICATORS
MISALIGNED
WITH RESEARCH
ADVANCEMENT

It's time to talk explicitly about inclusiveness

We have talked enough about diversity in an **implicit** way but we have not focused on it in an **explicit** way and we may therefore have missed the real point: **equity, diversity and inclusiveness are non-negotiable** and they must be built into the foundation of what we do.

OPEN
24
HOURS

Stephen Curry

64.823 Tweet

Sept. 19, 2019

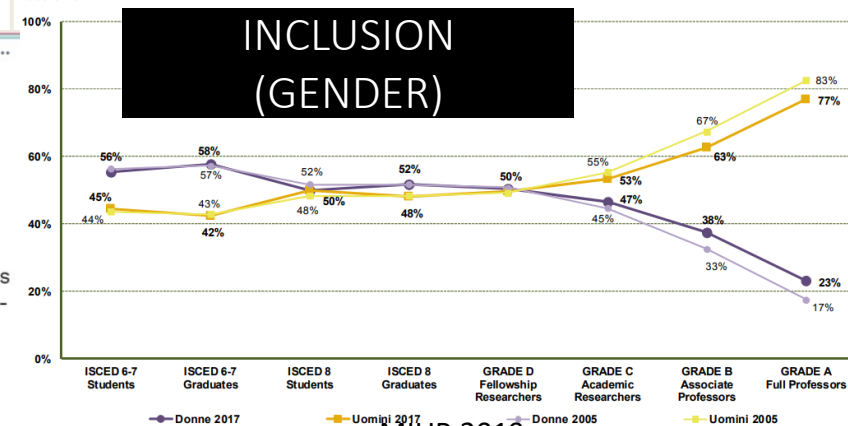
Following

LERU @LERUnews · 19 set

Important message to bring to university leadership is that we miss out on talent by not making equality and diversity a priority. Mixed teams work better. Addressing diversity issues is a win-win-win situation for students, staff and institutions, says @Stephen_Curry

DIVERSITY=ASSET

Grafico 1: Proporzione di donne e uomini in una tipica carriera accademica: studenti e personale docente e ricercatore - Anni 2005 e 2017



MIUR 2019

Feb. 13 2022



D@sapta Erwin Irawan
@dasaptaerwin

I searched for in title (mahakam) then I came up with this visualization. Scopus gets 170 docs (earth), @TheLensOrg gets 10x more docs (saturn), @CrossrefOrg gets 40x times more docs (super planet TOI-849b). #scicomm #sciart with @canva.

8:43 AM · 13 feb 2022 · Twitter for iPad

2 Retweet 2 Tweet di citazione

Research must be communicated in multiple languages



Access to research and greater interaction between science and society can only be possible if research is communicated in multiple languages, including those actually used in speech and writing locally.

In the ongoing reform of the research assessment system, the call for multilingualism is the most notable omission.

INCLUSION ALSO MEANS
MULTILINGUALISM

Comite pour la science ouv...
@ouvrirlascience

#OSEC2022 #PFUE2022

Le multilinguisme, un oublié de la réforme de l'évaluation, Emanuel KULCZYCKI (Adam Mickiewicz University in Poznań) - @ekulczycki - @ScholarlyCommRG

Traduci il Tweet

10:26 AM · 5 feb 2022 · TweetDeck

2 Retweet 1 Mi piace



Twitta la tua

Rispondi

@JFSmith434

"If we are not careful, we will have an open science that perpetuates the inequalities in academia and science." @mendulla #osfair2017



46.24 Inclusive Open Science, 7 Sept. 2017

Open [collaborative] Science – being inclusive



Contextualizing Openness

Situating Open Science



onmerit

Open Science - who is left behind?

leandro Posada



Assoc. Prof. Leslie Chan March 31 2022
University of Toronto at Scarborough

Why are the "rich" in open science getting richer? Reflections on structural inequities and knowledge production



22.03.2022

#onmeritduale

onmerit

POINT TO MASTERS



Journal of Research Communications
December 7-9, 2021

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

Main points

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

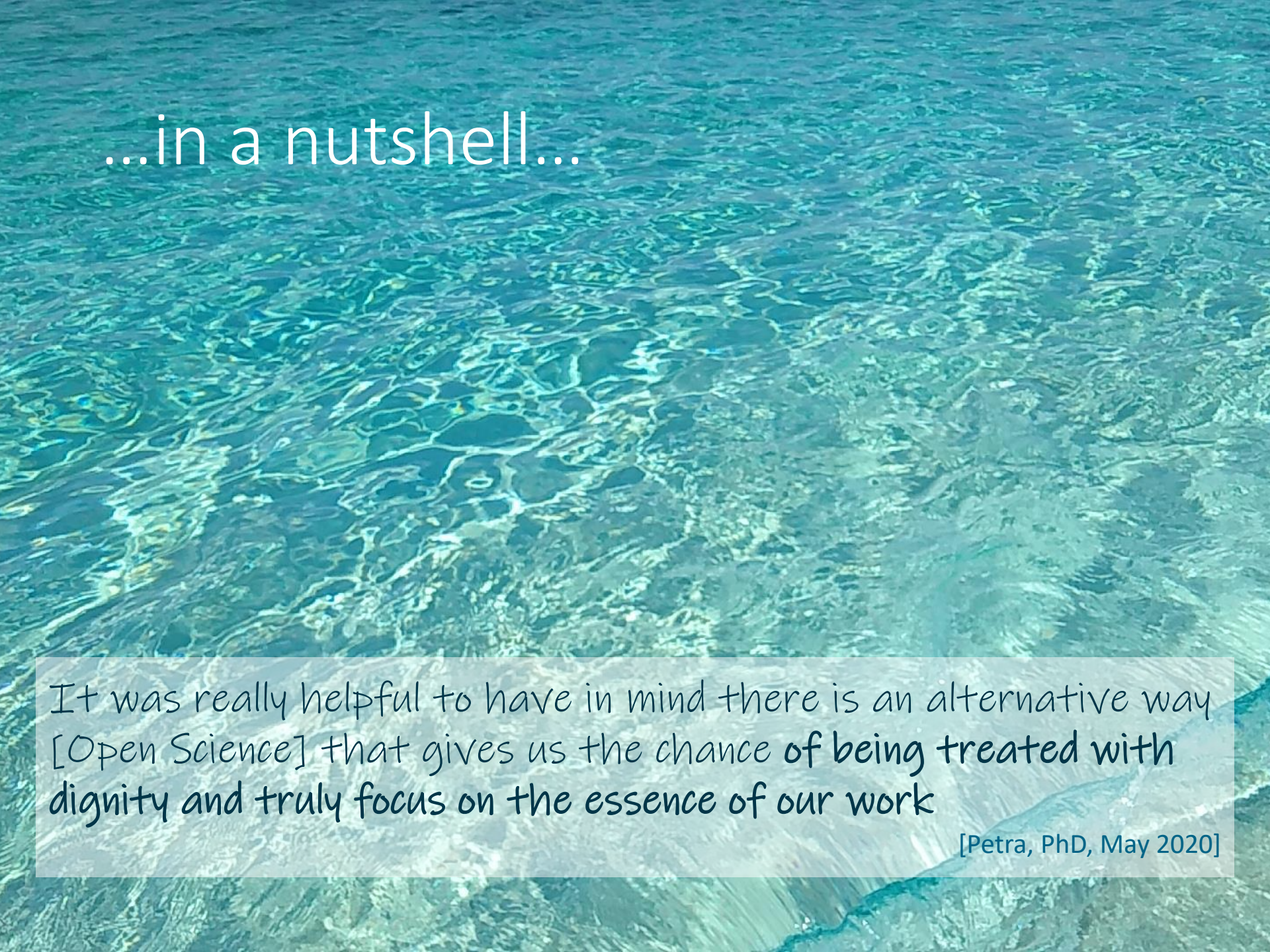
Addressing compositional diversity doesn't address the underlying problems of structural racism and systemic biases rooted in whiteness

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



...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]

Open

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](#)



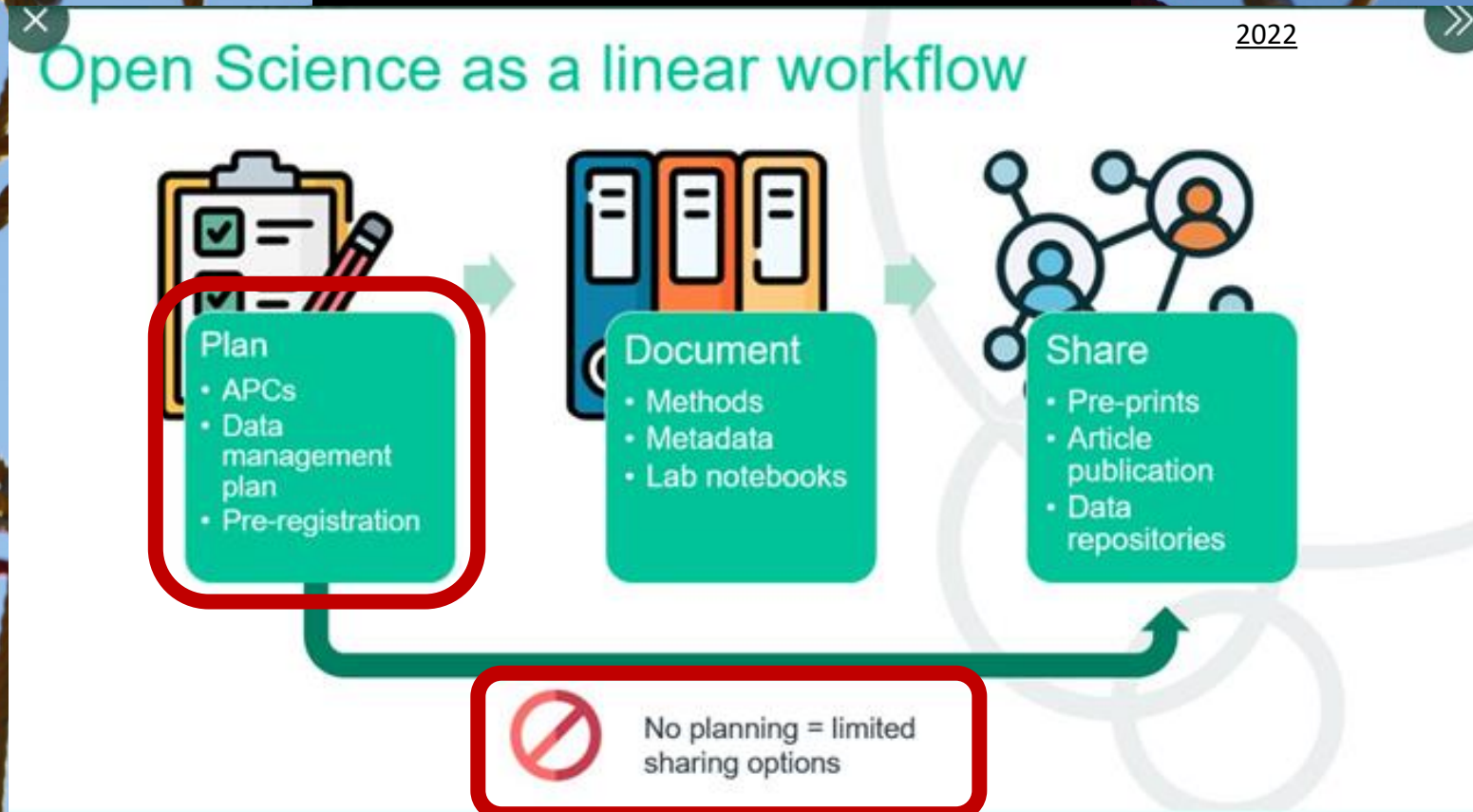
Bianca Kramer & Jeroen Bosman <https://101innovations.wordpress.com> DOI: [10.5281/zenodo.1147025](https://doi.org/10.5281/zenodo.1147025)

Traduzione: Elena Giglio <https://doi.org/10.5281/zenodo.1147025> Interactive rainbow 2021

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

[Open Science in practice]

TO SHARE YOUR RESEARCH YOU NEED TO
PLAN IT FROM THE BEGINNING



...it's time for Open Science

PRACTICAL TOOLS



Open Science MOOC

Welcome! What is Open Science?

What is European Open Science Cloud (EOSC)? Research data management

Completion Credits

In this module you will learn about the Open Science movement and its principles. We will also look at the practical advantages of embracing these principles and present some easy steps to join the movement.

By the end of this module, you will be able to:

- Define the concepts of Open Science and Open Access.
- Explain the benefits of Open Science practices from a researcher's

FOSTER About Resources Events Courses 2018

Open Scientist Handbook

Version 2.0 with edits.

by Bruce R. Caron

last released 4 months ago

Open Scientist Handbook

Bruce R. Caron

2020



The Turing Way

Welcome

The Turing way

The Turing Way is an open source community-driven guide to reproducible, ethical, inclusive and collaborative data science.

Our goal is to provide all the information that data scientists in academia, industry, government and the third sector need at the start of their projects to ensure that they are easy to reproduce and reuse at the end.

The book started as a guide for reproducibility, covering version control, testing, and continuous integration. However, technical skills are just one aspect of making

In February 2020, The Turing Way expands to include communication, collaboration, and ethical



OUVRIRE LA SCIENCE

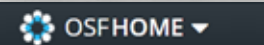
OPEN SCIENCE COMMITTEE WORKING GROUPS BLOG SCHEDULE RESOURCES

2021 FR EN



GUIDES

The Passport For Open Science is a guide designed to accompany PhD students at every step of their research career, whatever their disciplinary field. It provides a set of tools and good practices that can be directly implemented.



Ci sono tre passaggi:

1. I dati vanno gestiti correttamente
2. I dati vanno resi FAIR by design
3. SE POSSIBILE, i dati vanno aperti

Perché investire sulla gestione dei dati (B.Mons. 2020)

GUIDE E CORSI SULLA GESTIONE DEI DATI

- CESSDA Data management expert guide (corso free in 7 moduli)
- Essentials4data (corso free in 6 moduli)
- FOSTER pagina dei corsi (scorrere i singoli moduli su Data protection, Data sharing...)

COME SCRIVERE UN FILE README

- Guida MIT Boston
- Guida TU Delft

COME CALCOLARE I COSTI

- Data Wizard cost evaluator
- TU Delft costing tool

FILE NAMING E VERSIONING

- File naming conventions
- File naming and folder structure
- Data versioning ANDOS
- Data versioning RDA

BACKUP E STORAGE

- Storage pro e contro
- Appraisal (cosa conservare)

ASPETTI LEGALI

- Information Guide: Introduction to Ownership of Rights in Research Data 2018
- Legal Guide OpenAIRE (diverse sezioni su GDPR, direttiva sui generis, protezione dei dati...)
- How do I license research data OpenAIRE
- webinar Aspetti legali (ITA) 2019
- webinar Legal aspects (ENG) 2020
- Personal data FOSTER project
- Data ethics FOSTER project

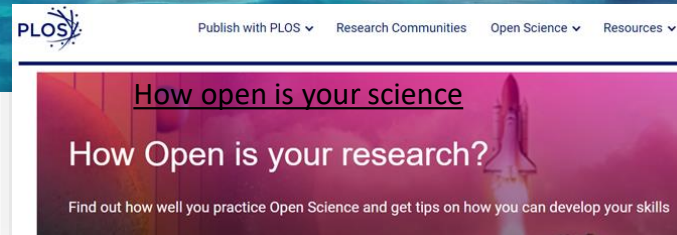
VIDEO

- Incubo del data steward (forsetti)
- Data management dai ricercatori per i ricercatori (3 video)

<https://osf.io/yxesw/>

OSF
«OPEN SCIENCE
IN PRACTICE»

How open is your research?



I publish under an Open Access license *

- ☐ Rarely or never - I prefer to publish in subscription-model journals whenever possible
- ☐ Occasionally - When the right journal for my paper happens to be Open Access
- ☐ As required - When my funders require Open Access publication
- ☐ Whenever possible - I actively seek out Open Access publication options, even when I'm not obligated to do so
- ☐ N/A - I am not able to publish under an Open Access license

I post preprints of my research articles before peer review or publication *

- ☐ Never - I prefer that my work be peer reviewed before being public
- ☐ Rarely - I post preprints very selectively
- ☐ Sometimes - I post preprints some of the time, for example if I am seeking feedback or if I expect the article to be especially interesting or topical
- ☐ Frequently - I post preprints routinely, provided there is no risk related to public health or DURC

I deposit my published articles in an institutional or other repository *

- ☐ Rarely or never - Disposition isn't necessary, or I'm too busy
- ☐ As required - When disposition is required by my funder or department
- ☐ Sometimes - For example, if I have a particularly exciting paper in a subscription-model journal

I share my raw data *

- ☐ Never - I keep my data confidential
- ☐ Upon request - If someone emails me for my data, I do my best to get back to them
- ☐ As required - When journals require data to be made available, I comply with the policy
- ☐ Routinely - I generally deposit my data in a repository or publish it alongside the manuscript as Supporting Information
- ☐ N/A - My data is proprietary or my research does not produce original raw data

I publish peer reviews alongside my research articles *

- ☐ Never - I don't submit to journals that require open/published peer review
- ☐ As required - If the journal mandates open/published peer review, I will participate
- ☐ Sometimes - If given the option to publish peer reviews, I may choose to do so some of the time, for example if the reviews were particularly high-quality, or useful
- ☐ Frequently - I prefer to publish my peer reviews when I have the option

I share detailed methods information beyond what is typical for the methods section of a manuscript (for example materials and reagents, protocols, code and custom software, or full methods articles) *

- ☐ Never - The description in the methods section of the manuscript is sufficient
- ☐ Rarely - For example, if required by the journal or funder

Commitment to Open Science



A commitment to Open Science is a commitment to advance trust and inclusion in research communication.

Open Science encompasses the entire research process and the entire research community. It empowers researchers everywhere to share valuable artifacts from each stage of their investigation and increase visibility and collaboration around their work. Every research community and individual has an opportunity to shape the activities and norms that inspire trust in their work. A commitment to Open Science, therefore, is not a pledge to adopt a few specific behaviors, but to advance openness, transparency and reproducibility in daily life as a researcher.

Together, we can cultivate a more inclusive and trustworthy future for science.

Join the commitment to Open Science below.

PLoS Commit to Open

Join the commitment to Open Science below.

I commit to **inclusion**

I will strive to make my research available to the widest possible audience, let behind regardless of readers' ability to pay for access.

(For example by posting preprints, publishing in Open Access journals, and depositing my non-OA articles in Open repositories.)

I will strive to engage with researchers beyond my immediate circle, institutions during research and the peer review and publication process.

(For example, by joining in conversations around my own and others' research, submitting to journals with boards, inviting public comment on my own posted preprints and commenting on others' research in turn collaborating with relevant local experts.)

I will strive to cultivate a deeper understanding of the impact of inclusion in research and scholarly publishing, and to remain cognizant of issues of inclusion.

I commit to **increase trust in research**

I will strive to ensure that my research is appropriately described and fully reproducible, both for contemporary and future readers.

(For example, by making the full arc of scientific knowledge—including raw data, curated data, detailed methodological documentation, tools, study designs, protocols, code, materials, reagents—a part of the permanent scientific record, where applicable.)

I will strive to contextualize and illuminate the peer review process, both for the manuscripts that I submit and those I help to peer review.

(For example, by choosing to publish peer reviews alongside my finished articles and by signing my name to the reviews I write when I have the opportunity and I feel safe doing so.)

I will strive to minimize bias in the peer review and publication process.

OS-CAM, the Career Assessment

MATRIX NOT METRICS

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

HANDBOOK ON Research Assessment in the Social Sciences

Edited by
Tim C.E. Engels & Emanuel Kulczycki



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

Room for everyone's talent

towards a new balance in the recognition and rewards of academics

THE WORLD IS
CHANGING, OUT
THERE

- 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 evaluation

- Consider both
- Be careful with
- Evaluate with

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?

YOU EVALUATE
WHAT YOU VALUE

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

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

ACKNOWLEDGE DIVERSITY

EXAMPLE RESEARCH DATA

Identify practices (e.g.):

- Sharing research data
- Creating FAIR data
- Using open data
- FAIR expertise

Develop infrastructures 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



The Declaration Signers Case Studies Resources Blog

Reimagining academic assessment stories of innovation and change

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 KINGDOM



University of China
CHINA



Ghent University
BELGIUM



University of Norway
NORWAY

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



- IMPACT
- PROFESSIONAL PERFORMANCE
- RESEARCH
- EDUCATION
- LEADERSHIP
- TEAM

HuMetricsHSS
HUMAN 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

...change

nature

June 2021

Explore content



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 > 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.

DUTCH UNIVERSITIES
ABANDON
IMPACT FACTOR

ERC ABANDONED
IMPACT FACTOR



About DORA

The Declaration Signers Case Studies Resources Blog

Sign

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.

Reforming research assessment

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.

The coalition will bring together research funding organisations, research performing organisations, national/regional assessment authorities or agencies, associations of research funders, of research performers and of research assessment systems.

Research and innovation

European Commission > Research and innovation > News > All research and innovation news > Reforming research assessment: The Agreement is now final

July 2022

NEWS ARTICLE | 20 July 2022 | Directorate-General for Research and Innovation

Reforming research assessment: The Agreement is now final

Launched in January 2022 as a co-creation exercise, the [process](#) of drafting an agreement for reforming research assessment has reached an important milestone. On 8 July, the final version of the agreement was presented at a Stakeholder Assembly bringing together the [350+ organisations from 40+ countries](#) having expressed interest in being involved in the process. Today, the final Agreement is made public with this news.

THE EC INITIATIVE TOWARDS A REFORM OF RESEARCH ASSESSMENT IS GOING AT A SPEEDY PACE

- SEPT. 2022 SIGN THE AGREEMENT
- BY 2023 SHOW THE ROADMAP
- BY 5 YEARS SHOW THE RESULTS

Call for interest - Towards an agreement on reforming research assessment

Call for interest

Fields marked with * are mandatory.

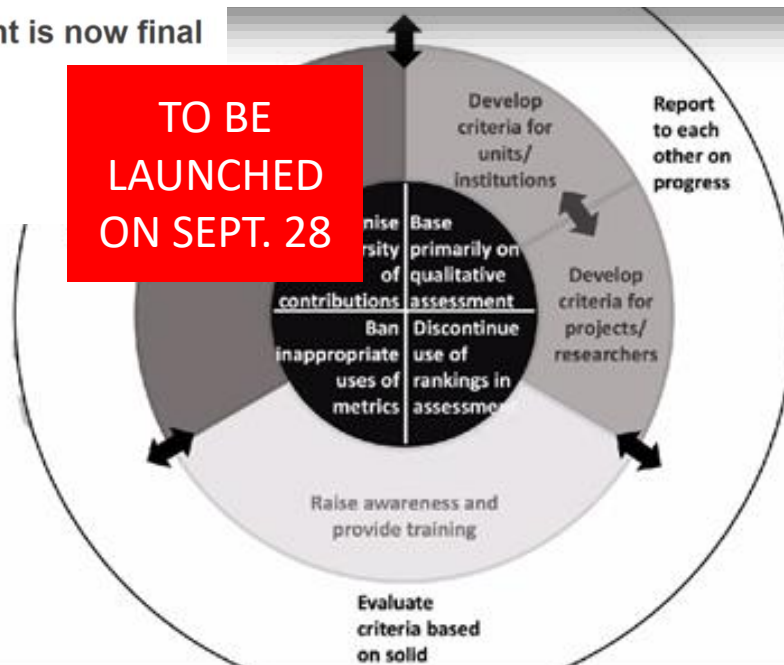
Introduction

This call aims at gathering expressions of interest to become part of a coalition of organisations on reforming research assessment, and to be involved in the agreement. The coalition will bring together organisations funding research, research performing organisations, assessment authorities or agencies, as well as associations of the above organisations and learned societies, all willing and committed to reforming the research assessment system.

At this initiative and the proposed approach, please consult the European Commission scoping report "Towards an agreement on reforming research assessment": <https://data.europa.eu/doi/10.2777/707440>

Expressed interest will be contacted in view of being involved in the agreement drafting process, discussions on governance and

TO BE
LAUNCHED
ON SEPT. 28



...with new strategies to publish

my/our strategy:

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

This 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 or different 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 here for 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 make selections your narrative will be built. The tool leads to general background information, up to information in the Utrecht University context (when reusing outside Utrecht you can adapt the tool to your own 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.



Jeroen Bosman

@jeroenbosman

Feb.13 2022

...

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

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

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

BUILD YOUR PUBLISHING STRATEGY [USEFUL ALSO FOR HORIZON EUROPE PROPOSALS]

[Open Science in practice]

2021
Opening Marine Long-Term Ecological Science: Lesson
Learned From the LTER-Italy Site Northern Adriatic Sea

Annalisa Minelli¹, Alessandro Sarretta², Alessandro Oggioni³, Caterina Bergami⁴, Mauro Bastianini⁵, Fabrizio Bernardi Aubry⁶, Elisa Camatti⁷ and Alessandra Pugnetti⁸



...opening up the entire cycle



OSF REGISTRIES
The open registries network

Search registrations... <https://osf.io/registries/> Search

256,423 searchable registrations as of May 13, 2018

CREATE

See your existing AsPredicteds (e.g. approve, make public)

SEE OWN

What's an AsPredicted?

It is a standardized pre-registration that requires only what's necessary to separate exploratory from confirmatory analyses. You will easily generate a pre-registration document that takes less effort to evaluate than it takes to evaluate the published study itself.

About Terms of use

How does it work?

- One author briefly answers 9 questions.
- All participating authors receive an email asking for approval.
- If everyone approves, it is saved and stays private until an author acts to make it public, or it remains private forever. (Why?)
- Authors may share anonymous .pdf with reviewers.
- If made public, a single-page .pdf is generated. That document can be used as a supplement. (See sample)
- The .pdf contains a unique URL that allows for one-click verification. That URL can be included in the paper.
- The .pdf is automatically stored in the web-archive. (See sample)
- There are no accounts, userids, or passwords.

PREREGISTRATION
OSF Registries o AsPredicted

- PRIORITY
- HARD TO FALSIFY DATA
- NEGATIVE RESULTS

JOTE's goals

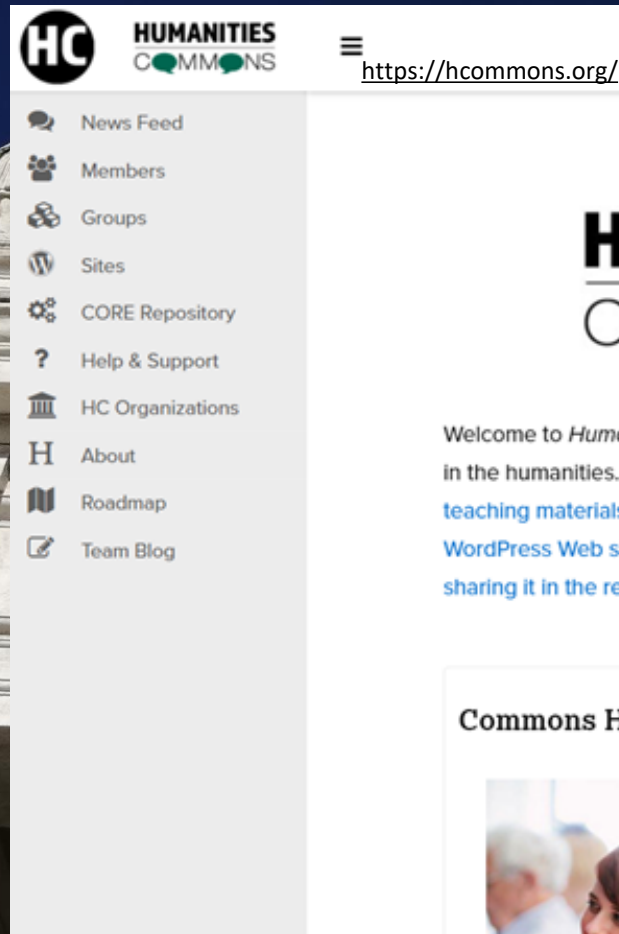
In scientific practice, trial and error is a fundamental process of learning and discovery. Therefore, JOTE aims to make public the lessons of the struggles in research. JOTE is convinced about the productive role of errors, and so we aim to publish answers to the question "what went wrong?" in the form 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.

PUBLISHING ALSO
NEGATIVE RESULTS



...[also in the Humanities]

TAILOR TO
DIFFERENT
DISCIPLINES



HC HUMANITIES COMMONS

<https://hcommons.org/>

- News Feed
- Members
- Groups
- Sites
- CORE Repository
- Help & Support
- HC Organizations
- About
- Roadmap
- Team Blog



HC HUMANITIES COMMONS

Open Access Books Network

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Activity Discussion Events Site From CORE Docs Files Members

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Commons Highlights



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Share & preserve your work

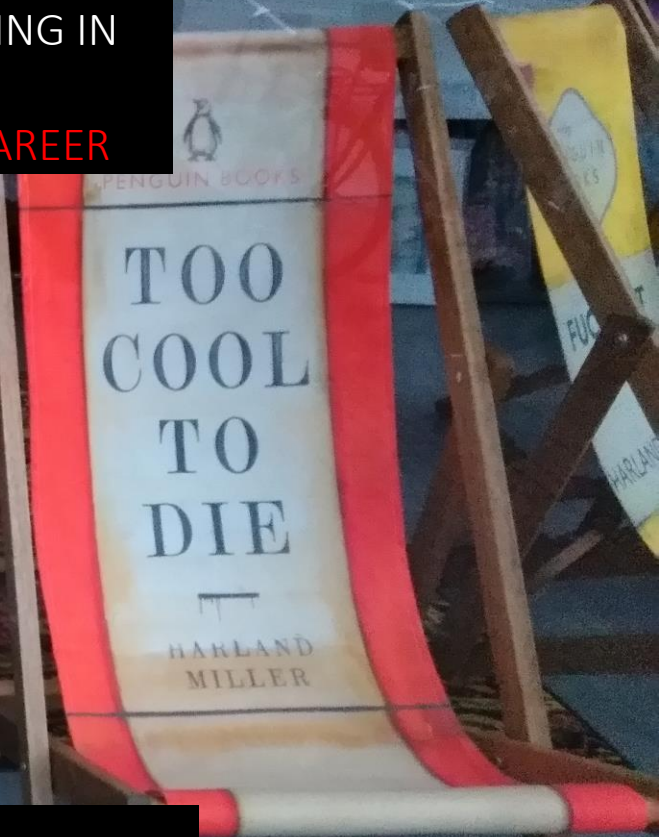
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See what's new

Get help

...with Open Access to texts

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ALSO «DEPOSITING» AFTER PUBLISHING IN
«PRESTIGIOUS» JOURNALS
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DEPOSIT

PUBLISH

Green and Gold Open Access

Gold Open Access- publishing



AUTHORS PUBLISH IN OPEN ACCESS JOURNALS

THIS NEEDS TO BE
ABSOLUTELY CLEAR.
THERE IS STILL SO MUCH
IGNORANCE/DISINFORMATION

- IMMEDIATE, ZERO COSTS
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- YOU KEEP PUBLISHING ON THE «PRESTIGIUOS» JOURNALS BUT YOU MAKE YOUR PAPER FREE

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Diamond Open Access

DIAMOND=NOBODY
PAYS

Introduction

1. Efficiency

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

- ▶ Flexibly align quality standards, create sustainability, and enhance stakeholders by promoting the sharing of infrastructures, standards, practices, and funding streams while respecting cultural and disciplinary requirements.
- ▶ Make technical services and operations more accessible, intense, streamlined for Diamond journals and platforms. Particular attention paid to the alignment and interoperability of submission systems, journals, 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 to authors and readers in general.

2. Quality standards

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

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

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.

3. Capacity building

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

- ▶ Build capacity through the creation of a tool suite for publishing. This includes training materials for Diamond journals and service providers, quality standards for journals, and policies and guidelines that will be made available in the Diamond Open Access ecosystem.
- ▶ Engage all stakeholders in Diamond Open Access – from university libraries, university presses, faculties, research institutes, scholarly societies, ministries – to make them part of the Diamond Open Access ecosystem.
- ▶ Reach out to scholars with a targeted communication strategy for 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:

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



ACTION PLAN FOR
**DIAMOND
OPEN ACCESS**

MARCH 2022
Mar 2022

BUILD A
SUSTAINABLE
ECOSYSTEM
RESPECTING
DIVERSITY

Words matter

GINNY BARBOUR

January 18, 2022 • 2 min read • readability score 34.2 •

<https://doi.org/10.1101/2022.01.18.475688>

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.

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

Jan 18 2022

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.

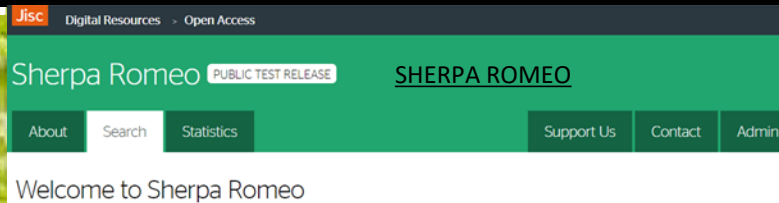
So what should we be looking out as we negotiate the word salad of publishing nowadays? First, some of the basics: use descriptive exact terms, not terms that only have meaning by association. For example:

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

Deposit

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



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Definitions

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AUTHOR'S ACCEPTED MANUSCRIPT:

FINAL REVISED VERSION, WITH REVIEWERS' COMMENTS BUT
WITHOUT THE PUBLISHER LAYOUT

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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 toxic plant growth. Despite the growing this element on meristem activity study, short-term experiments with whether plant growth impairment was studied by evaluating apical fragmentation and microtubule organization that arsenate, at the lowest concentrations parameters, whilst the other concentrations mitotic and labelling index (after bromo-deoxyuridine) (through immunofluorescence). The metaphases increased, as did the mitotic spindles, which closely resemble those induced by colchicine. Chromosome breaks and anaphase bridges were virtually absent. These data point to a poor clastogenic activity of As and implicate that microtubules are one of 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



UNIVERSITÀ DEGLI STUDI DI TORINO

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Contents lists available at ScienceDirect

Environmental and Experimental Botany

journal homepage: www.elsevier.com/locate/envexpbot



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

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Aberrations
Immunofluorescence
TUNEL test

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 anaphase bridges were virtually absent, whilst DNA fragmentation only increased from 25 µM arsenate onwards. These data point to a poor clastogenic activity of As and implicate that microtubules are one of the main targets of As.

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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).

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 phosphorylation reactions, leading to the disruption of the energy flow in cells. The toxicity of arsenite is mainly ascribed to its reaction with sulphhydryl 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

* Corresponding author. Tel.: +39 011 6705968; fax: +39 011 6705962.
E-mail address: anna.fusconi@unito.it (A. Fusconi).

Green road –self archiving

A photograph of four elderly men sitting on a bench in front of a shop. The shop has a sign that says 'AU SOLEIL' and displays various items like aprons and bags. To the right, there is a display of books and a table with a blue cloth. The scene is brightly lit by sunlight, creating strong shadows.

BENEFIT OF SELF ARCHIVING:

- ZERO COSTS, IMMEDIATELY FEASIBLE
- 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	ResearchGate
Supports export or harvesting	Yes	No	No
Long-term preservation	Yes	No	No
Business model	Nonprofit (usually)	Commercial. Sells job posting services, hopes to	

 **LC**
Lenz Caemmerer

<https://goo.gl/RnUszK>

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and Notaries

Basel
Attorneys - Notaries:
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Dr. Gerd Thoenen, M.
f, notary
y, inheritance law
H, LL.M.
ten-Kiefer
en
ert
H, LL.M.
Hof - EU-Attorney
Gerd Stadl

ResearchGate GmbH

To
Dr
Ho
An
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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

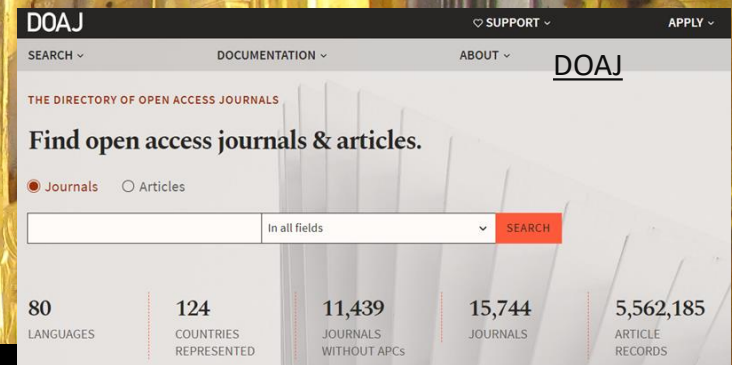


BY REBECCA TRAGER | 15 NOVEMBER 2017

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



- YOU MIGHT HAVE TO CHANGE YOUR PUBLISHING VENUE
- MORE THAN 17.000 OPEN ACCESS JOURNALS LISTED IN DOAJ, DIRECTORY OF OPEN ACCESS JOURNALS [STRONG SELECTION CRITERIA]
- **30% 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

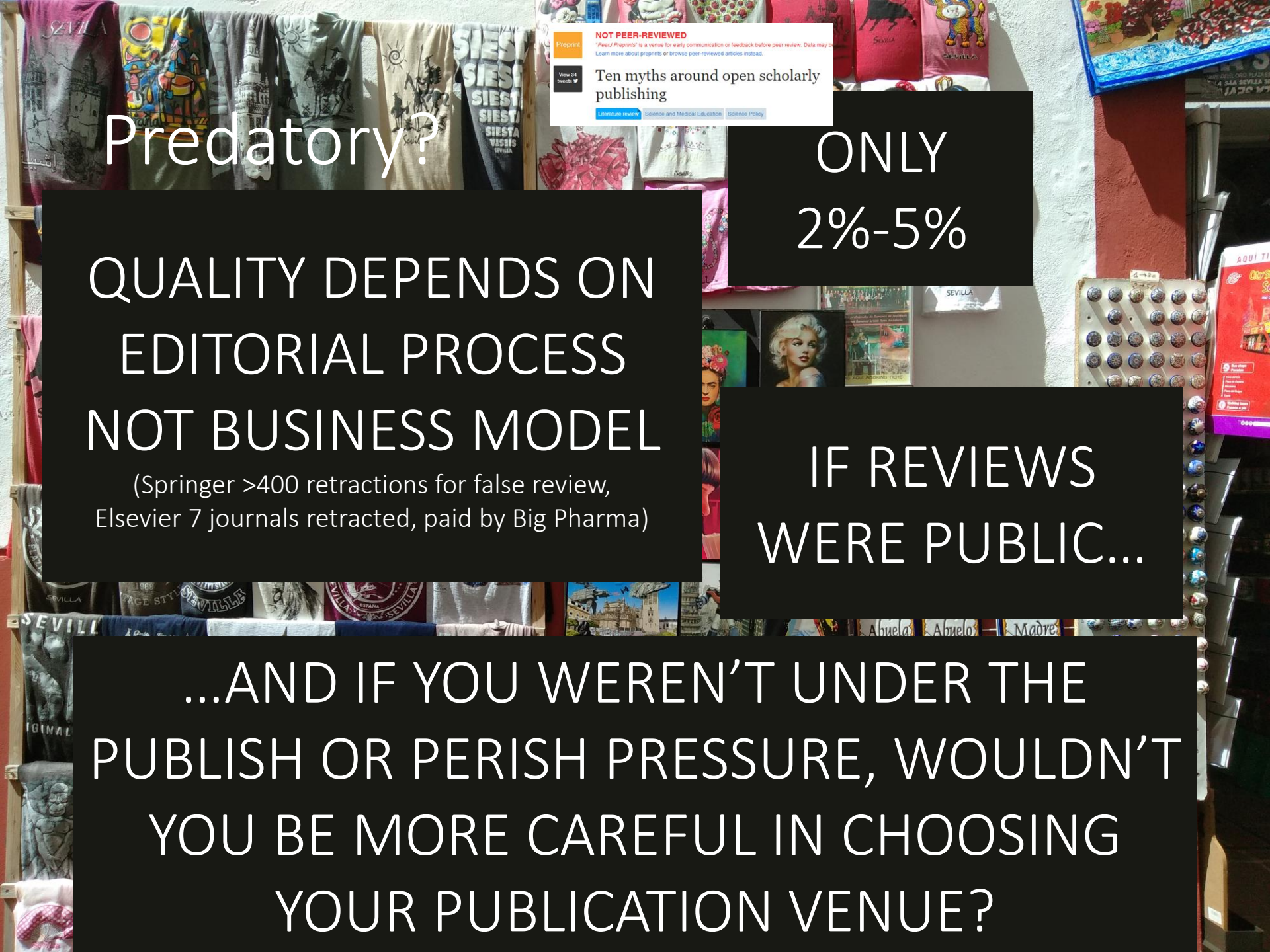
- PAID ONCE AND FOREVER
- PAID ONLY BY THE AUTHORS' INSTITUTION
- OPEN THE CONTENT TO ALL

CRUCIAL: THEY TEND TO CONSIDER «HYBRID» THE NORM IN OA, AND TO IGNORE THE COSTS OF SUBSCRIPTIONS

DON'T MIX

- **NATIVE OPEN ACCESS** PUBLISHERS [NO REVENUE BUT APCs]
- **TRADITIONAL PUBLISHERS** OFFERING AN «**OPEN OPTION**» IN HYBRID JOURNALS [MAIN REVENUE STREAM IS STILL BY SUBSCRIPTIONS, ... SO DOUBLE DIPPING]

IMPORTANT IN HORIZON EUROPE AS HYBRID IS NOT REIMBOURED



Predatory?

ONLY
2%-5%

QUALITY DEPENDS ON
EDITORIAL PROCESS
NOT BUSINESS MODEL

(Springer >400 retractions for false review,
Elsevier 7 journals retracted, paid by Big Pharma)

IF REVIEWS
WERE PUBLIC...

...AND IF YOU WEREN'T UNDER THE
PUBLISH OR PERISH PRESSURE, WOULDN'T
YOU BE MORE CAREFUL IN CHOOSING
YOUR PUBLICATION VENUE?

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.

Researchers are not 'hoodwinked' victims. All choose to play the publishing game and some can choose to change it.

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 indirect 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.

2015

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.

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 their 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.

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

Open Access / green, gold, diamond

YOU PUBLISH WHEREVER YOU WANT AND THEN DEPOSIT

DEPOSIT

**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

YOU PUBLISH IN OPEN ACCESS

PUBLICATION

**FULL
OPEN ACCESS
JOURNALS
[AVOID HYBRID]**

COSTS:

- 30% 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 DYSFUNCTIONAL 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**

... reviewing openly



SUBMIT YOUR RESEARCH

BROWSE GATEWAYS HOW TO PUBLISH ▾ ABOUT ▾ BLOG

MY RESEARCH ▾ SIGN IN



SYSTEMATIC REVIEW

What is open peer review? A systematic review [version 1; referees: 1 approved, 3 approved with reservations]

✉ Tony Ross-Hellauer

+ Author details

+ Grant information



This article is included in the Th

METRICS

4555

VIEWS

1262

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Open Peer Review

Referee Status: ✓✓✓✓

Invited Referees

Version(s) 1 2 3 4

REVISED

Version 2
published
31 ago 2017

✓

read
report

✓

read
report

✓

read
report



SUBMIT YOUR RESEARCH

BROWSE GATEWAYS HOW TO PUBLISH ▾ ABOUT ▾ BLOG

MY RESEARCH ▾ SIG



REVIEW

REVISED A multi-disciplinary perspective on emergent and future innovations in peer review [version 3; referees: 2 approved]

✉ Jonathan P. Tennant ^{1,2}, Jonathan M. Dugan ³, Daniel Graziotin ⁴, Damien C. Jacques ⁵, François Waldner ⁵, Daniel Mietchen ⁶, Yehia Elkhatib ⁷, as ⁹, Tom Crick ¹⁰, Paola Masuzzo ^{11,12}, ¹⁴, Kyle E. Niemeyer ¹⁵, Tony Ross-Hellauer ¹⁶, ¹⁸, Daniel S. Katz ¹⁹⁻²², el Pacheco-Mendoza ²⁴, Nazeefa Fatima ²⁵, ²⁷, Dasapta Erwin Irawan ²⁸, Sébastien Renaut ²⁹, as ³¹, Jesper Nørgaard Kjær ³², eylon ³⁴, Sarah Kearns ³⁵, Manojkumar Selvaraju

METRICS

9143

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2168

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Open Peer Review

Referee Status: ✓✓

Invited Referees

Version(s) 1 2

REVISED

Version 3
published
29 nov 2017

REVISED

Version 2
published
01 nov 2017

Version 1
published
20 lug 2017

✓

read
report

↑

read
report

?

read
report

✓

read
report

↑

read
report

?

read
report

1 David Moher , Ottawa Hospital Research Institute, Canada

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

...non only texts

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15 September 2015

Data set 1 for CARBON AND GENE FLOW MEDIATED BY VIRUS LIFE

Wilson, Willie; Martinez Martinez, Joaquin; Archer, Steve; Fields, David; Gilg, Ilana; Floge, Sheri

(show affiliations)

Experimental data sets used for manuscripts associated with coccolithovirus infection of *Emiliania huxleyi*. Flow cytometry data; expression data of genes associated with photophysiology, fatty acid metabolism and sulphur cycling.

Please contact Willie Wilson (wilwil@sahfos.ac.uk) for further information.

Name	Date	Size	
Dddd_Diff_Expression_Rep_1.xlsx	15 Sep 2015	99.8 kB	Download
Ehux_Probe_and_Primer_list.xlsx	15 Sep 2015	20.1 kB	Download
Multiplex_3_photophys_and_DddA443_Expression_Rep_1.xlsx	15 Sep 2015	141.2 kB	Download

Publication date:

15 September 2015

DOI

DOI: 10.5281/zenodo.31006

Keyword(s):

Virus, *Emiliania huxleyi*, photophysiology, sulphur cycling, fatty acid metabolism

Collections:

Communities

Datasets

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Willie (on 15 September 2015)

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zimeon / signposting
<https://github.com/>

Watch 1 Star 1 Fork 0

Signposting for the scholarly web

18 commits 2 branches 0 releases 1 contributor

Branch: master signposting / +

zimeon Adjust layout	Latest commit 4cb45b6 on 8 Mar
css	Basic simulator with HTML, turtle, PDF, PNG and SVGs 9 months ago
examples	Basic simulator with HTML, turtle, PDF, PNG and SVGs 9 months ago
graphserver	Add svg in a page per graph/scenario 9 months ago
notes	Notes from meeting 9 months ago
gignore	Editor and pyc files 9 months ago
Makefile	Add PNG images for use on github pages because github doesn't support... 9 months ago
README.md	Links... 9 months ago
TO_DO.md	Add svg in a page per graph/scenario 9 months ago
anxiv_no_item.dot	Models... 9 months ago
anxiv_no_item.png	Add PNG images for use on github pages because github doesn't support... 9 months ago
anxiv_no_item.svg	Models 9 months ago

Code
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A methodology for gathering and annotating the raw-data/characteristics of the documents citing a retracted article

Ivan Heibi¹, Silvio Peroni¹

¹University of Bologna

Ivan Heibi

Dec 09, 2020 • 217 • 83

Keyword appears in: authors



Protocollo di Conformità di Riviste Scientifiche all Open Access

Daniele Cavestri¹, Francesca Mangialardo¹, Sebastian Barzaghi¹, Silvio Peroni¹

¹University of Bologna

Sebastian Barzaghi

Jul 15, 2019 • 243 • 72 • 1

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

... not only articles

PREPRINTS

A Practical Guide to Preprints

Accelerating Scholarly Communication

2021

May 2017
PLOS COMPUTATIONAL BIOLOGY

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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
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4
Citation

20,822
View

217
Share

FOR RESEARCHERS



FOR RESEARCHERS AND THE PUBLIC



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

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

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

...no more

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

R= ResearchEquals



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POLICY
WHEN PRIVACY-BOUND RESEARCH PAYS
FOR OPEN SCIENCE **2016**

© 27 APRIL 2016 ▲ EUROSIDENTIST 1 COMMENT

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

ResearchEquals

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Create account



Pay to close

Need more restrictive licenses?

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- € 194.99 - CC BY-NC 4.0
- € 249.99 - CC BY-ND 4.0
- € 329.99 - CC BY-NC-SA 4.0
- € 429.99 - CC BY-NC-ND 4.0
- € 549.99 - All rights reserved

BAREND MONS 2016:
CLOSED SCIENCE ALSO
PAYS FOR OPENNESS



<https://openlabnotebooks.org/>
openlabnotebooks.org
A growing team of groundbreaking scientists around the world are now sharing their lab notebooks online

HOME

Browse notebooks by
LABORATORIES

Browse notebooks by
PEOPLE

Browse notebooks by
DISEASES

Browse notebooks by
PROJECTS

F1000Research 2019

BROWSE GATEWAYS & COLLECTIONS HOW TO PUBLISH

Home » Browse » Open laboratory notebooks: good for science, good for society, good...

OPINION ARTICLE

REVISED Open laboratory notebooks: good for science, good for society, good for scientists [version 2; peer review: 2 approved, 1 approved with reservations]

Matthieu Schapira^{1,2}, The Open Lab Notebook Consortium, Rachel J. Harding¹

Check for updates

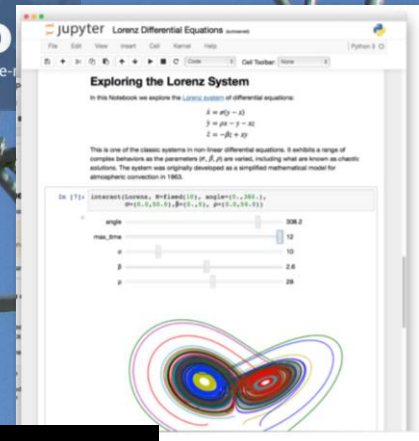
jupyter

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.

RStudio
Open source and enterprise-
professional software for R



UNITO COMPUTER
SCIENCE DEPT. OFFERS
A NOTEBOOKS
HOSTING SERVICE

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

Living documents fossils

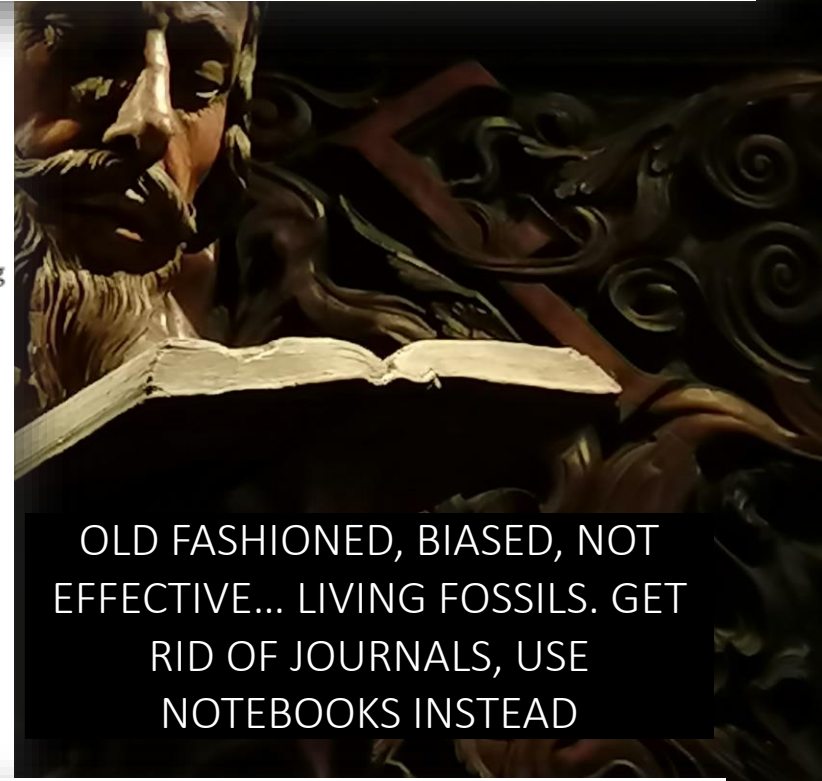
The big idea: should we get rid of the scientific paper? Apr. 11, 2022

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*.



OLD FASHIONED, BIASED, NOT EFFECTIVE... LIVING FOSSILS. GET RID OF JOURNALS, USE NOTEBOOKS INSTEAD

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.

[...lessons learned from COVID / final

Implications of pandemic for publications



NEED TO RETHINK PUBLISHING

- 1) PUBLISH
- 2) OPEN PEER REVIEW
- 3) EARN IMPACT IN REAL LIFE, NOT USING IMPACTFACTOR [«TOXIC»]
(YOU WIN THE MEDAL BEFORE RUNNING THE RACE)

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



Impact Factor is a toxic indicator



Use of pre-prints – calling time on subscription



- 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.....

Robert Terry OSfair 2021 [min. 16.48-46]



<https://app.magicapp.org/#/guidelines>

<25% OF TRADITIONAL ARTICLES INCLUDED IN WHO LIQUID GUIDELINES
THEY FAILED US RIGHTLY WHEN WE NEEDED THEM MORE

...tearing down walls/enabling services

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<https://unpaywall.org/>

TEXT AND
DATA MINING



POSSIBLE ONLY IF AUTHORS SELF-
ARCHIVE TEXTS AND DATA

PUBMED
LINKOUT

NCBI Resources ▾ How To ▾

PubMed.gov

PubMed 2900032[uid]

US National Library of Medicine
National Institutes of Health

Create RSS Create

Format Abstract ▾

Breast Cancer Res Treat. 1988 May;11(2):147-53.

Distribution of Ha-RAS-1 proto-oncogene alleles in breast cancer patients and in a control population.

Saglio G¹, Camaschella C, Giai M, Serra A, Guerrasio A, Peirone B, Gasparini P, Mazza U, Ceppellini R, Biglia N, et al.

Author information

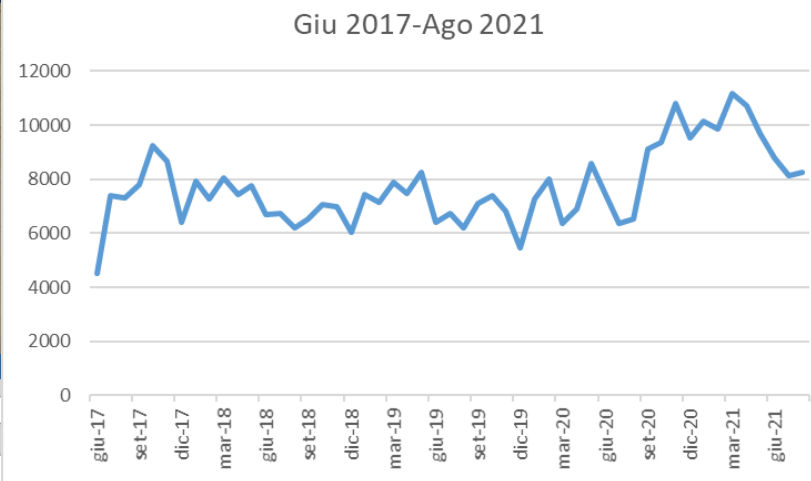
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Full text links



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393.346 downloads June 2017/2021
[7.713 mean]

...going for a new discoverability

The screenshot displays the Open Knowledge Maps website. The main feature is a bubble chart where each bubble represents a research topic, with its size indicating the volume of research. The bubbles are interconnected, showing a network of related fields. The topics include:

- Defensive patent, Intellectual...
- OPEN Research Data, OPEN Data, OPEN Access
- INFORMATION Literacy, Qualitative Research, OPEN SCIENCE
- OPEN SCIENCE, Citizen SCIENCE, Access to Knowledge
- Regulatory SCIENCE, Crowd SCIENCE, FOSTER creativity
- SCIENCE Communication
- INFORMATION SCIENCE, COMPUTER SCIENCE, Computing
- OPEN Access, Access AND OPEN, Access e OPEN
- Web of SCIENCE, Access Journal, Journals
- Equatorial atmosphere, I(t) ?-open set, Indian Ocean
- C.v.raman Chandrasekhar
- OPEN Access Publishing, OPEN Access Network Austria (oana), Network Austria OANA

Below the chart is a search bar with the following elements:

- Search engines: PubMed (life sciences), BASE (all disciplines)
- Refine your search: Enter your search term, GO
- Try out: sugar, digital education

At the bottom left, the URL <https://openknowledgemaps.org/> is visible.

What is Open Knowledge Maps?

open science replication
open science grid
open science tao
open science scientific

...being reproducible



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

Visit our GitHub Repository
This book is powered by Jupyter Book

Welcome

The Turing way

The Turing Way is an open source community-driven guide to reproducible, ethical, inclusive and collaborative data science.

Our goal is to provide all the information that data scientists in academia, industry, government and the third sector need at the start of their projects to ensure that they are easy to reproduce and reuse at the end.

The book started as a guide for reproducibility, covering version control, testing, and continuous integration. However, technical skills are just one aspect of making data science research "open for all".

In February 2020, *The Turing Way* expanded to a series of books covering reproducible research, project design, communication, collaboration, and ethical research.

Open Access | Published: 10 January 2017

2017

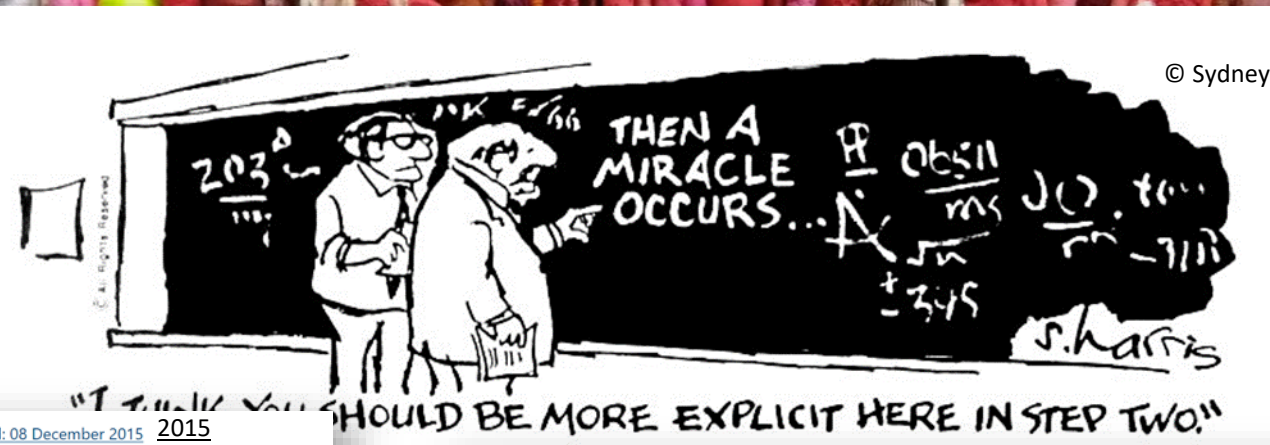
A manifesto for reproducible science

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



REPRODUCIBILITY
PRACTICES

[selfis



© Sydney Harris 1977

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 high-impact papers by breast cancer researchers

Reason number 2: reproducibility makes it easier to write papers

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

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 data and well-documented code easily accessible to the reviewers.

proposed a slight change to some analyses, and because he had access to the data, he could directly try out his ideas on our data and see how the results

on board, the only thing left to discuss was the best constructive review should be. And it would have been a 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 Biocompare research output on

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].

Reproducibility enables continuity of your work

In the following remarks before, maybe you have even "remember all the details of all my projects" or "I did not remember all the details after such a long time"

...linking research and industry...

FRANCO TOSI

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- Conference Name >
- Publication Type >
- Publisher >
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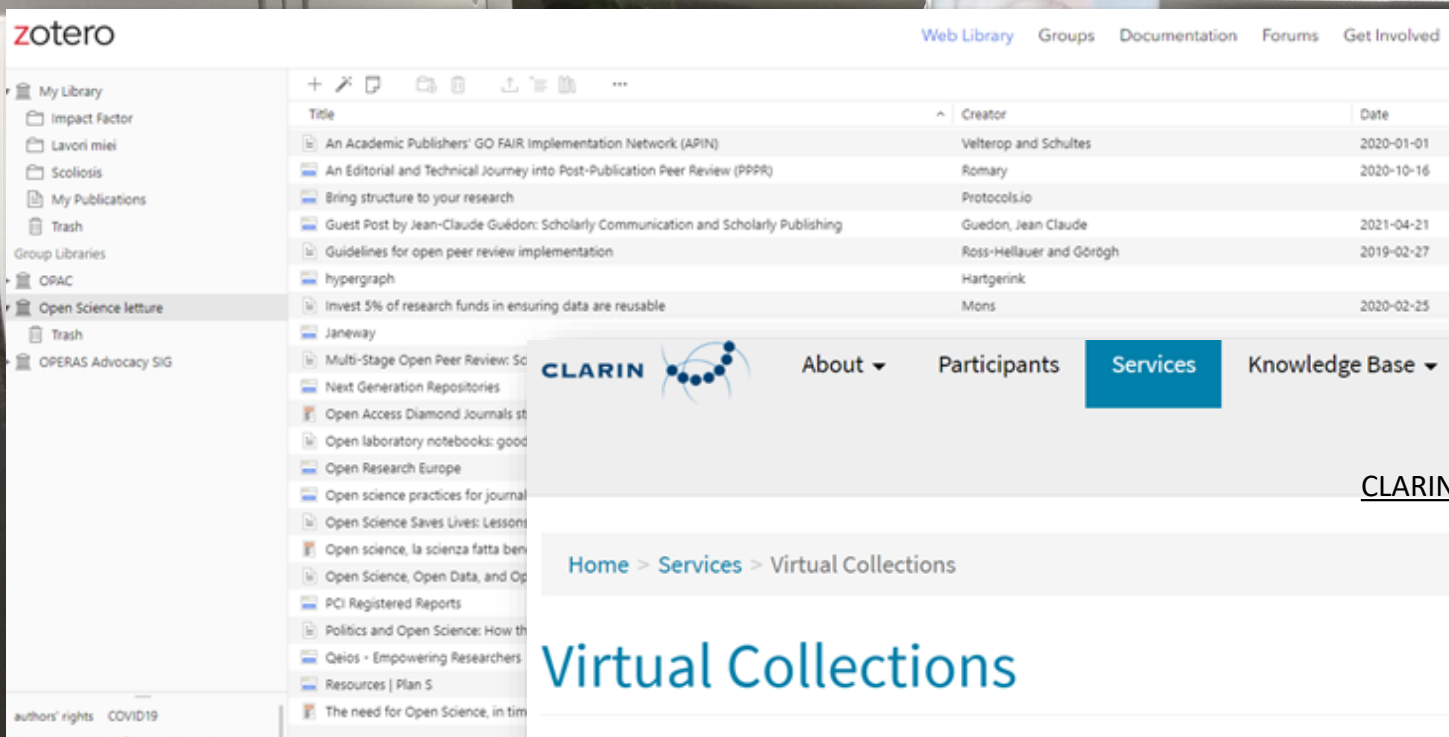
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BANCA DATI OPEN CHE RACCOGLIE BREVETTI INSIEME A LETTERATURA SCIENTIFICA, DATI, SEQUENZE BIOLOGICHE

.....sharing bibliographies and



The image shows two overlapping screenshots. The background screenshot is the Zotero web interface, displaying a list of bibliographic entries with columns for Title, Creator, and Date. The foreground screenshot is the CLARIN virtual collections page, which includes a navigation bar with links like About, Participants, Services, Knowledge Base, Funding, Events, and News. Below the navigation bar, the page title 'Virtual Collections' is prominently displayed.

zotero Web Library Groups Documentation Forums Get Involved

Title	Creator	Date
An Academic Publishers' GO FAIR Implementation Network (APIN)	Velterop and Schultes	2020-01-01
An Editorial and Technical Journey into Post-Publication Peer Review (PPPR)	Romary	2020-10-16
Bring structure to your research	Protocols.io	
Guest Post by Jean-Claude Guédon: Scholarly Communication and Scholarly Publishing	Guedon, Jean Claude	2021-04-21
Guidelines for open peer review implementation	Ross-Hellauer and Görögh	2019-02-27
hypergraph	Hartgerink	
Invest 5% of research funds in ensuring data are reusable	Mons	2020-02-25
Janeway		
Multi-Stage Open Peer Review: Sc		
Next Generation Repositories		
Open Access Diamond Journals st		
Open laboratory notebooks: good		
Open Research Europe		
Open science practices for journal		
Open Science Saves Lives: Lessons		
Open science, la scienza fatta ben		
Open Science, Open Data, and Op		
PCI Registered Reports		
Politics and Open Science: How th		
Qeios - Empowering Researchers		
Resources Plan 5		
The need for Open Science, in tim		

CLARIN About Participants **Services** Knowledge Base Funding Events News

Home > Services > Virtual Collections

Virtual Collections

[CLARIN 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](#)



...sharing every bit, as soon as possible

The image shows the Octopus website interface. The top navigation bar is purple with the Octopus logo, a 'Publish your work' button, a search bar, a 'Publications' dropdown, and a 'Log in via ORCID' link. The main content area has a purple background with the text 'Octopus. The primary research record.' and 'A new way to publish your scientific work that's fast, free and fair.' Below this, it states: 'Designed to replace journals and papers as the place to establish priority and record your work in full detail, Octopus is free to use and publishes all kinds of scientific work, whether it is a hypothesis, a method, data, an analysis or a peer review.' It also mentions: 'Publication is instant. Peer review happens openly. All work can be reviewed and rated.' and 'Your personal page records everything you do and how it is rated by your peers.' At the bottom, it says: 'Octopus encourages meritocracy, collaboration and a fast and effective scientific process.'

On the right side, there is a preview of a publication titled 'APPLICATION: Conclusions from the data on the use of asthma/COPD treatments in COVID-19'. The preview shows a flowchart with four main sections: Problems, Hypotheses, Methods/Protocols, and Data/Results. The 'Problems' section includes 'Demonstration of self...', 'Impact from...', and 'On clinical investigation...'. The 'Hypotheses' section includes 'Octopus - evidence pub...', 'Impact from...', and 'Linking it to previous...'. The 'Methods/Protocols' section includes 'Testing Octopus...', 'Impact from...', 'Analysis of 40,000 CO...', and 'A systematic review of...'. The 'Data/Results' section includes 'Data on respiratory co...', 'Impact from...', 'Results of systematic r...', and 'Meta-...'. The preview also shows the author 'Hypothesis: Preprint', the date 'Date added: 10th April 2020, 12:18:05', and a summary: 'Summary: No recommended change of treatment on the basis of current data.'

Why publish in Octopus?

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

Publish work that you cannot publish elsewhere: hypotheses, small data sets, methods, peer reviews. Get credit for it, and let the scientific community benefit.

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 received by your peers - will appear on your public profile page, for funders, institutions and other researchers to see.

...with a bit of co-creation

2021



ORION INSPIRING STORIES

Ideas & examples

ORION INSPIRING STORIES INDEX



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CO-CREATION

Encouraging co-creation through a funding call



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PUBLIC DIALOGUES

Thinking differently through dialogue



PUBLIC ENGAGEMENT

Using Art as a way to level the playing field when discussing science

PAGE 12

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 menu

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 Area known as Open Science.

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REPORT

INCLUSIVE SCIENCE

23 FEBRUARY 2022

Moving forward together with open science

Towards meaningful public engagement with research

Participants in the National Garden Bird Count (photo: Sabine Jo)

...and a bit of citizen science

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<https://eu-citizen.science/>

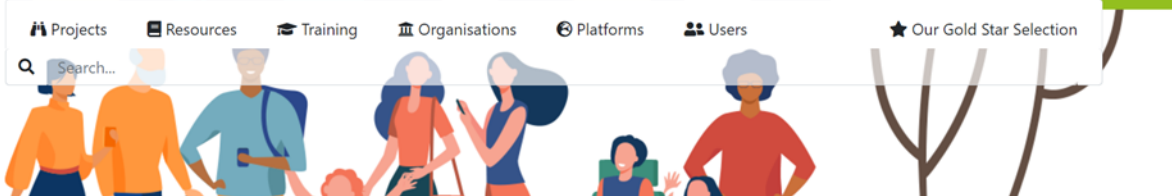
eu-citizen.science

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

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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 a researcher may not typically have

8 Pillars of Open Science

UCL

eight pillars and e in Open n all 8 areas. Its recommendations Science, produced

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UCL Home » Short courses » Citizen Science and Scientific Crowdsourcing: an Introduction

Citizen Science and Scientific Crowdsourcing: an Introduction

30 hours No start date. Work at your own pace

...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?

PLOS COMPUTATIONAL BIOLOGY

Apr. 2020

OPEN ACCESS
EDITORIAL

Ten simple rules for innovative dissemination of research

Tony Ross-Hellauer, Jonathan P. Tennant, Vite Banerjee, Edit Gorogh, Daniela Luzzi, Peter Kraker, Lucio Pisacane, Roberta Ruggieri, Electra Sifacaki, Michela Vignoli

Published: April 16, 2020 • <https://doi.org/10.1371/journal.pcbi.1007704>

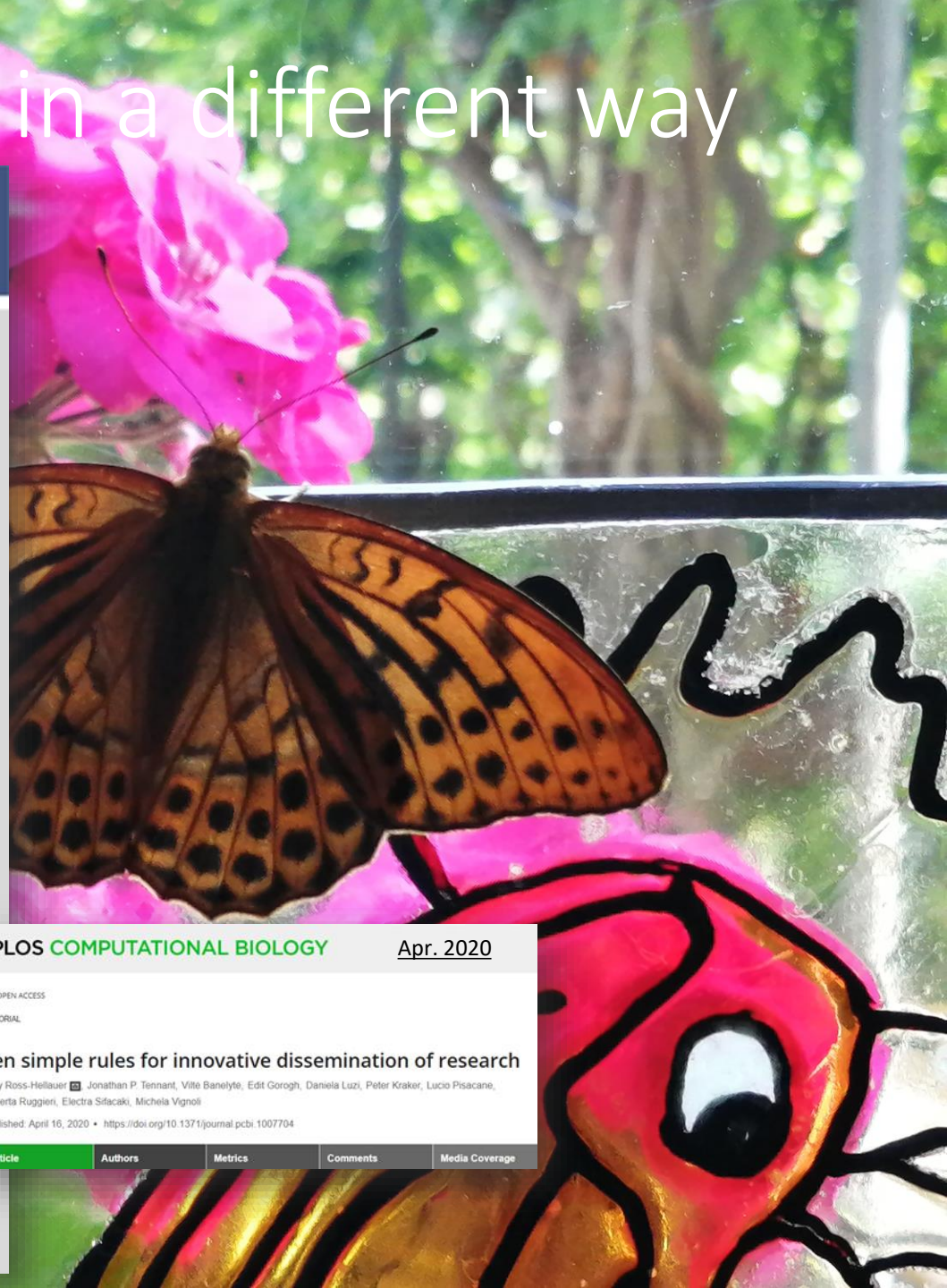
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...having a different «social impact»

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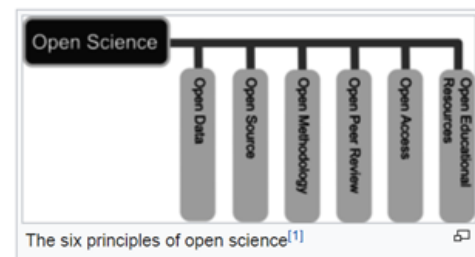
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Open science

From Wikipedia, the free encyclopedia

Open science is the movement to make scientific research (including publications, data, physical samples, and software) and its dissemination **accessible** to all levels of an inquiring society, amateur or professional.^[2] Open science is transparent and accessible knowledge that is shared and developed through collaborative networks.^[3] It encompasses practices such as publishing **open research**, campaigning for **open access**, encouraging scientists to practice **open notebook science**, and generally making it easier to publish and communicate scientific knowledge.

Open Science can be seen as a continuation of, rather than a revolution in, practices begun in the 17th century with the advent of the **academic journal**, when the societal demand for access to scientific knowledge reached a point at which it became necessary for groups of scientists to share resources^[4] with each other so that they could collectively do their work.^[5] In modern times there is debate about the extent to which scientific information should be shared.^[6] The conflict that led to the Open Science movement is between the desire of scientists to have access to shared resources versus the desire of individual entities to profit when other entities partake of their resources.^[7] Additionally, the status of **open access** and resources that are available for its promotion are likely to differ from one field of academic inquiry to another^[8]



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Paul Börsting
Maximilian
Heimstädt
October 22nd,
2021

A step-by-step guide for using
Wikipedia for research
communication

...«communicating» science



quest

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Communication toolkit

Toolkits





Checklist for scientists:
communicating
science to the public



Toolkit for science
communicators
and trainers

Presentation: Toolkit
for science
communicators and
trainers



Explainers and
suggestions for
journalists



JECT.AI

JECT.AI – digital
support tool for
science journalism



Toolkit for journalists
reporting about
science

Presentation: Toolkit
for journalists
reporting on science



Guidelines for quality
science
communication in
journalism

...being a community



Open Science Community Starter Kit

Set up and foster a local Open Science Community

[Get Started](#)

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Making full & immediate
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Resources

Go back

Rights Retention Strategy

Open Access benefits everyone. Retain your rights.
It's good for you, for science, and for society

The author's rights quiz: How well do you know your rights as an author?



The Author's Rights Quiz
How well do you know your rights as an author?

Let's find out! press Enter



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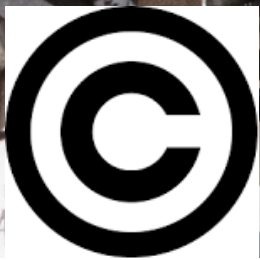
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The FAIR Guiding Principles for scientific data management and stewardship

[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 measurable 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

Data Intelligence

2020

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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, Kersten Kryger Hansen, Ali Hasnain, Kristina Hettne, Jaap Heringa, Rob WW. Hooft, Melanie Imming, Keith G. Jeffery, Rajaram Kalyaperumal, Martijn G. Kerstoot, Christine R. Kirkpatrick, Tobias Kuhn, Ignasi Labastida, Barbara Magagna, Peter McQuilton, Natalie Meyers, Annalisa Montesanti, Mirjam van Reisen, Philippe Rocca-Serra, Robert Pergi, Susanna-Assunta Sansone, Luiz Olavo Borlino 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](#)

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

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[Article Contents](#)



FAIR principles

To be Findable:

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

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 knowledge representation.

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

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

- 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 ISON-LD are common standards for RDF (refers to FAIR principle 1).
- 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, ISN, 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.

R



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.

anit

DISSEMINATION
What it means to disseminate data in the Humanities

IDENTIFY
Research Data in the Humanities

FAIR DATA and the HUMANITIES

DEPOSIT for PRESERVATION, CITE & SHARE
License and Legal aspects
TDRs and PIDs for the Humanities

PLAN
Data Management Plans

COLLECT/PRODUCE & STRUCTURE & STORE
Types and Formats, Metadata and Data Models for the Humanities



Sustainable and FAIR Data Sharing in the Humanities
ALLEA Report | February 2020

Sustainable and FAIR Data Sharing in the Humanities

ALLEA Report | February 2020
February 2020



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 content/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](#)).
- 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 [dispositionfor.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

- 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. Library of Congress maintains a controlled vocabulary for subject headings: <https://www.loc.gov/standards/subject/>.
- Metadata should include a clear and explicit reference to the dataset with the inclusion of a PID in the metadata (see section on [Trustworthy Data](#) and [Persistent Identifiers](#)).
- Metadata should be as rich as possible in order to better contextualise your data and consider more detailed descriptions, and fuller provenance information, as well as a spectrum of available metadata fields.
- Metadata should be machine-readable.

FAIR research software



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.

FAIR RESEARCH
SOFTWARE

Table 1: The FAIR Principles for Research Software

Data



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.

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]

CRUCIAL: IF YOU DON'T
EXPLAIN THE DIFFERENCE
FAIR/OPEN IT WILL TRIGGER
IMMEDIATE SELF-DEFENSE LIKE
«I CAN'T OPEN MY DATA»

OPEN FAIR

MANAGED

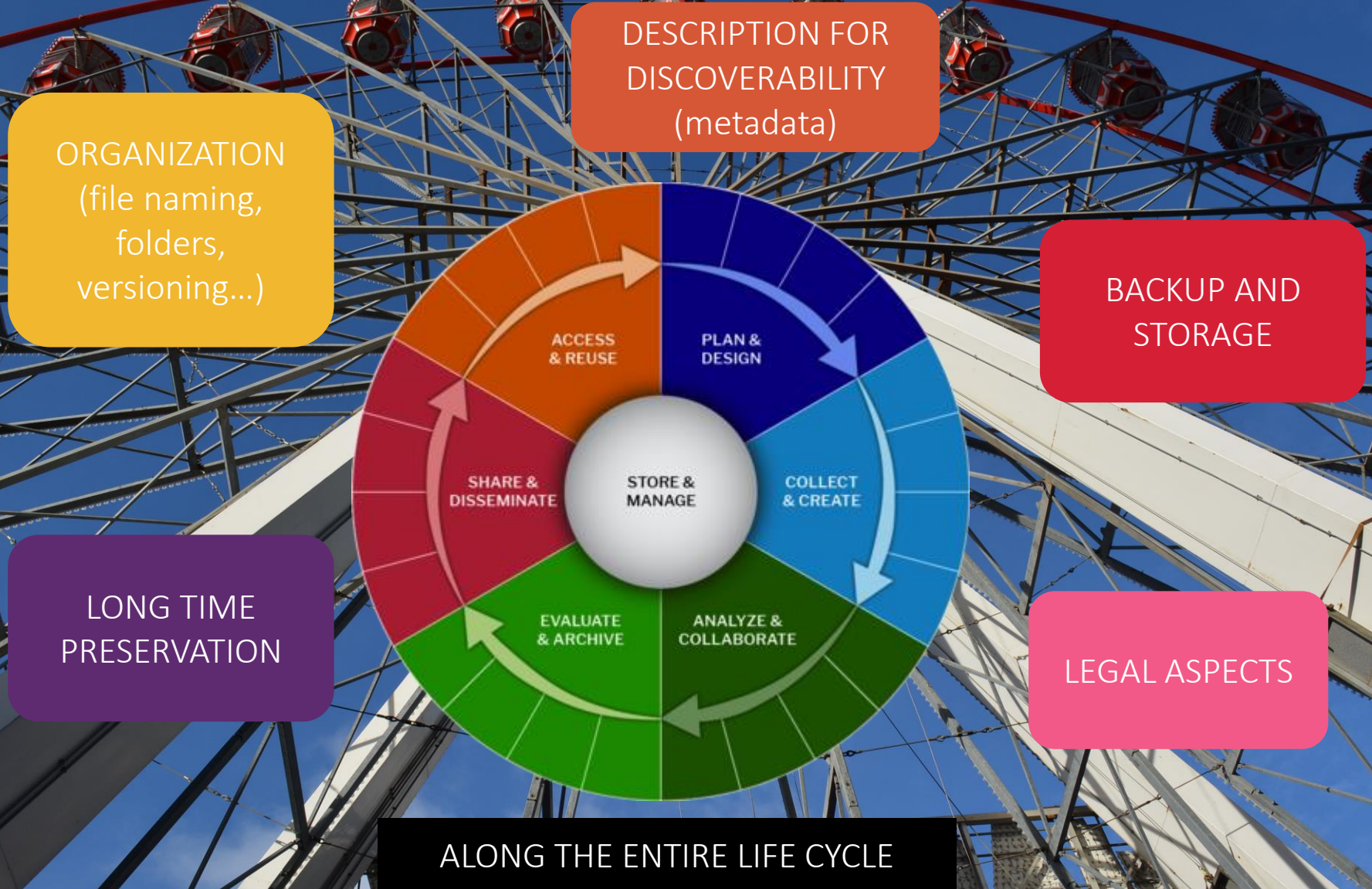
1. DATA SHOULD BE AS OPEN AS POSSIBLE

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



2) Make them FAIR

FAIR Principles

Compliance



Findability

Resource and its metadata are easy to find by both, humans and computer systems. Basic machine readable descriptive metadata allows the discovery of interesting data sets and services.

- ✓ F1. Resource is uploaded to a public repository.
- ✓ F2. Metadata are assigned a globally unique and persistent identifier.



Accessibility

Resource and metadata are stored for the long term such that they can be easily accessed and downloaded or locally used by humans and ideally also machines using standard communication protocols.

- ✓ A1. Resource is accessible for download or manipulation by humans and is ideally also machine readable.
- ✓ A2. Publications and data repositories have contingency plans to assure that metadata remain accessible, even when the resource or the repository are no longer available.



Interoperability

Metadata should be ready to be exchanged, interpreted and combined in a (semi)automated way with other data sets by humans as well as computer systems.

- ✓ I1. Resource is uploaded to a repository that is interoperable with other platforms.
- ✓ I2. Repository meta- data schema maps to or implements the CG Core metadata schema.
- ✓ I3. Metadata use standard vocabularies and/or ontologies.



Reusability

Data and metadata are sufficiently well-described to allow data to be reused in future research, allowing for integration with other compatible data sources. Proper citation must be facilitated, and the conditions under which the data can be used should be clear to machines and humans.

- ✓ R1. Metadata are released with a clear and accessible usage license.
- ✓ R2. Metadata about data and datasets are richly described with a plurality of accurate and relevant attributes.

FAIR principles

3) Whenever possible, 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)
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 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.

Better research

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

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 data
- Can lead to new collaborations
- Produces a public record of the research

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 research
- Maximises return on research investment
- Preparing data for sharing also prepares it for reuse

Sharing Data

Why share data

2. Why share data?



BETTER RESEARCH

- INTEGRITY
- DEBATE
- REUSE

BETTER IMPACT

- VISIBILITY
- CREDIT
- COLLABORATIONS

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."

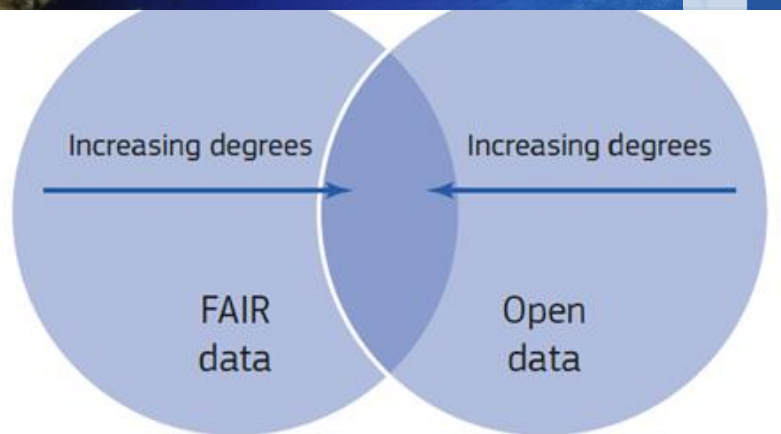


Figure 4. The relationship between FAIR and Open

Digital Science Report

The State of Open Data 2017

if analyses and articles about open data, curated by Figshare

Foreword by Jean-Claude Burgelman

Oct. 2017

OCTOBER 2017



Carlos Moedas
@Moedas

Segui

2/4 "Open as possible, as closed as necessary" is the new principle for all [#data](#) from publicly funded [#research](#) in Europe [#openaccess](#)

RETWEET
76

MI PIACE
32



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 process to achieve the highest reasonable FAIR data.			
F-UJI	Automated	The REST API support a programmatic assessment of objects based on a set of core metrics developed by the FAIR community. The metrics specification is available at https://doi.org/10.26434/chemrxiv-2019-08-01			
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				
FAIR-Aware	Manual - questionnaire				
FAIR-Checker	Automated				
FAIRdat	Manual - questionnaire				
FAIRness self-assessment grids	Manual - checklist				
FAIRshake	Manual - questionnaire				

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; Demchenko, Yuri; Downes, Stephen; Erdmann, Christopher; Garbuglia, Federica; Germer, Kerstin; Helbig, Kerstin; Hellström, Margareta; Hettne, Kristina; Hibbert, Dawn; Jetten, Mijke; Karimova, Yulia; Kryger Hansen, Karsten; Kuusniemi, Mari Elisa; Letizia, Viviana; McCutcheon, Valerie; McGillivray, Barbara; Ostrop, Jenny; Petersen, Britta; Petrus, Ana; Reichmann, Stefan; Rettberg, Najla; Reverté, Carmen; Rochlin, Nick; Saenen, Bregt; Schmidt, Birgit; Scholten, Jolien; Shanahan, Hugh; Straube, Armin; Van den Eynden, Veerle; Vandendorpe, Justine; Venkataram, Shanmugasundaram; Wiljes, Cord; Wuttke, Ulrike; Yeomans, Joanne; Zhou, Biru

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

6.5 Support infrastructure

6.6 Data publication

6.7 Data reuse

FAIR cookbook

Search this book...

FAIR Cookbook

FOREWORD

Introduction

Ethical values of FAIR

Glossary

RECIPES

Findability

Accessibility

Interoperability

FAIR Cookbook

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.

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

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

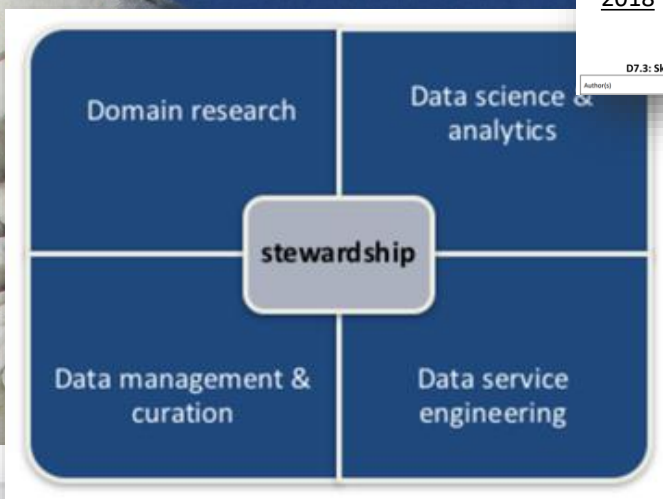
...and a Data Management Plan



- 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...

...and we need data

INSIST ON THE ROLE OF DATA STEWARDS – AND THE NEED TO TRAIN AND HIRE THEM



Competence Profile

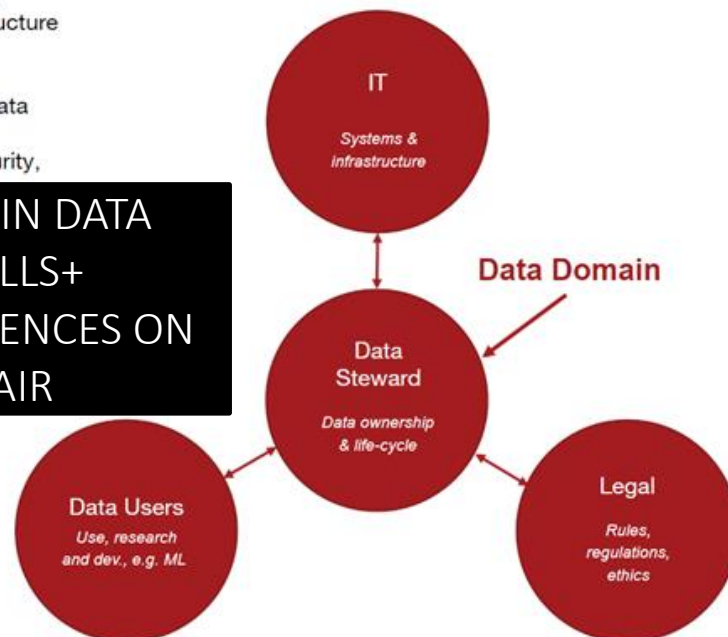
A data steward is a data specialist with strong domain-specific knowledge who understands and appreciates the relevance of data, data sources, data infrastructure and constraints within a scientific or other application domain.

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 data internally and externally in the organisation.

Competence profile examples

- Domain-specific data understanding
- Ability to ensure that structured and unstructured data is modelled, harvested, stored, and maintained in documented, and regulated fashion with focus on 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



Data ste

- **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.

[BTW, time to rethink...]

nature

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[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.

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

them versus mindset drives rift between academic and non-academic staff

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.

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

[AS N EOSC ALMOST UNKNOWN – THE EOSC!]

ADVOCACY NEEDED,
RESEARCHER ENGAGEMENT.
NO THEORY – FAIRIFICATION
WORKSHOPS

TI

Vienna, 23 Nov

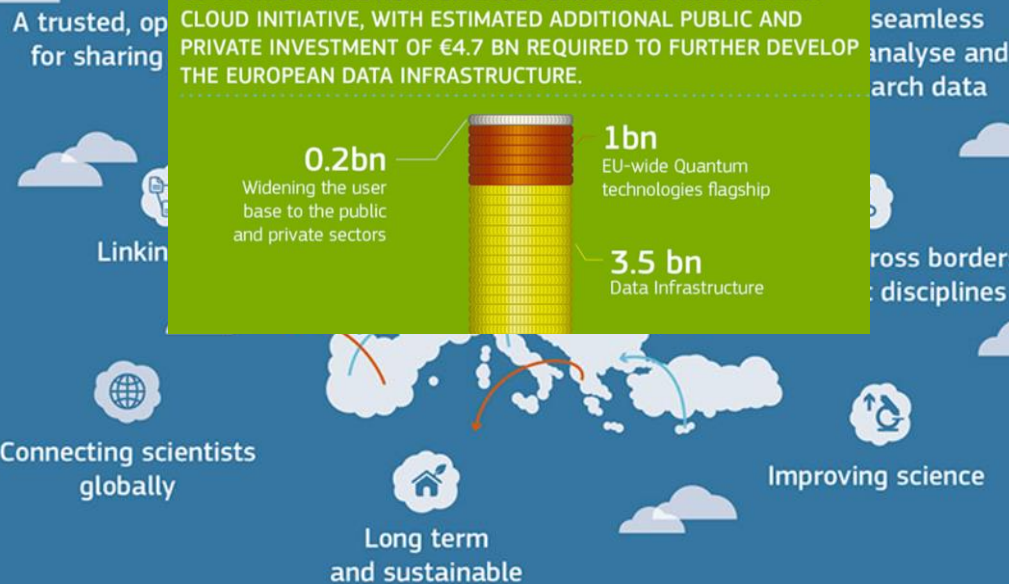
INFRASTRUCTURES

e 2 0
u 1 8
- a t

Vienna, Nov.23, 2018

We, Ministers European Open Science Cloud

1. **Recall** the challenge of the European Open Science Cloud, as discussed in the Declaration signed in Brussels on 10 July 2016.
2. **Reaffirm** the political commitment of the European Union and its Member States, sustainable and open to the world.
3. **Recognise** that the European Open Science Cloud is an iterative and based on consensus among researchers and institutions.
4. **Highlight** that the European Open Science Cloud is a public service for Science. Reaching out over time to the wider community.
5. **Recall** that the Council of the European Union, in its Declaration of 10 July 2016, called for the European Open Science Cloud to be a reality, hinting at the need to further strengthen the ongoing dialogue across institutions and with stakeholders, for a new governance framework to be launched in Vienna, on 23 November 2018.



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.

9. **Note** that the 2018 EOSC Summit (held on 11 June 2018) called for acceleration towards making the European Open Science Cloud a reality, hinting at the need to further strengthen the ongoing dialogue across institutions and with stakeholders, for a new governance framework to be launched in Vienna, on 23 November 2018.

EOSC IS NOT A BIG BOX]

BE CLEAR ON WHAT
EOSC IS – AND WHAT IS
NOT

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

OBJECTIVES

EOSC SRIA 1.0

Open Science practices and skills
are rewarded and taught, becoming
the 'new normal'

EOSC: critical success factors

DATA FAIR BY DESIGN...
AND THEN NOT EVALUATED
AS «RESEARCH OUTPUTS»???

Strategic Research and Innovation Agenda
(SRIA)

of the

European Open Science Cloud (EOSC)

SRIA

Version 0.9 16 November 2020

A number of critical success factors must be in place for those benefits to be realised. They include:

- Researchers performing publicly funded research make relevant results available, as open as possible;
- Professional data stewards are available in research-performing organisations in Europe to support Open Science;
- Research data produced by publicly funded research in Europe is FAIR by design;
- The EOSC Interoperability Framework supports a wide range of FAIR digital objects including data, software and other research artefacts;
- EOSC is operational and provides a stable infrastructure, supporting researchers addressing societal challenges;
- EOSC is populated with a valuable corpus of interoperable data;
- EOSC is a valuable and valued resource to a wide range of users from the R&E, public and private sectors.

EOSC association

BORN DEC. 2020
MAKE YOUR VOICE
HEARD

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

The European Open Science Cloud (EOSC) initiative will offer researchers a virtual environment with open and seamless services for storage, management, analysis and re-use of research data

, across borders and scientific disciplines by federating existing data infrastructures.

EOSC is being co-created in a series of funded projects and initiatives from Member States

The EOSC Association will create a research environment that will ultimately, to make the European Open Science Cloud a reality, will offer researchers open and seamless services for storage, management, analysis and re-using research data, across borders and scientific disciplines by federating existing data infrastructures, new knowledge and spur innovation.

In joining us you will:

- Shape the European Open Science Cloud;
- Guide the strategy for the EOSC implementation phase;
- Participate in Advisory Groups and General Assembly meetings;
- Engage in policy dialogues;
- Network with like-minded people.

Together, we can create a European Research Data Commons that will not only benefit Europe but help tackle the societal challenges worldwide.

- AG Implementation of EOSC
 - TF PID Policy and Implementation
 - TF Researcher Engagement and Education
 - TF Rules of Participation
- AG Metadata and Data Management
 - TF FAIR Metrics
 - TF Semantic Interoperability
- AG Research Career Development
 - TF Data Stewardship
 - TF Research Career Development
 - TF Upskilling Community
- AG Sustaining EOSC
 - TF Defining Funding Models
 - TF Long-Term Data Preservation
- AG Technical Challenges on EOSC
 - TF AAI Architecture
 - TF Infrastructure for Quality Research Software

TASK FORCES

4 GENERAL
ASSEMBLY MAY
23-24



13

Task forces

200+

Members and
observers

Join the Association

<https://www.eosc.eu/>

WHAT'S GOING ON IN EUROPE



Sustainable Development Goals

17 GOALS TO TRANSFORM OUR WORLD



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, CEDH



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."

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

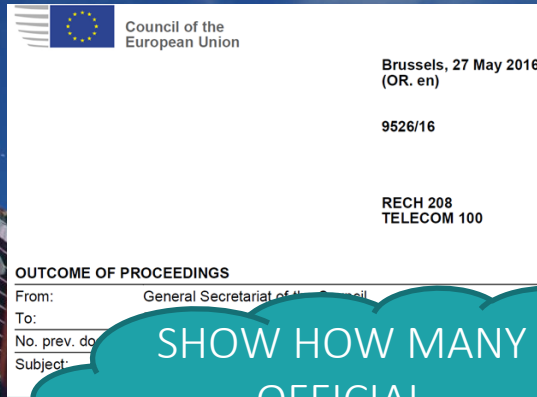
- President Joe Biden
September 12, 2022
#OAintheUSA

Sent 12 2022

Towards Open Access



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



OPEN ACCESS BY
DEFAULT IN 2020
(COMPETITIVENESS
COUNCIL 2016)



SHOW HOW MANY
OFFICIAL
DOCUMENTS

Gazzetta ufficiale dell'Unione europea

L 172/56

DIRETTIVA (UE) 2019/1024 DEL PARLAMENTO EUROPEO E DEL CONSIGLIO
del 20 giugno 2019

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

(rifusione)

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

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

14308/21

Dec. 2021

RECH 538
COMPET 865

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)



Removing barriers to open science

1. Change assessment, evaluation and reward systems in science
2. Facilitate text and data mining of content
3. Improve insight into IPR and issues such as privacy
4. Create transparency on the costs and conditions of academic communication

Developing research infrastructures

5. Introduce FAIR and secure data principles 16
6. Set up common e-infrastructures 18

Fostering and creating incentives for open science

7. Adopt open access principles 22
8. Stimulate new publishing models for knowledge transfer 23
9. Stimulate evidence-based research on innovations in open science 26

Mainstreaming and further promoting open science policies

10. Develop, implement, monitor and refine open access plans 30

Stimulating and embedding open science in science and society

11. Involve researchers and new users in open science 3
12. Encourage stakeholders to share expertise and knowledge 3

2016

Amsterdam Call for Action on Open Science

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

June 2020



Progress on Open Science: Towards a Shared Research Knowledge System

Final Report of the Open Science Policy Platform

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

2019



Future of Scholarly Publishing and Scholarly Communication

Report of the Expert Group to
the European Commission

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

RE 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 Szkuta¹, Rene Von Schomberg¹, Athanasios Karalopoulos¹, Konstantinos Repanas¹ and Michel Schouppe¹

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 affordable³.

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

Open Science in HEU

Open science

Open science in Horizon Europe

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. It has the potential to increase the quality and efficiency of research and accelerate the advancement of knowledge and innovation by sharing results, making them more reusable and improving their reproducibility. It entails the involvement of all relevant knowledge actors.

Horizon Europe moves beyond open access to open science for which it features a comprehensive policy implemented from the proposal stage to project reporting. The Horizon Europe Regulation sets the legal basis for the open science obligations and incentives that apply to Horizon Europe beneficiaries. The Annotated Grant Agreement provides guidance on how to comply with the open science obligations required in the 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.

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

V.1 June 17 2021



Horizon Europe

Programme Guide

Horizon Europe



V.1 Feb 2021



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

General Model Grant Agreement
EIC Accelerator Contract

(HFMGA – Multi & Model)



V.2 April 2021



Horizon Europe Programme
Standard Application Form (RIA, IA)

Application form (Part A)
Project proposal – Technical description (Part B)

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]

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]

Horizon Europe



- 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]
- DEFINITION OF «TRUSTED REPOSITORY» P. 156**
- ANNEX 5 DISSEMINATION PLAN [P. 162]

- DISSEMINATION & IPR MANAGEMENT [P.30-37]
- OPEN SCIENCE [P.38-52]
- RIGHT RETENTION CLAUSE [P.49]** AND USEFUL TOOLS
- CITIZEN SCIENCE [P.52-54]



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 **RECOMMENDED PRACTICES**

RECOMMENDED PRACTICES

MANDATORY PRACTICES

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



LIST OF ACHIEVEMENTS
Template PartA

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



EXCELLENCE
Template PartB

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



IMPACT
Template PartB

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



QUALITY OF IMPLEMENTATION
Template PartB

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



OPEN SCIENCE
Publications

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



OPEN SCIENCE
FAIR data

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



ENSURE
REPRODUCIBILITY

PROJECT PROPOSAL WILL BE EVALUATED ON

a) HOW IT WILL ADOPT RECOMMENDED PRACTICES AND b) HOW IT WILL BE COMPLIANT TO MANDATORY ONES

Horizon Europe

Part A: Application form

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements of consortium members relevant to the call content

- Publications expected to be open access
- Datasets expected to be FAIR and open*

* "As open as possible, as closed as necessary"

1 Excellence

1.1 Objectives and ambition

1.2 Methodology

Open Science [max. 1 page]

How will the project implement mandatory and recommended open science practices in a manner appropriate to the nature of the proposed work?

Mandatory OS practices

Open access* to scientific publications

Open* access to research data

Information/documentation about research outputs needed for research validation and data reuse

Management of research data in line with FAIR principles

Recommended OS practices

Early and open sharing of research

Preregistration, open peer-review

Citizen science, society engagement

Research output management (beyond data)

Reproducible outputs

Research Data Management (RDM) and management of other research outputs (exc. publications) [max. 1 page]

How will the data/ research outputs be managed in line with the FAIR principles?

Types of data & research outputs

Findability, Accessibility, Interoperability, Reusability of data & research outputs

Costs and responsibilities of data curation, storage and preservation

Part B: Project proposal - Technical description

2 Impact

2.1 Project's pathways towards impact

2.2 Measures to maximize impact. Dissemination, exploitation & communication

Tips

Refer to relevant Open Science practices described in the Methodology section (i.e. open access to research outputs and early and open sharing of research)

Make sure proposed practices are compatible with your dissemination and exploitation plan (e.g. protection of intellectual property) and consortium agreements

!!! #Open Access to publications

- 1) Publish in ORE - Open Research Europe
- 2) Publish in an Open Access journal (see DOAJ)
- 3) Publish in a subscription based journal + maintain the rights to deposit and give immediate access

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...

3 Quality and efficiency of the implementation

3.1 Work plan and resources

Tips

Give visibility to RDM with distinct tasks or work packages

Include the full Data Management Plan (DMP) as a deliverable

Include other relevant RDM activities and budget them

3.2 Capacity of participants & consortium as a whole

Tips

Describe consortium partners' capacities in open science



Adapted by Elena Giglia

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

14
Giglia 2021

For more info, check the research tip:

Horizon Europe: How do I address open science in my proposal?



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 reproducibility 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

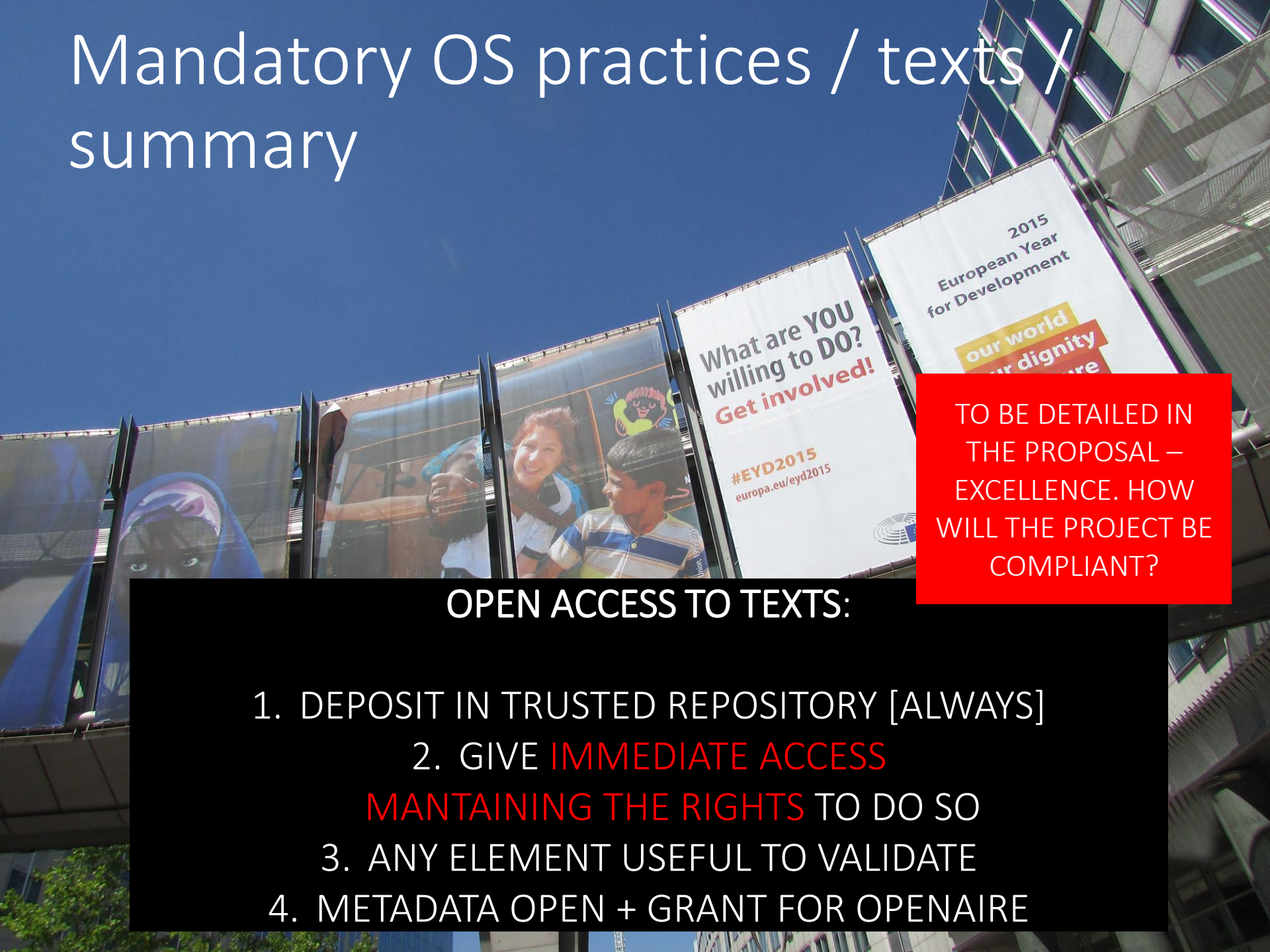
SOME CALLS COULD MANDATE
MORE PRACTICES

RECOMMENDED OPEN SCIENCE
PRACTICES :

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

«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
MAINTAINING THE RIGHTS TO DO SO
3. ANY ELEMENT USEFUL TO VALIDATE
4. METADATA OPEN + GRANT FOR OPENAIRE

[Patents and Open Science]



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 Grants](#) incl. MSCA (page 88 onwards).

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

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

This 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.



No entry
to unauthorised personnel
No smoking or naked lights

Keep well
ventilated

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 SUBSCRIPTION BASED JOURNAL +
RETAIN RIGHTS TO
DEPOSIT+ IMMEDIATE ACCESS

1. Publishing in ORE

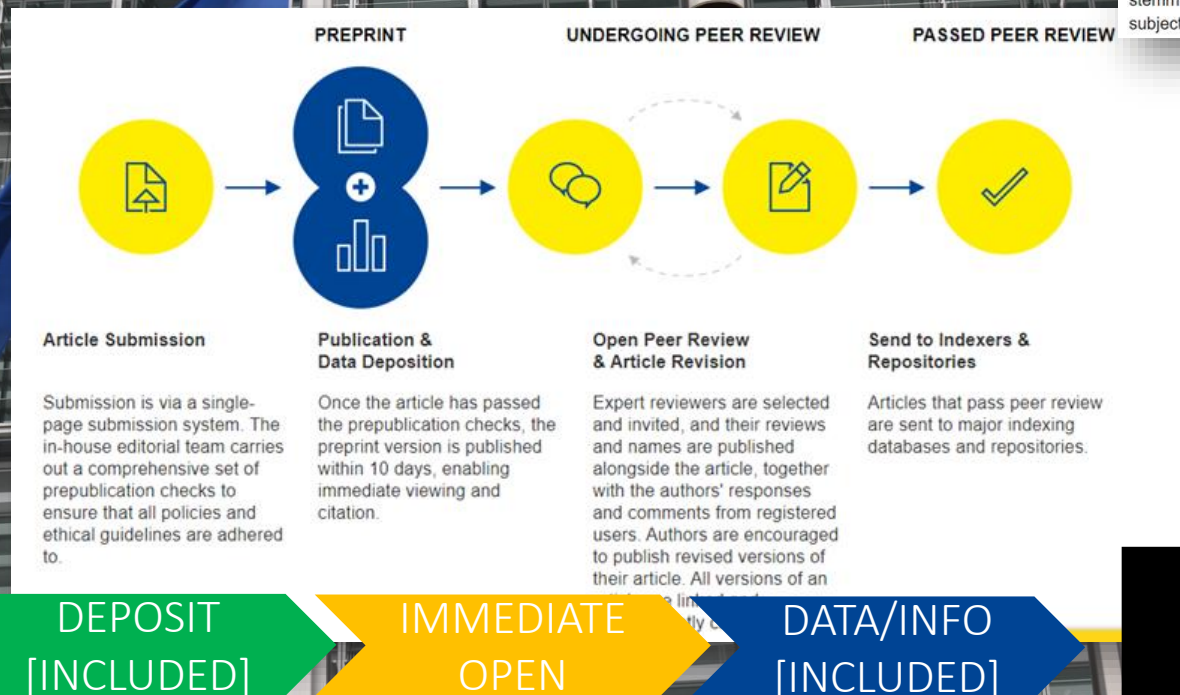
Open Research Europe

How to Publish ▾ About ▾

Rapid & Transparent Publishing

Fast publication and open peer review for research stemming from Horizon 2020 funding across all subject areas.

ORE



COMPLIANT

PLUS:

GRATIS

OPEN PEER
REVIEW

INDEXING

NOT TO BE IN
THE BUDGET

OPEN PRACTICE

MAX IMPACT

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



> 17.000

FULL OPEN ACCESS

DEPOSIT
[UP TO YOU]

- IR
- ZENODO

IMMEDIATE
OPEN

COSTS
?

DATA/INFO
[UP TO YOU]

- ZENODO
- [RE3DATA]

COMPLIANT

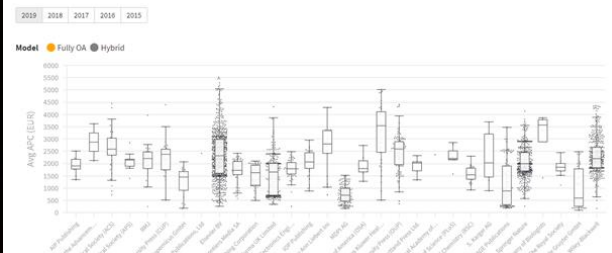
- COSTS TO BE INCLUDED INTO YOUR BUDGET
- MEAN COST IN ESAC MARKET
- CHECK YOUR SPECIFIC JOURNAL

Article processing charges

Although the majority of the journals indexed in the Directory of Open Access Journals (DOAJ) operate without article processing charges (APCs), the primary business model adopted by most of the publishers is the APC model. While research libraries have, historically, taken on financial responsibility for APCs, in the context of open access publishing, researchers as authors have largely been left to manage financial transactions with scholarly publishers on their own.

As scholarly journal publishing transitions to open access business models, libraries seeking to protect the financial interests of their institutions and authors will increasingly need to monitor, compare and exert critical market pressure on the costs of open access publishing services and APC price points. Support and tools to facilitate comparisons and conversations around the costs of scholarly publishing services are available in the [ESAC Initiative](#), the [OpenAPC dataset](#), and the [pricing and service transparency frameworks](#) developed by the FAIR OA Alliance and by Information Power for cOAlition S.

The figure below shows the distribution of APC price points over time, by publisher and business model, based on expenditure reports of actual APC payments (i.e. after discounts, etc.), contributed voluntarily by institutions worldwide to the OpenAPC dataset.



29% ASK FOR APCs
250-2900 \$

ELIGIBLE ONLY COSTS FOR

- FULL OPEN ACCESS (NO HYBRID)
- DIGITAL (NO PRINT FOR BOOKS)

3. Publishing on a traditional journal (subscription based)

DEPOSIT

[UP TO YOU]

- IR
- ZENODO

IMMEDIATE
OPEN

CAN I?

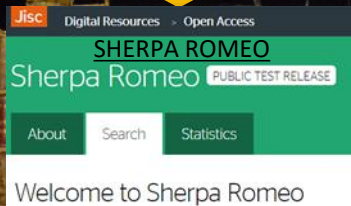
DATA/INFO

[UP TO YOU]

- ZENODO
- [RE3DATA]

COMPLIANT

CHECK FOR EMBARGO
(SHERPA ROMEO)



Accepted Version
[pathway b]

12m

Institutional Repository, Funder Designated Location

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



Pre-draft July 2021



EU Grants

AGA – Annotated Model Grant Agreement

EU Funding Programmes 2021-2027

 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]

An orange clothespin is clipped to a pink and white striped fabric, which is draped across the bottom of the frame. The background is a solid, deep blue. The clothespin is positioned vertically, with its metal spring visible. The fabric has a visible texture and horizontal stripes.

“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.:

- o 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.).
- o 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.



pre draft 2021



EU Grants

AGA – Annotated Model Grant Agreement

EU Funding Programmes 2021-2027

- INTEGRITY
- PRESERVATION
- SECURITY
- IDENTIFIERS
- REUSE/LICENSES

Right 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!

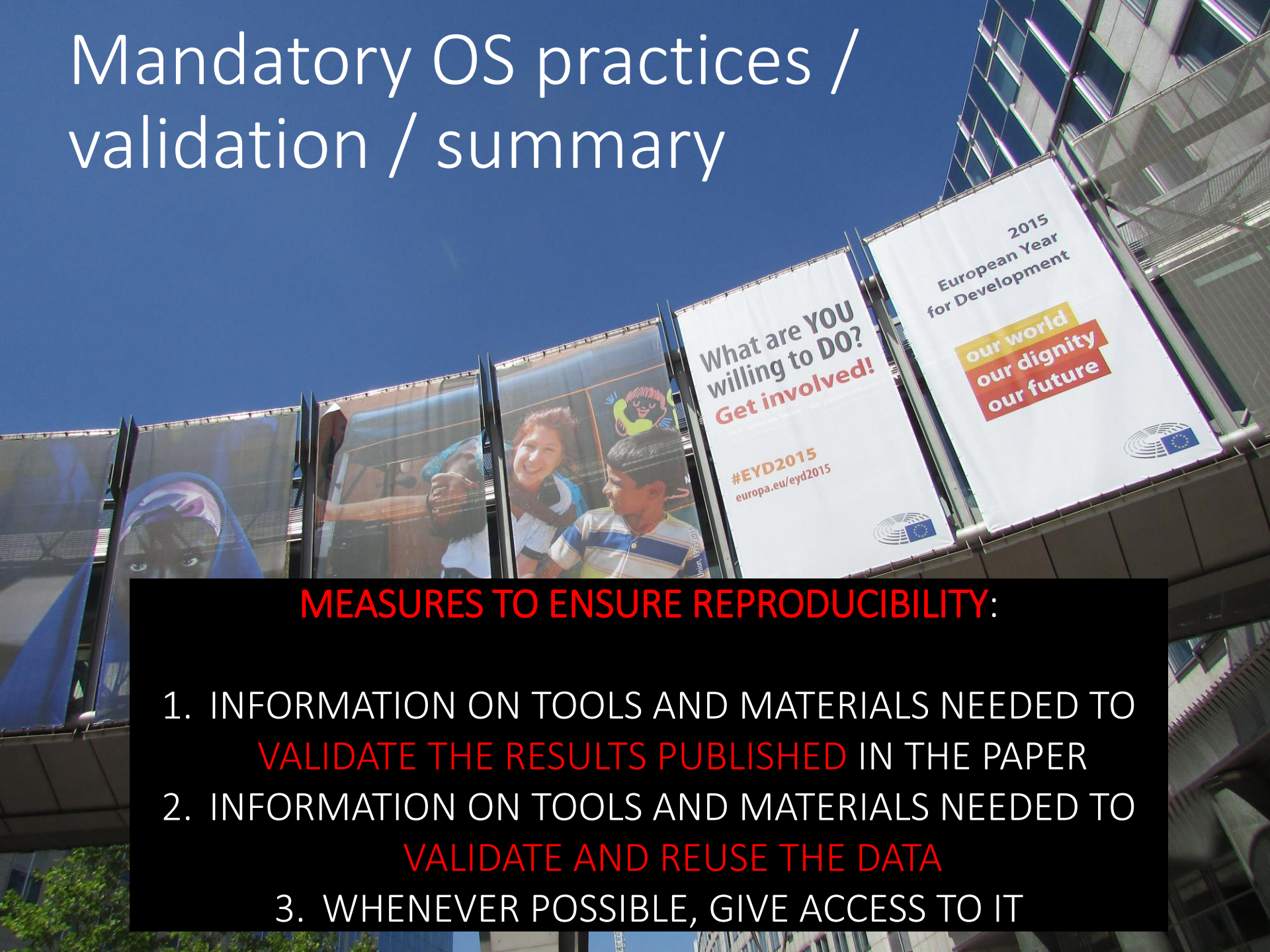
Mandatory OS practices / data / summary

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

OPEN ACCESS TO DATA:

1. RESPONSIBLY MANAGE YOUR DATA ACCORDING 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 – CCO

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](#)



[Guide]



V.1 June 17 2021



Horizon Europe

Programme Guide

PROGRAMME GUIDE, p.41-42

- EARLY SHARING
- FAIR DATA
MANAGEMENT
- REPRODUCIBILITY
- OPEN ACCESS
- OPEN PEER
REVIEW
- CITIZEN 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 in the proposal template in the relevant section on open science. A full data

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 reproducibility and resources in the relevant section below.

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.

[...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»

...once the project is approved...

BY MONTH 6 YOU HAVE TO PROVIDE
A DATA MANAGEMENT PLAN



What if I generate no data?



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Horizon Europe

Programme Guide

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

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

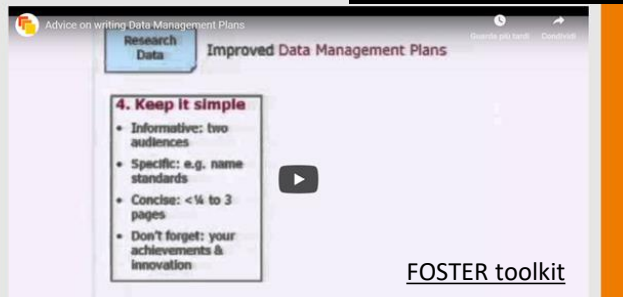
DATA MANAGEMENT PLAN

Tips and tricks

SINTETIC AND SPECIFIC

Top tip - keep it short and specific!

This very short extract from a presentation by Peter Dukes, Medical Research Council, gives really useful advice on writing a DMP from the funding body perspective. The advice applies to all disciplines. The quality of the video isn't great, but the advice is definitely is!



DO NOT COPY/PASTE

EVERY DATASET IS
UNIQUE, EVERY
INFRASTRUCTURE IS
DIFFERENT, EVERY
RESEARCH HAS
DIFFERENT
PARTNERS/POLICIES

BEING GENERIC IS USELESS
[we expect a huge size of data;
data will be available]

- 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. PSEUDONIMIZED
DATA, not ANONIMIZED

AGATHOCLES DMP online

Project Details Contributors Plan overview Initial DMP Detailed DMP Final review DMP Share Download

expand all | collapse all

8/9 answered

1. Data summary (1 / 1)

2. FAIR data (3 / 4)

3. Allocation of resources (1 / 1)

DS Wizard

Knowledge Models

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

FREE TEXT. YOU HAVE TO KNOW WHAT TO ADDRESS NOT TO FORGET ANYTHING

Leiden Booksellers - Giglia IFDS homework week 5

Questionnaire Metrics Preview Documents Settings

View

Comments

TODOS

Version history

Current Phase

Before Submitting the Proposal

Chapters

I. Administrative information



II. Re-using data



III. Creating and collecting data



IV. Processing data



V. Interpreting data



VI. Preserving data



III. Creating and collecting data

We will make sure that we know what data will be coming together in the project, when it will be coming. We also need to make sure that we have adequate storage space to deal with it, and that all the responsibilities have been taken care of.

1 What existing data formats/types will you be using?

Horizon 2020 DMP Science Europe DMP

Have you identified types of data that you will use that are used by others too? Some types of data (for example "images" or "tables") are used by many different projects. For such data, often common standards exist (in our example "JPG" and "CSV" [comma separated values]) that help to make these data reusable. Are you using such common data formats?

Please make sure you list all the data types that are important for your project. You should make sure also to list the formats used in any data sets that you are re-using.

☒ Desirable: Before Submitting the Proposal

Science: [Horizon 2020 DMP](#)

Europe DMP



Argos

Plan and follow your data

Create machine actionable DMPs.

Configure to best fit your discipline.

Link to EOSC components out of the box.

Share easily in your repository.

Bring your Data Management Plans closer to where data are generated, analysed and stored.

Start your DMP

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

ONE DAY OR
DAY ONE
you decide.

THANK YOU!