




Open Science into Research Practice

By
The #OpenScienceClinique



OPEN SCIENCE MOOC

FREE | OPEN | LEARNING

A photograph of a crowd at a concert or event. The scene is dominated by red lighting. In the background, a large screen displays the word 'COMMUNITY' in white capital letters. In the foreground, the silhouettes of many people's hands are raised in the air, suggesting a lively atmosphere. The overall mood is energetic and communal.

COMMUNITY

& VALUES

A firefighter in full protective gear, including a helmet and a jacket with reflective stripes, stands in the foreground. The firefighter is looking towards a large fire burning in a forest at night. The fire is visible as a bright orange and yellow glow on the right side of the image. The background is filled with tall, dark trees and a thick layer of smoke or mist. The sky is dark, and a bright light source, possibly the moon or a distant fire, is visible in the upper center. The overall atmosphere is one of urgency and danger.

***'Our house is on fire':
EU parliament declares climate emergency***

The Guardian, 28th Nov 2019



***'Our house is on fire':
EU parliament declares climate emergency***

The Guardian, 28th Nov 2019

**OPEN SCIENCE:
JUST
SCIENCE
DONE RIGHT**

IMAGINE

A circular mosaic on a sidewalk. The word "IMAGINE" is written in a serif font across the center of a light-colored circular area. This circle is surrounded by a dark ring, which is then followed by a larger area with a complex, symmetrical starburst or sunburst pattern made of black and white mosaic tiles. The pattern radiates outwards from the center. Numerous dry, brown and orange autumn leaves are scattered across the mosaic surface.

• *What is Open Science?* •

Open Science stands for a transition to a new, more open and participatory way of **conducting**, **publishing** and **evaluating** scholarly research

central to this is the goal of increasing **cooperation** and **transparency** in all research stages

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**





#IamAnOpenScientistBecause



***"Focus on Impact (Factor) distorts
what matters in science"***

*Dr. Alan Leshner, CEO AAAS & Publisher of
"Science" journal (2014)*

***" 'publish or perish' approach can
have damaging effects on
research integrity"***

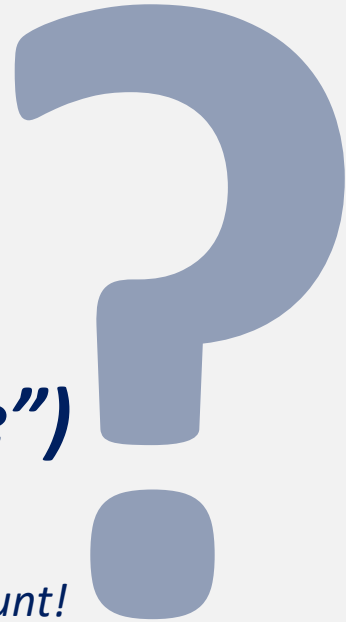
*Alexander Hasgall, Head of the EUA's
Council for Doctoral Education (2019)*

***How does this impact our Credibility?
And Societal Impact?***

Time for an Exercise:

What are the **OUTPUTS
of your research
(& are they “publishable”)***

**peer-reviewed papers don't count!*

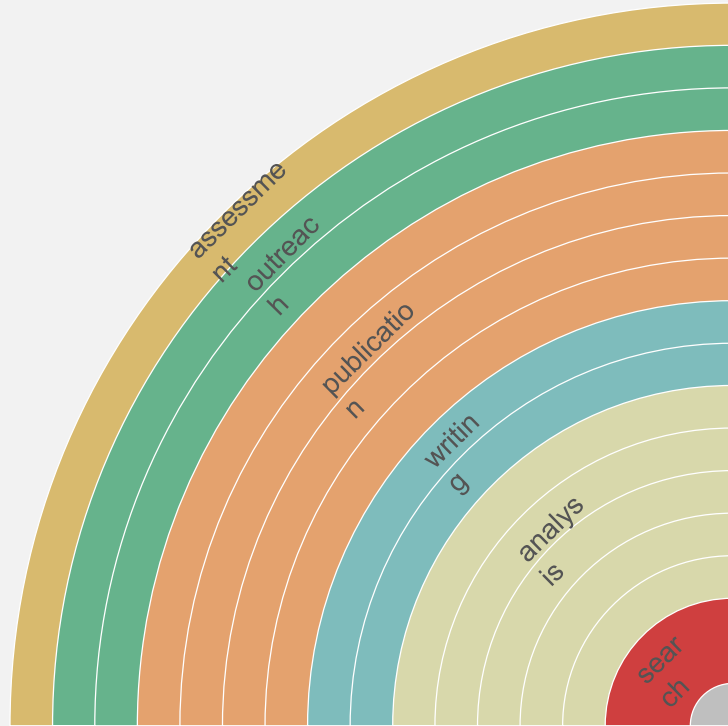



















What tools are at our disposal

(& can we structure them in a research workflow)



A selection of tools for an open workflow ...



- 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. CC0 or CC-BY 
- publishing open access, 'green' or 'gold' 
- using open peer review, e.g. at journals or PubPeer 
- sharing preprints, e.g. at OSF, arXiv or bioRxiv 
- using actionable formats, e.g. with Jupyter or CoCo 
- open XML-drafting, e.g. at Overleaf or Authorea 
- sharing protocols & workfl., e.g. at Protocols.io 
- sharing notebooks, e.g. at OpenNotebookScience 
- sharing code, e.g. at GitHub with GNU/MIT licenses 
- sharing data, e.g. at Dryad, Zenodo or Dataverse 
- pre-registering, e.g. at OSF or AsPredicted 
- commenting openly, e.g. with Hypothes.is 
- using shared reference libraries, e.g. with Zotero 
- sharing (grant) proposals, e.g. at RIO 



But, but...

...where do I start ?



Self-pace learning resources ...



<http://eurodoc.net/ambassadors>



<http://www.fosteropenscience.eu>

... and a community



<https://opensciencemooc.eu/>



Time for an Exercise:

HYPOTHESIS :

*#RDM + #FAIR + #OpenScience =
Competitive Grants
(& nudging applicants to adopt them)*



Let's

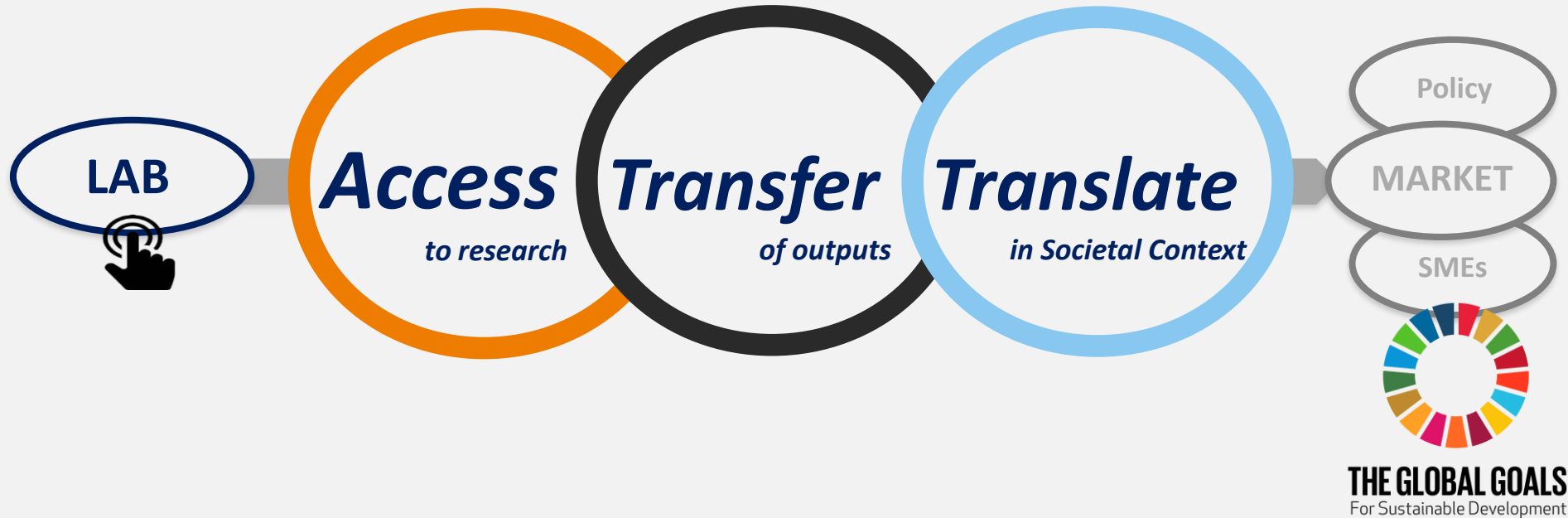
HACK

and win

you grant

with #OpenScience

Why & what is the “*Open Science Clinique*”?



Excellence

Impact

Implementation

How is this relevant to A proposal for ...

Excellence

1.1 Quality and credibility of the project

... Discuss the research **methodology**

1.2 Quality and appropriateness of the training & transfer of results

... **new skills**, '**big data**', **research integrity**

& transferable skills (IPR, Knowledge Transfer, secondments),
dissemination & outreach

1.3 Quality of the supervision

1.4 Potential to reach professional maturity

How is this relevant to A proposal for ...

Excellence: solutions

*Is DATA SCIENCE, DATA MINING, TextData Mining a **new skillset** relevant to your method ?*

*Is **REPLICATION** and/or **REPRODUCIBILITY** relevant to your research method (?!)*

*Make **FAIR** (Findable, Accessible, Interoperable, Re-usable) a **guiding principle** for all output*

*Cite peer-reviewed studies to show awareness of **REPRODUCIBILITY CRISIS** in research
(and possibly in your field)*

*Refer to **EUROPEAN CODE OF CONDUCT OF RESEARCH INTEGRITY** principles
to strengthen your **method design**, and demonstrate appreciation for **rigour**
(https://ec.europa.eu/research/participants/data/ref/h2020/other/hi/h2020-ethics_code-of-conduct_en.pdf)*

How is this relevant to A proposal for ...

IMPACT

2.1 Enhancing the future career prospects

... impact of the planned **training** on career

2.2 Exploitation and dissemination

... Discuss strategy to target all parts of **lab-2-market** spectrum

2.3 Communicate to different target audiences

... **create awareness** among non-specialists & public

How is this relevant to A proposal for ...

IMPACT: solutions

*Publish **OUTPUTS** of your work openly, in synergy with IPR, using a PID (e.g. DOI), to **targeted** journals so you can monitor re-use (with AltMetrics, Impact Story etc)*

*Align "soft skills" with future funder requirements & future **TENURE CRITERIA***

*Understand **SYNERGIES & CONFLICTS** between Open Science & IPR*

*Use full disclosure to **OUTPUTS** to add credibility to a sound **COMMUNICATION STRATEGY**
(NB: Data Management dictates disclosure)*

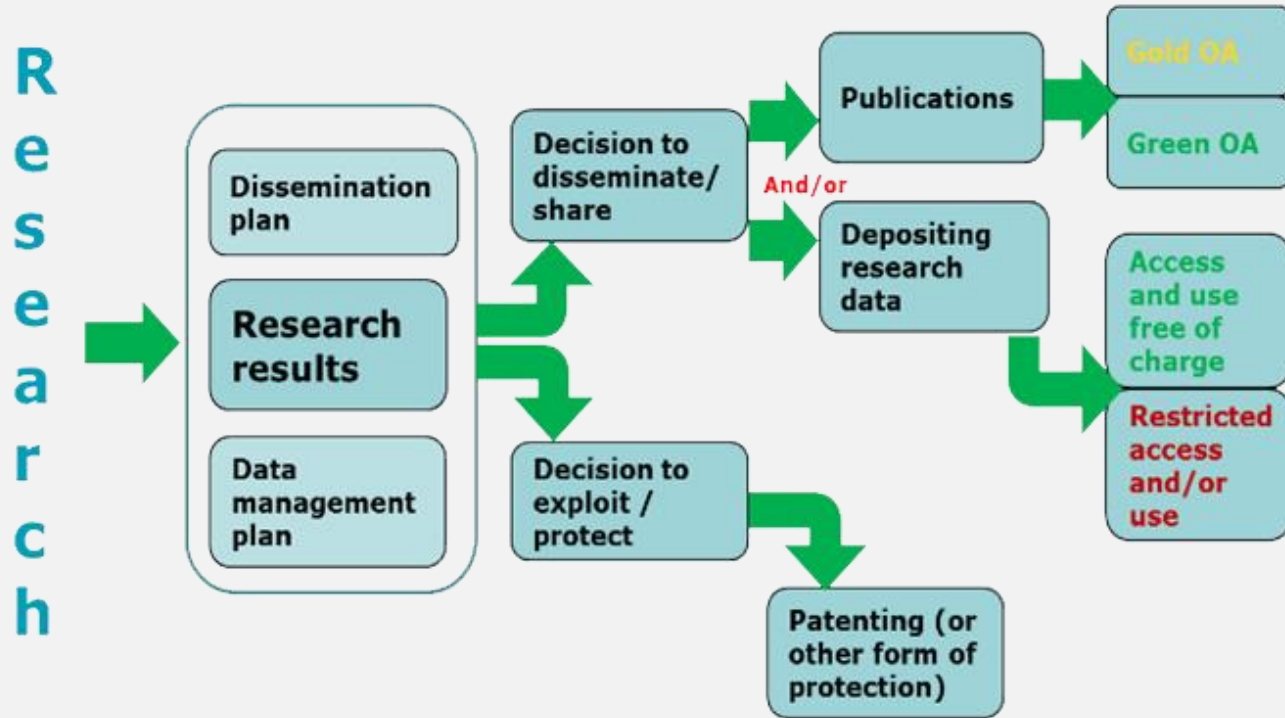
Bored yet



*But, but...
...you forgot IPR conflicts?!*

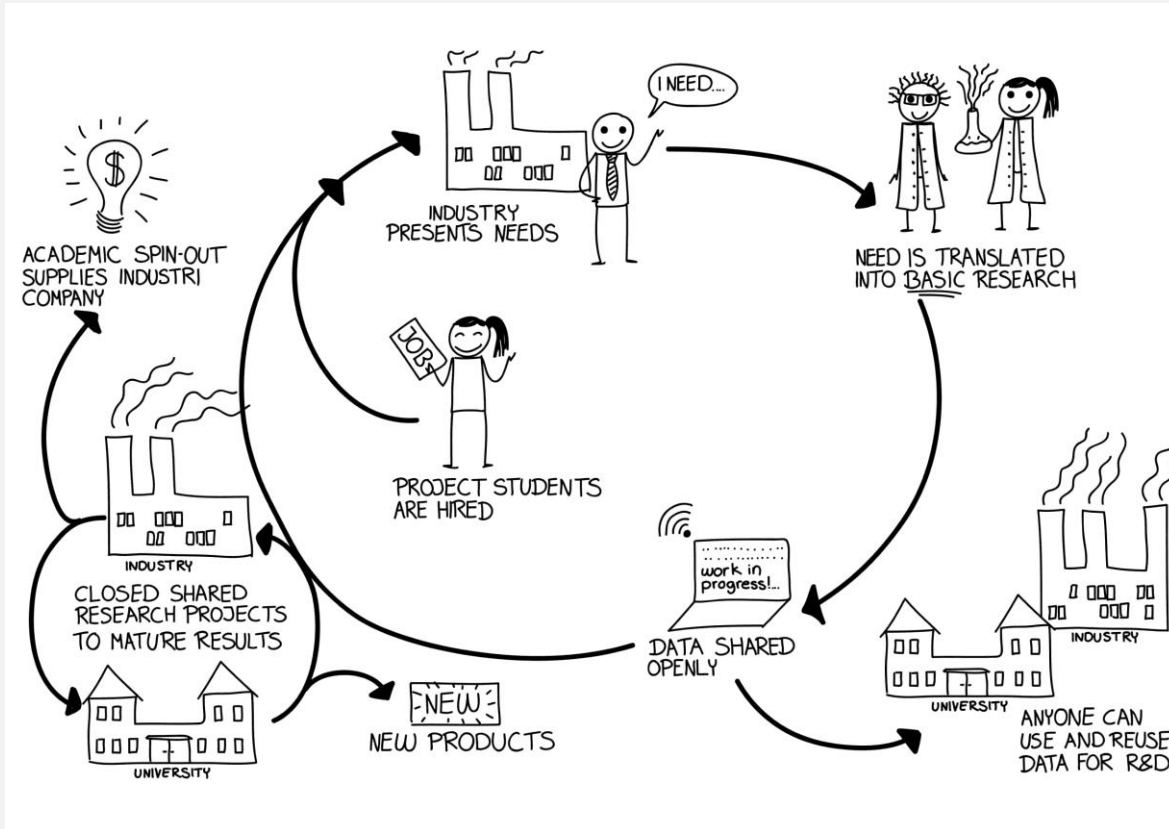


Open Science & IPR: Conflict or Synergy?



Source: Guidelines on Open Access to Scientific Publications & Research Data in Horizon 2020 , Feb 2016

Open Science & IPR: Conflict or Synergy?



Source: <https://spoman-os.org/about-os/>

And...

*...evaluators will hate my
"hacked project"!*

...and here is what the Evaluators say ...

“Open Science is applied to optimise reproducibility”

Impact

*“exploitation and dissemination of the project results, includes **sharing of the data**... creative measures to **guarantee the reproducibility**, openness, dissemination and impact of the computational pipelines”*

*“very good realization of the commercial potential of the project outcomes, the **data management plan includes IPR** related issues”*

*“research software is **freely** available”*

resources match ambition

Implementation

Source: Winning Horizon 2020 with Open Science. Zenodo. <http://doi.org/10.5281/zenodo.12247>

Did the *Open Science Clinique* make a difference ?

MSCA-ITN-2017 applicant ...



ITN QDIV

Panel LIF

Score: 89,6%

“ ... Open Science is the **antidote** to the **reproducibility crisis** we are experiencing, which is why I found Open Science a crucial partner for our ITN ”

Did the *Open Science Clinique* make a difference ?

MSCA-IF-2018 applicant ...

“ *FOSTER's support & advice gave us the understanding that **Open Science** wouldn't be chore, or an administrative waste of time, but a **real power unit in our project*** ”



ITN ELEVATE

Panel CHE

Score: 91,6%

Should we use *Open Science* in proposal design?

MSCA-ITN-2017 awardee...



“

Why would you not?

”



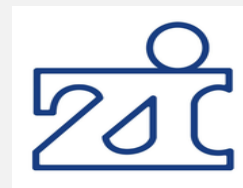
COMMUNITY CALL to ACTION: HELP THE GRADUATE SCHOOLS

In 2016, EC invests in indicators “beyond bibliometrics & patents”

(Source: H2020-SC6-CO-CREATION-2016-17 & Tenders)

In 2018, Open Science track record becomes pre-condition for tenure

(Source: <https://osf.io/7jbnt/>)



COMMUNITY CALL to ACTION:

HELP THE GRADUATE SCHOOLS

In 2016, EC invests in indicators “beyond bibliometrics & patents”

(Source: H2020-SC6-CO-CREATION-2016-17 & Tenders)

In 2018, Open Science track record becomes pre-condition for tenure

(Source: <https://osf.io/7jbnt/>)



In 2019, EUA admits that “As long as researchers are forced to focus on a few high-level journals, they will not be able to broaden their focus or even take alternative elements of research assessment into account” and

“It is worth discussing how doctoral schools can best address this issue”

(Source: [Research Assessment in the Transition to Open Science](#))

will take your questions



#OpenScienceClinique

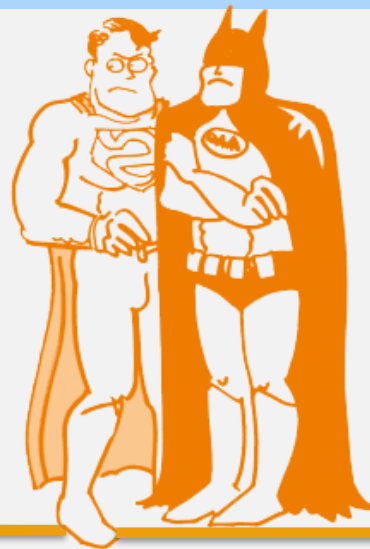


FOSTER
Open Science CLINIQUE
in support of UN SDGs
is a product of:



H2020 Foster, COLUMBUS & SeaCHANGE

Acknowledgements:



#OpenScienceClinique was powered by brave young researchers willing to dip their toes, the endless energy of FOSTER's Open Science Ninjas, the Open Science MOOC's advocacy superheroes seating near you ...

<http://www.slideshare.net/ivogrigorov/foster-open-science-clinique-119760432>