PATTERN.

Emerging trends in Open RRI

Driving Innovation in Sustainable Materials and Engineering

Online workshop organised as a collaboration between PATTERN and REMAKE projects

23 January 2025 | 16:00-18:00 CET

Funded by the European Union

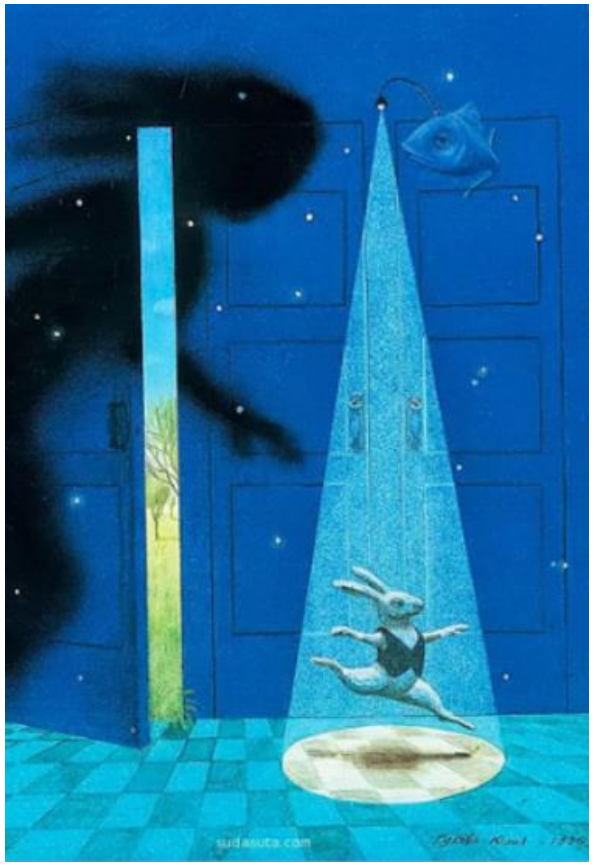
LEARNING PLANET INSTITUTE

OpenAIRE

RE-MAKE

pattern-openresearch.eu

About the speakers: Andrea



andrea.giraldosevilla@cri-paris.org

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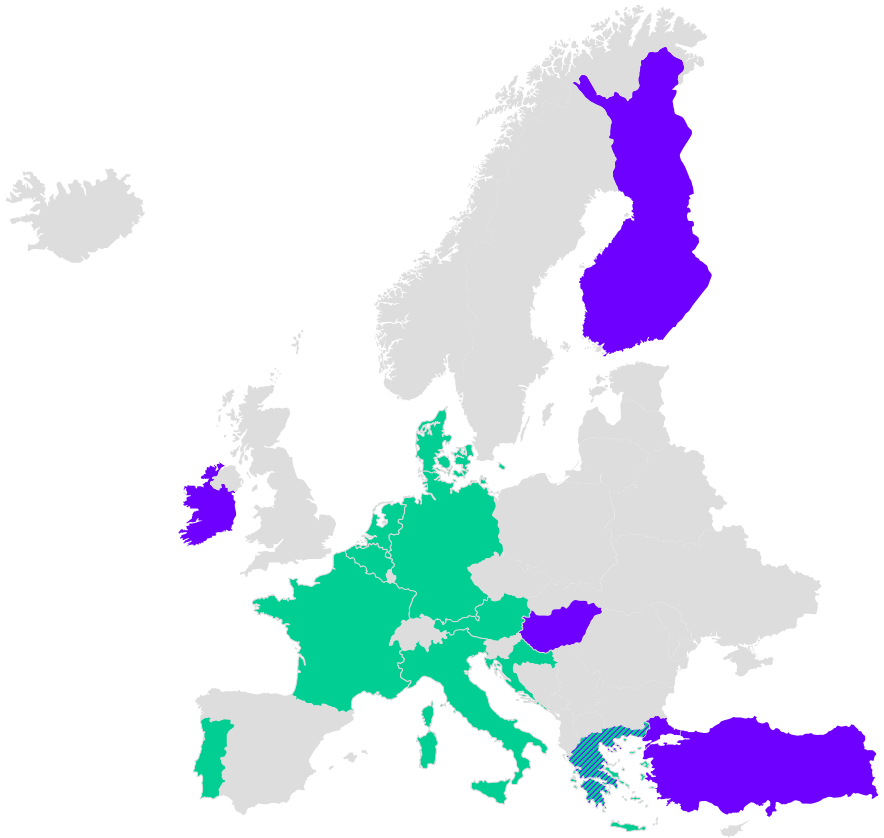
PATTERN Consortium



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Coordinator:

APRE
Agenzia per la Promozione della Ricerca Europea

14 Partners

5 Affiliated Entities

13 European Countries

PATTERN Aim

To promote the practice of **Open and Responsible Research and Innovation (Open RRI)** by developing and piloting training activities for researchers at all stages of their careers.

PATTERN.

Empowering Open and Responsible Research and Innovation

These trainings, strengthening researchers' **transferable skills**, will empower Higher Education Institutions (HEIs) and research organizations to embrace a transformative process to improve the excellence of the science conducted, the capacity within the European Research Area (ERA) to tackle societal challenges and the interaction between science and society.

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PATTERN Training

8 **Training Modules for researchers on transferable skills that support researchers' career development, improve research capacities and outcomes and stimulate innovation**

Transferable skill in Open and Responsible Research	PATTERN thematic leader(s)	PATTERN Pilot Organizations	Target for training modules
Open Access	OpenAIRE	OpenAIRE network, LPI, RBI, UMinho	Master students, Doctoral Students, Post-doctoral researchers
FAIR data management	OpenAIRE, KNAW	OpenAIRE network, KNAW, RBI, UMinho	
Citizen Science	AU, LPI	AU, Université Paris Cité, UniSR	
Research Integrity	EARMA, UniSR, AU	AU, UniSR, RBI	Doctoral Students, Post-doctoral researchers
Gender, non-discrimination and inclusion in research	ESF, UniSR	UniSR, Université Paris Cité, University of Helsinki	Master students, Doctoral Students
Dissemination and Exploitation of results	APRE, LOBA	SISSA, UniSR	Master students, Doctoral Students, Post-doctoral researchers
Science Communication (towards media and policy-makers)	AU, SISSA	AU, SISSA, UniSR, RBI	Doctoral Students, Post-doctoral researchers
Management and Leadership (e.g.(Managing Emotions and Expectations in Research; Achieving Success with less stress; Leadership in research, etc.)	SciLink	SciLink network	Post-doctoral researchers

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RE-MAKE project

Title: Refurbishment and Additive Manufacturi Accomplished by Kinetic Depositon (RE-MAKE)

Call: HORIZON EUROPE – MSCA-2022 (DN)
Grant Agreement n.: 101119988
Starting date: October 1st, 2023
Ending date: September 30th, 2027

Aim: training highly qualified doctoral candidates through advanced transversal and inter-sectorial training in the field of cold spray.

Funded by the European Union

RE-MAKE project

Beneficiaries

- Politecnico Milano (POLIMI, Italy)
- Trinity College Dublin (TCD, Ireland)
- Tampere University (TUNI, Finland)
- SchuF Armaturen und Aparatebau GmbH (SchF, Germany)
- University Rey Juan Carlos (URJC, Spain)
- University Barcelona (UB, Spain)
- Institute of Plasma Physics (IPP, Czech Republic)
- Centre National de la Recherche Scientifique (CNRS, France)

Funded by the European Union

RE-MAKE project

Associate partners

- Titomic (The Netherlands)
- Oseir Oy (Oseir, Finland)
- CIDETEC (CIDETEC, Spain)
- Universite de Technologie de Belfort - Montbeliard (UTBM, France)
- Institute of Physics, Czech Academy of Sciences, HiLASE Centre (HILASE, Czech Republic)
- Rolls Royce (RR, United Kingdom)
- Valmet Flow Control (VALMET, Finland)
- University Nottingham (UN, United Kingdom)

Funded by the European Union

RE-MAKE project

The research leading to these results has received funding from the European Union's Horizon Europe research and innovation programme under the Marie Skłodowska-Curie grant agreement No. 101119988 (RE-MAKE).

Funded by the European Union

This project hasreceived funding from the European Union's Horizon Europe research and innovation programme under the Marie Skłodowska-Curie grant agreement No. 101119988 (RE-MAKE)

Ariel Lindner, Resesearch Director at the Systems Engineering and Evolution Dynamics (SEED) at INSERM - UPCité - LPI

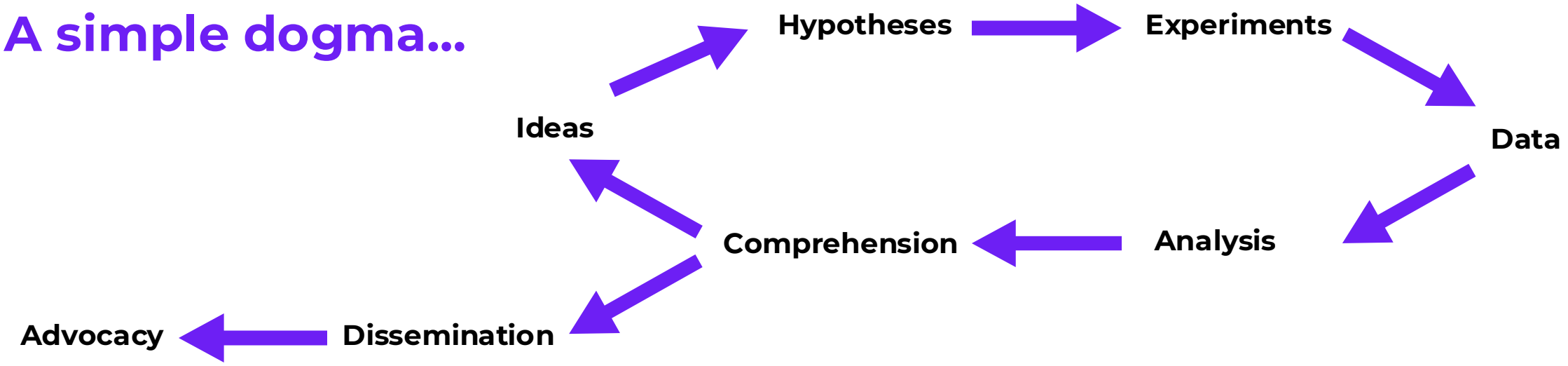
Muki Haklay, Citizen Science team Leader at the UPCité - LPI

Andrea Giraldo Sevilla, Research Manager at the Research Unit on Learning Transitions (LPI – CY University)

At TAG - Theater an der Gumpendorfer Straße in Vienna

Scientific research:

A simple dogma...



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Sylvain Baillet
neurospeed lab
imaging at the speed of brain

Scientific research:

What IS going wrong?

Funded by the European Union

Scientific research:

What is going wrong?

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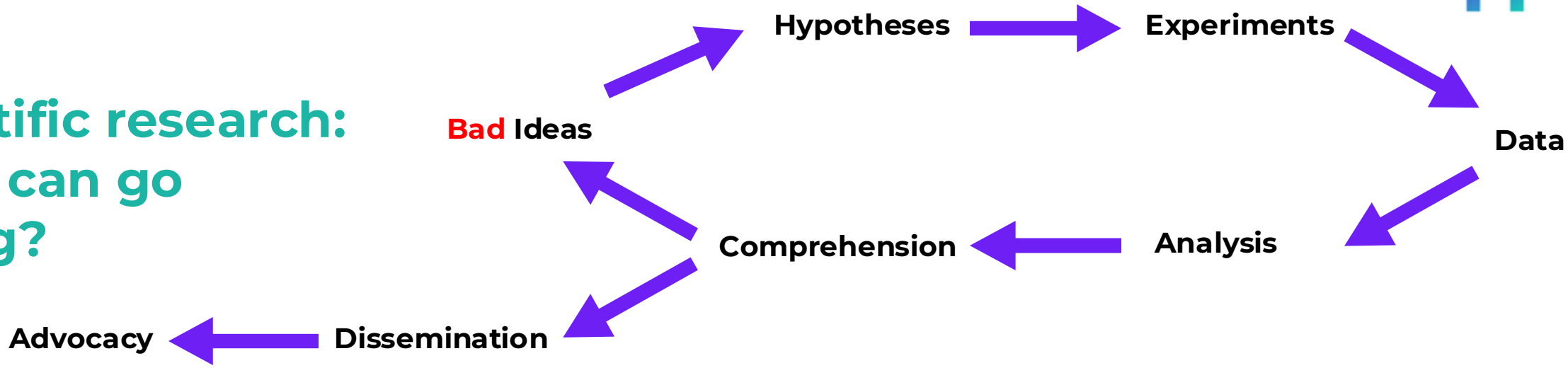
Scientific research: What can go wrong?



It's good to have lots of bad ideas

Science is all about sorting the wheat from the chaff, says **John Kirwan**.

Pauling's principle of electroneutrality states that each atom in a stable substance has a charge close to zero. But the physicist Linus Pauling, a two-time Nobel prizewinner, also gave us another important, if less well-known, dictum: that if you want to have good ideas, you must have lots of ideas and learn to throw away the bad ones.

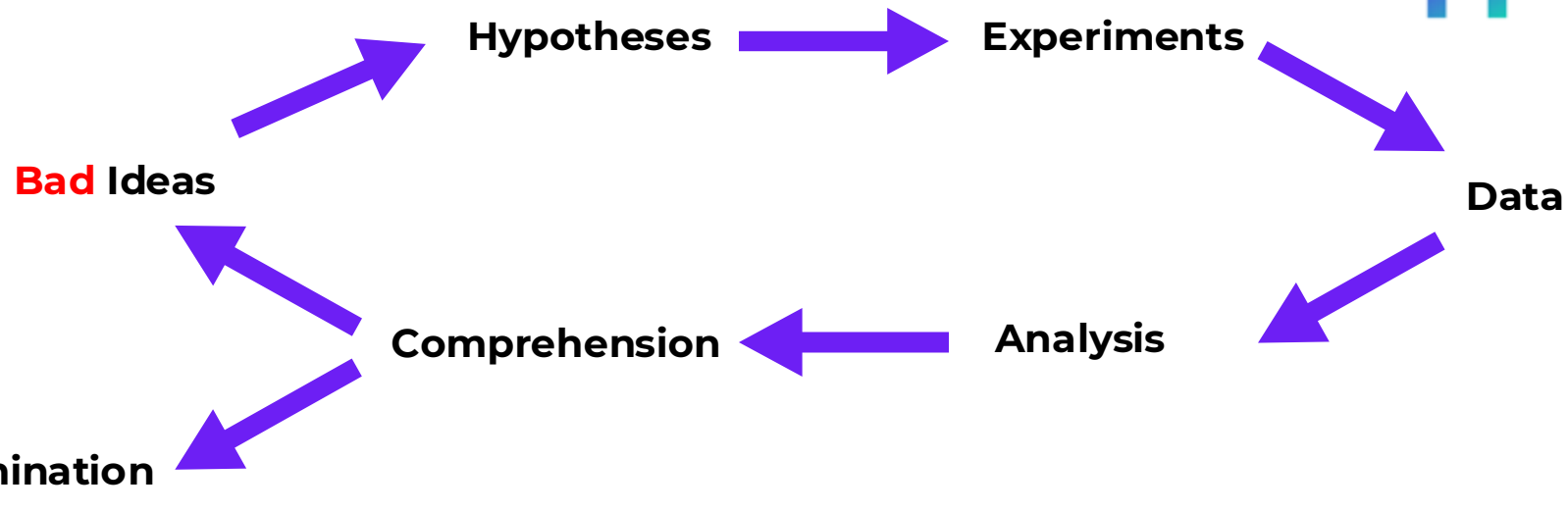
This dictum (quoted by Francis Crick in his 1995 presentation, 'The Impact of Linus Pauling on Molecular Biology' at Oregon State University in Corvallis) implies at least two corollaries: that you must be willing to generate many ideas, and that some will be bad. It might be useful to see whether this applies to you. Are you generating lots of ideas? What proportion of your ideas turn out to be good ones? Do they lead to publications? Are you discarding the ones that don't work out?

ADAPTED FROM GETTY

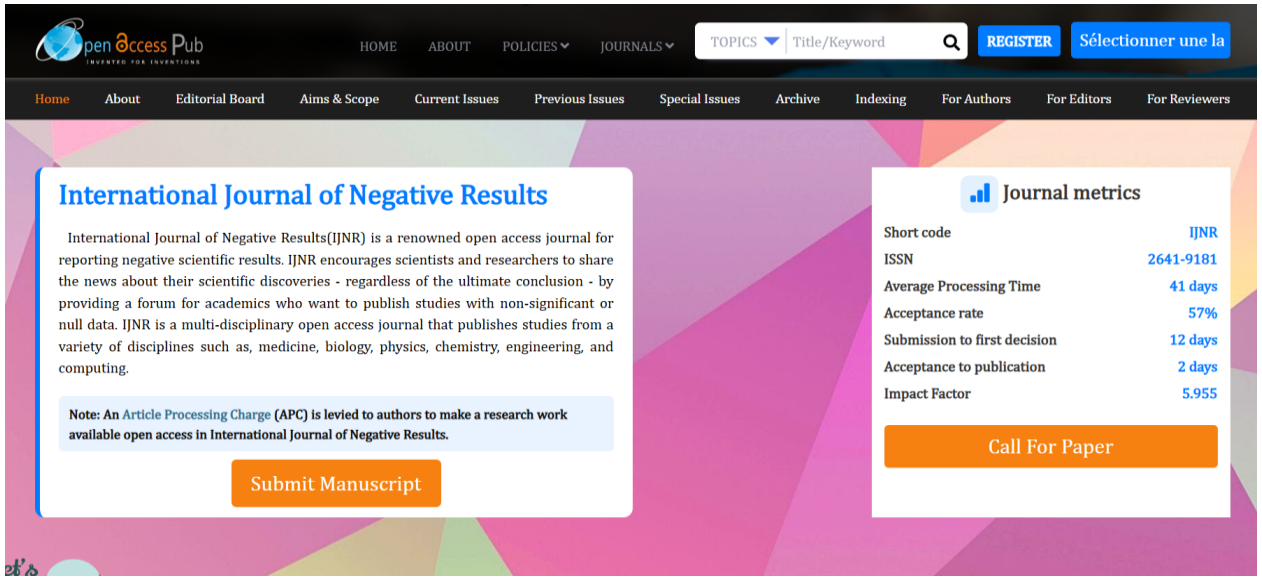
Funded by the European Union

"The scientist is not a person who gives the right answers, he's one who asks the right questions." —Claude Lévi-Strauss

Scientific research: Open Science Solutions



Share!
encourage creativity
risk-taking
exploratory research
Fund young researchers!



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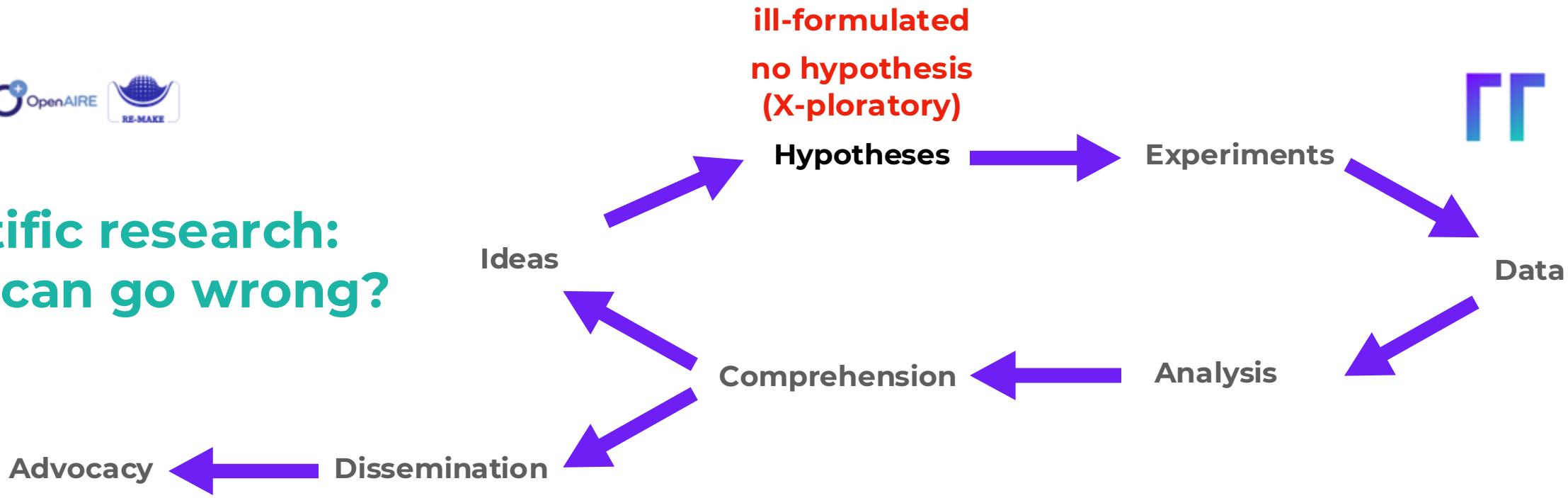
Scientific research: What can go wrong?



A hypothesis is used to explain a phenomenon or predict a relationship. 4 evaluation criteria:

1. Statement of expected relationship between variables.
2. testable and falsifiable
3. Consistency with the existing body of knowledge.
4. Stated as simply and concisely as possible

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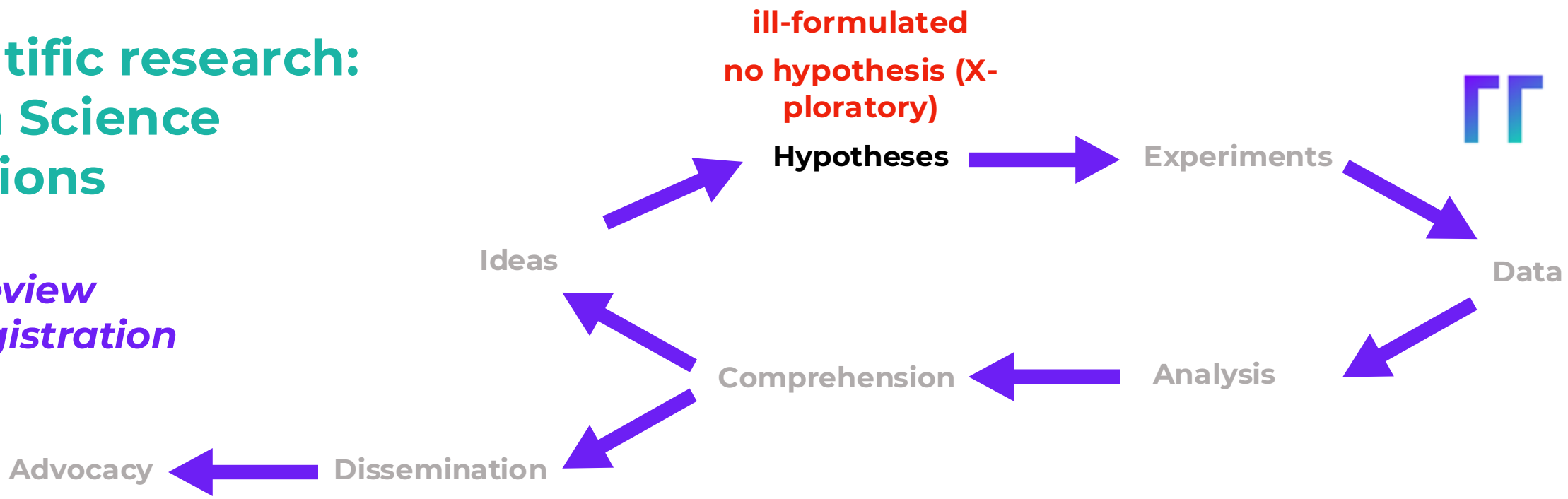
Kids learn better when drinking coke / Kids score higher on math test when drinking coke
Boys like blue shirts / Boys choose blue shirt over any other coloured shirt
Tablets are useful for kids / Replacing books with tablets decrease kids' back problems

Scientific research: Open Science Solutions

peer review
pre-registration



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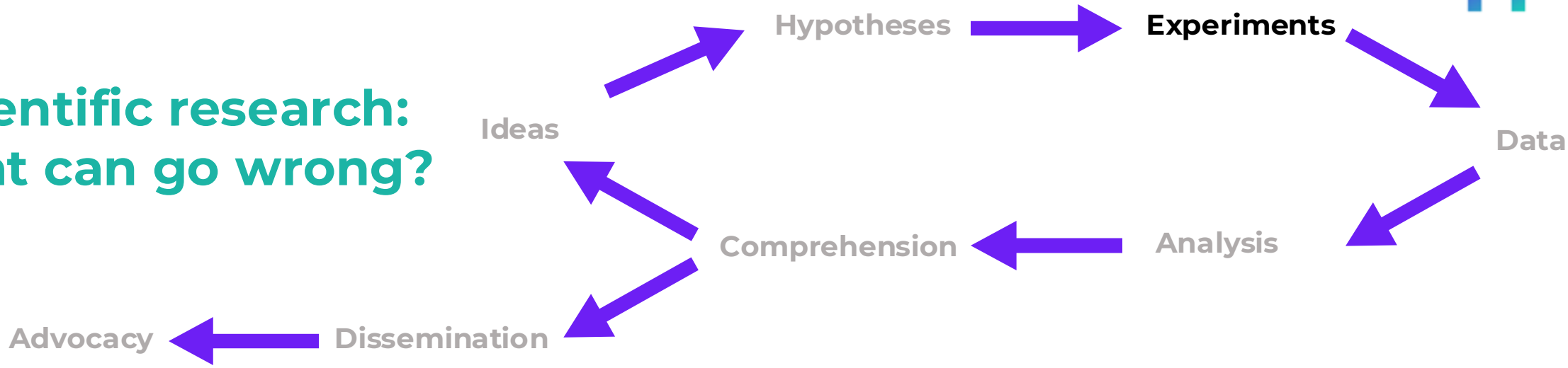
Scientific research: What can go wrong?

flawed instrumentation/experimental design

inconsistency with hypothesis



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Why so much science research is flawed – and what to do about it

Dodgy results are fuelling flawed policy decisions and undermining medical advances. They could even make us lose faith in science. **New Scientist** investigates

HEALTH 13 April 2016

By Sonia Van Gilder Cooke

HEALTH

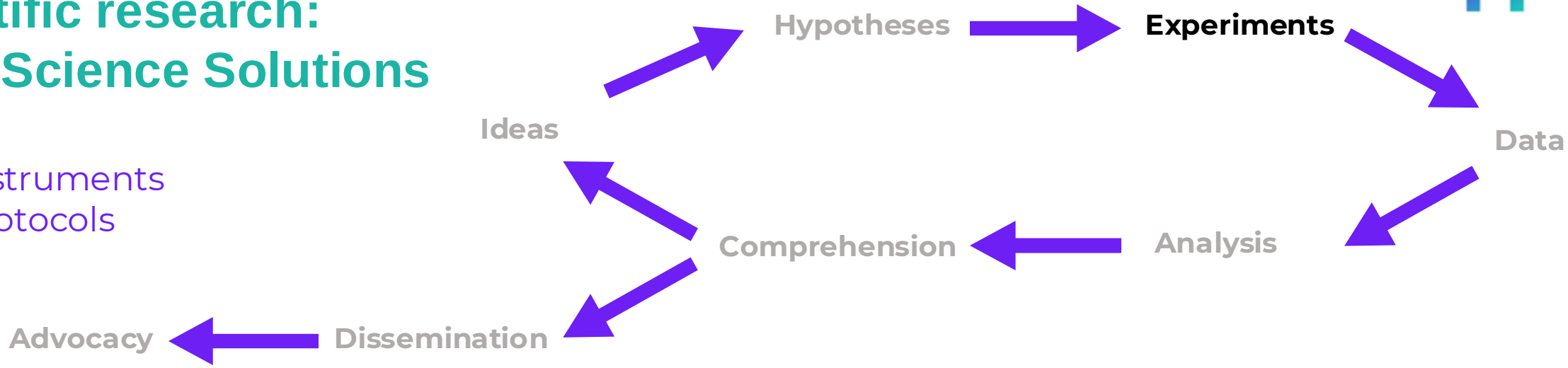
A flawed Covid-19 study gets the White House's attention — and the FDA may pay the price

By MATTHEW HERPER @matthewherper / JULY 8, 2020

Scientific research:
Open Science Solutions

open instruments
open protocols

flawed instrumentation/experimental design
inconsistency with hypothesis



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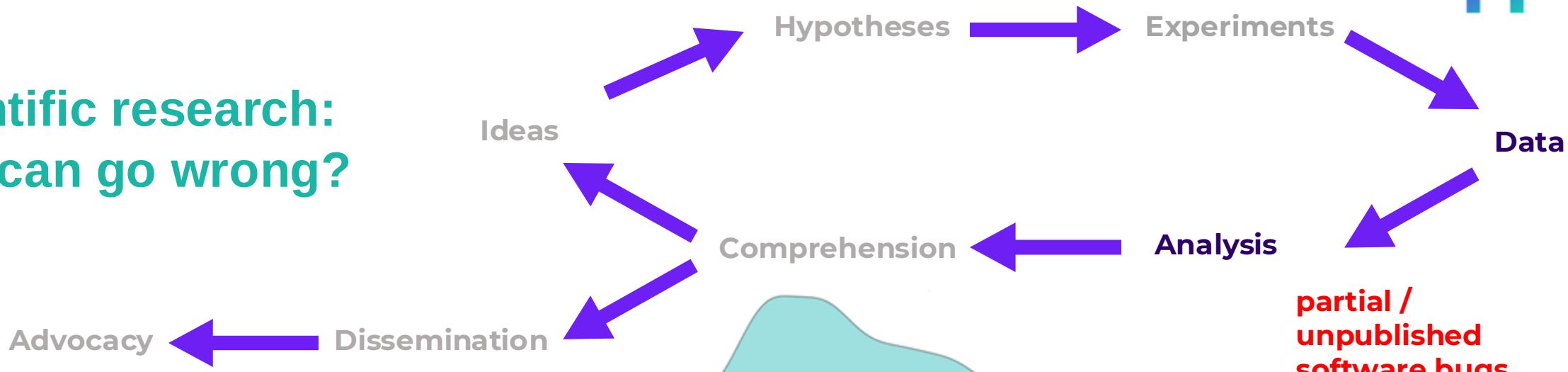
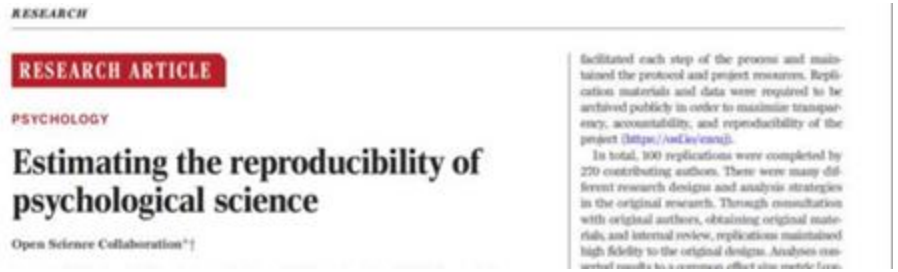
Scientific research: What can go wrong?



partial / unpublished
software bugs
misinterpretation
p-hacking

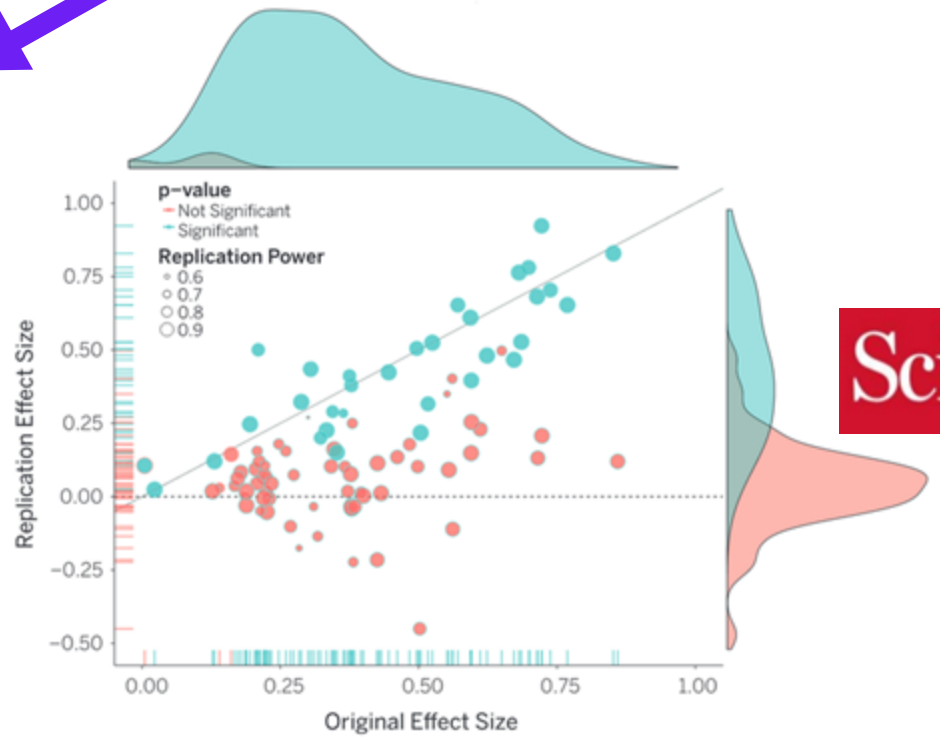

RESEARCH

RESEARCH ARTICLE

PSYCHOLOGY

Estimating the reproducibility of psychological science

Open Science Collaboration*†



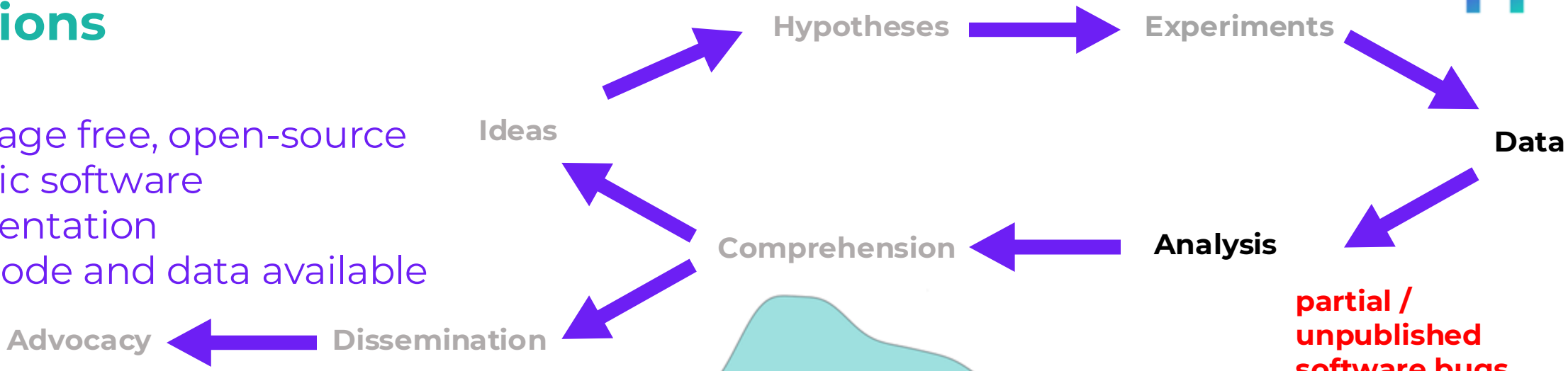
Science AAAS

Funded by the European Union

"Science, my lad, is made up of mistakes, but they are mistakes which it is useful to make, because they lead little by little to the truth." —Jules Verne

Scientific research: Open Science Solutions

encourage free, open-source scientific software
documentation
make code and data available



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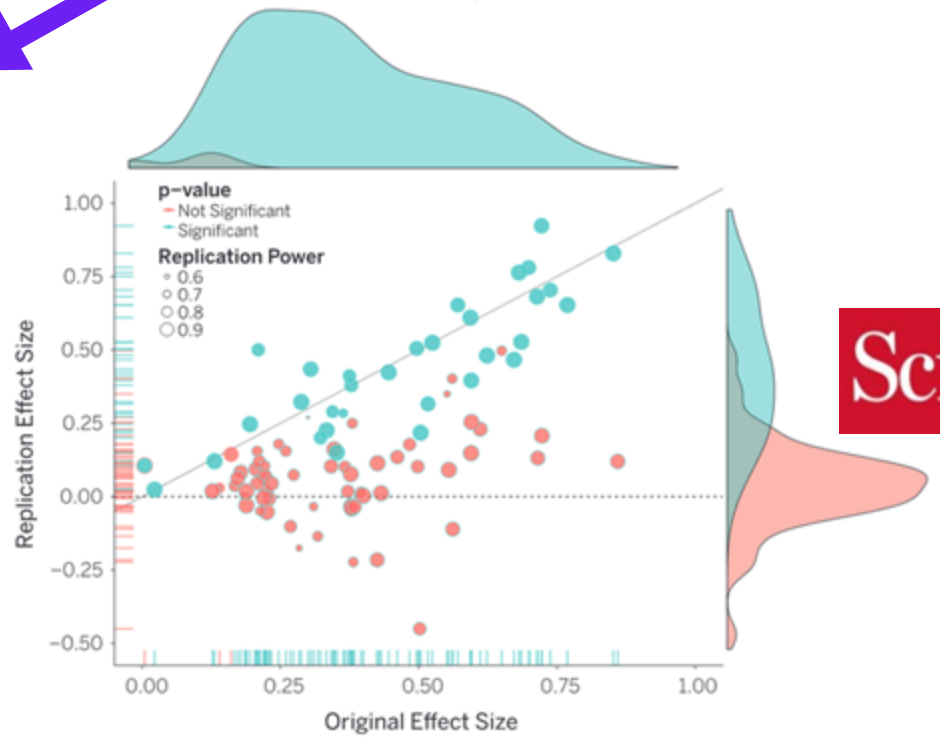

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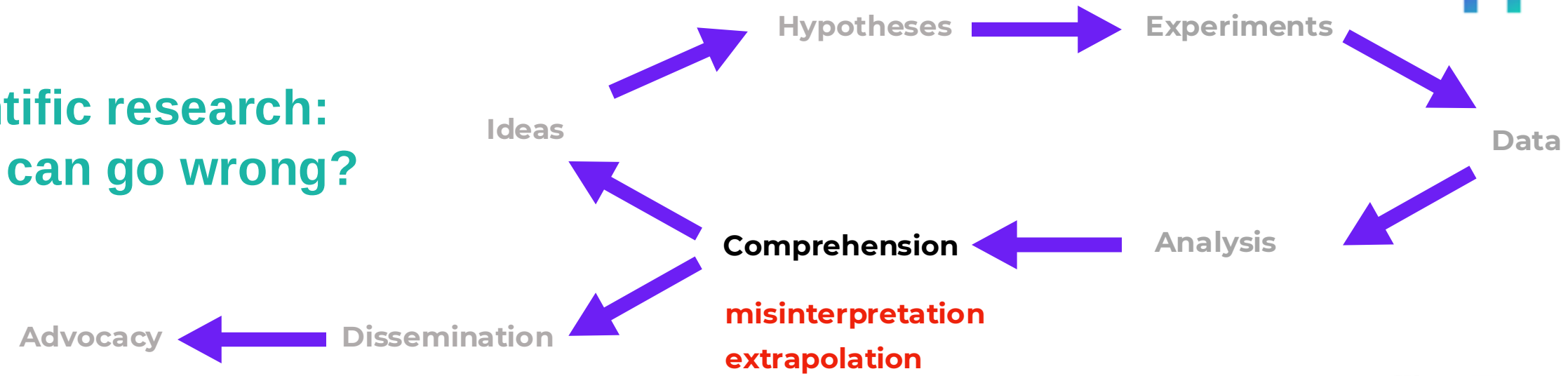
Scientific research: What can go wrong?

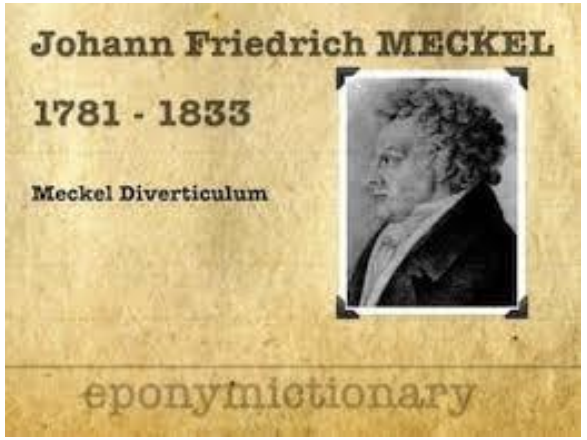


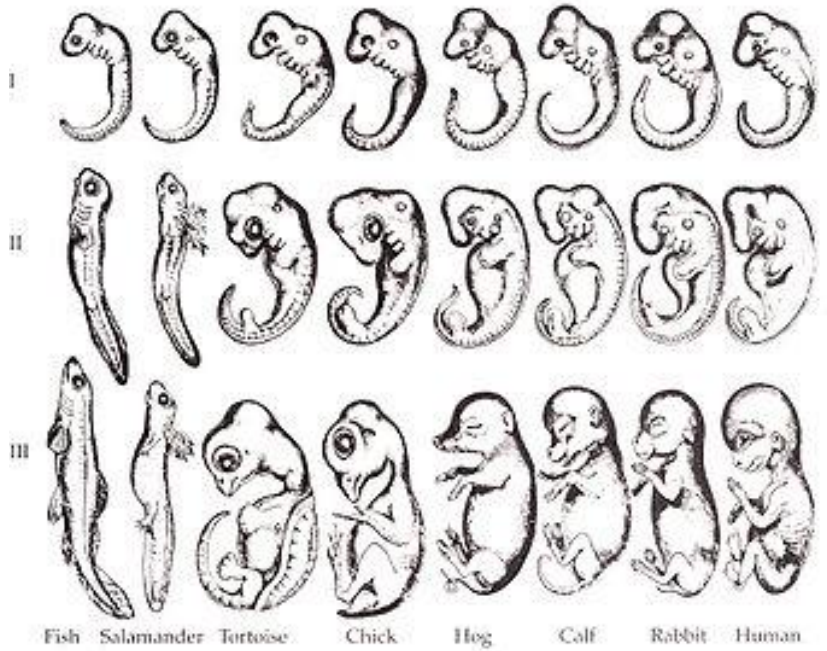
misinterpretation

extrapolation

postdiction

story telling





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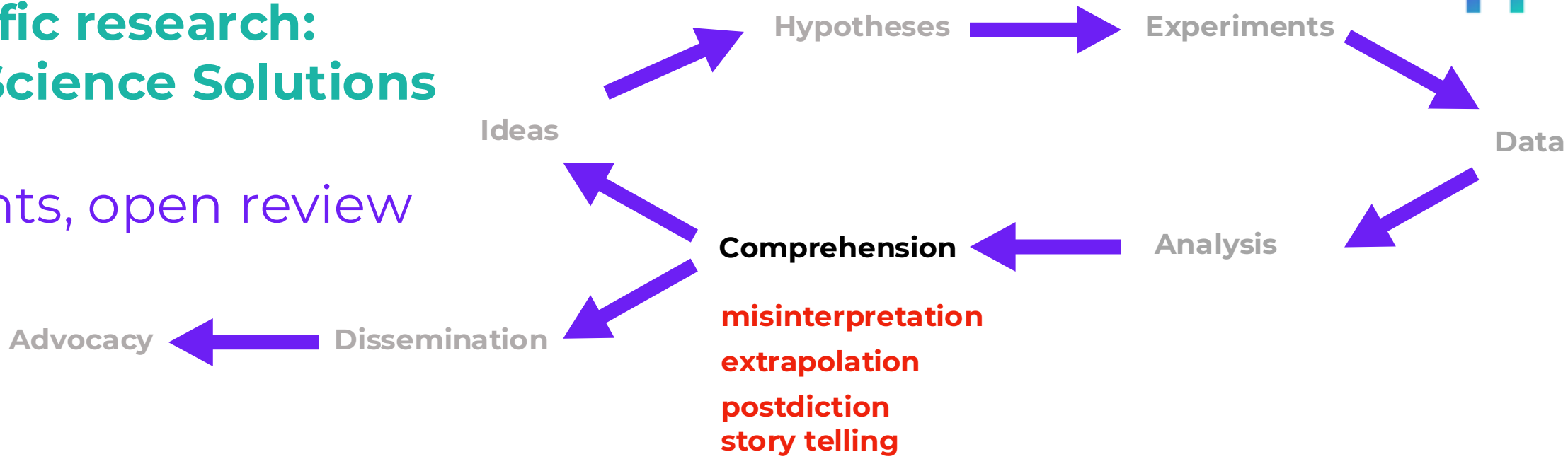
https://en.wikipedia.org/wiki/Recapitulation_theory

Scientific research: Open Science Solutions

Preprints, open review



On the reception and detection of pseudo-profound bullshit

Published online by Cambridge University Press: **01 January 2023**

Gordon Pennycook, James Allan Cheyne, Nathaniel Barr, Derek J. Koehler and Jonathan A. Fugelsang

Show author details

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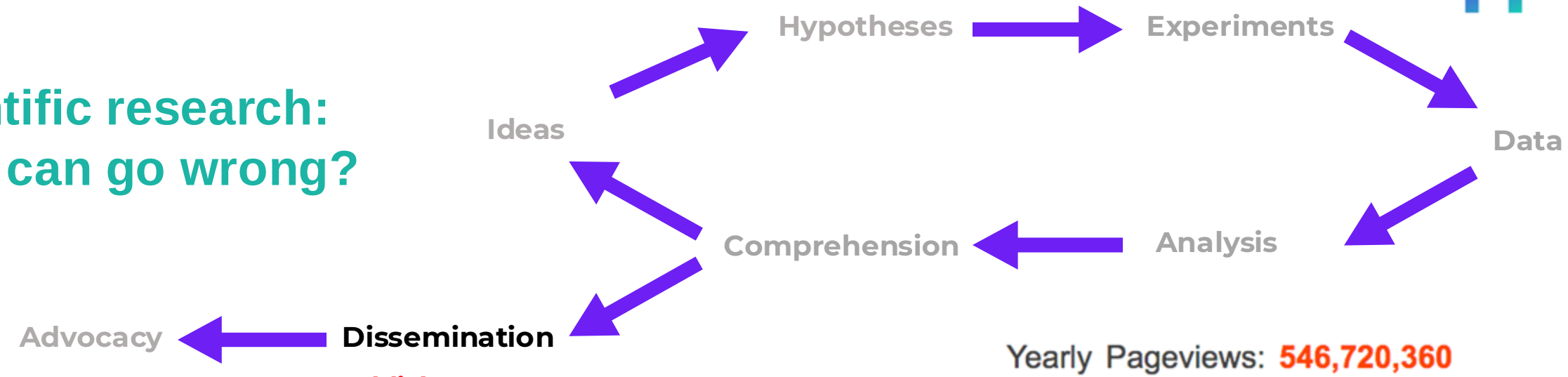
Source: Pennycook, Gordon, James Allan Cheyne, Nathaniel Barr, Derek J. Koehler, and Jonathan A. Fugelsang. "On the Reception and Detection of Pseudo-Profound Bullshit." *Judgment and Decision Making* 10, no. 6 (2015): 549–63

Scientific research: What can go wrong?



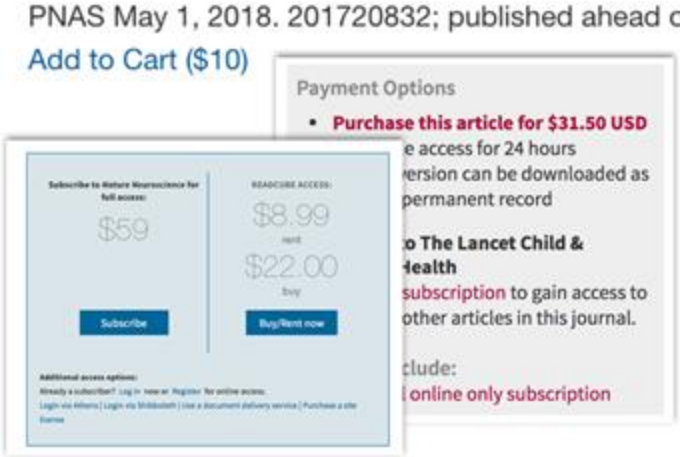
publish anyway

many details missing

behind pay walls

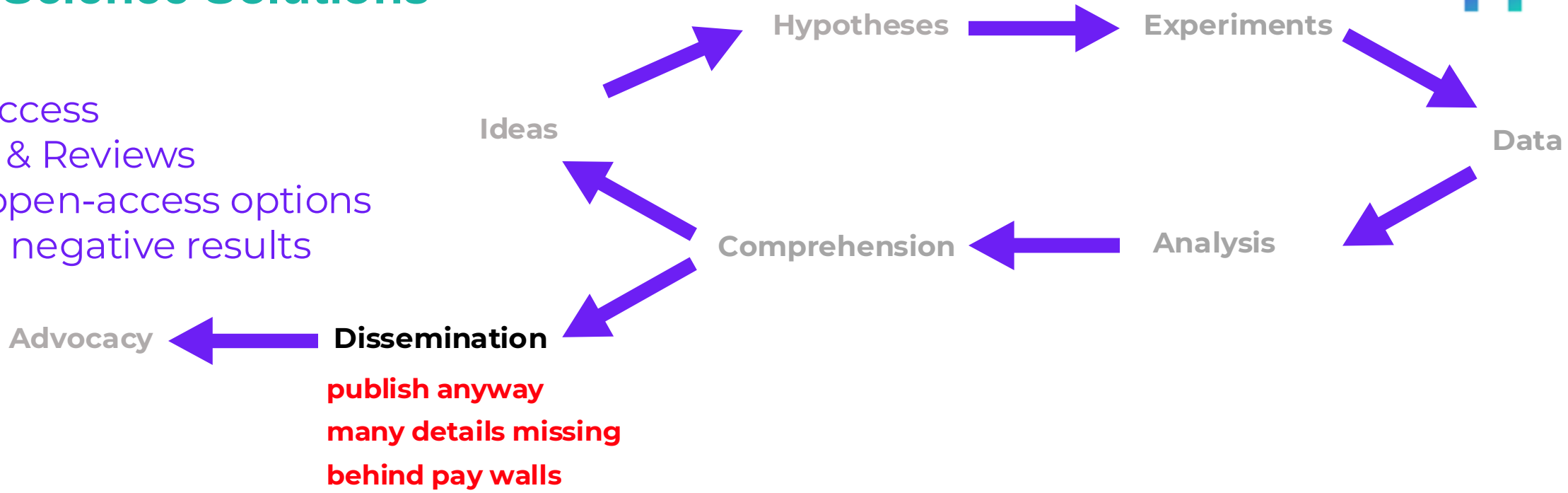
Yearly Pageviews: **546,720,360**

Yearly Visitors: **341,700,225**



Scientific research:
Open Science Solutions

Open access
articles & Reviews
prefer open-access options
publish negative results



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Scientific research: What can go wrong?

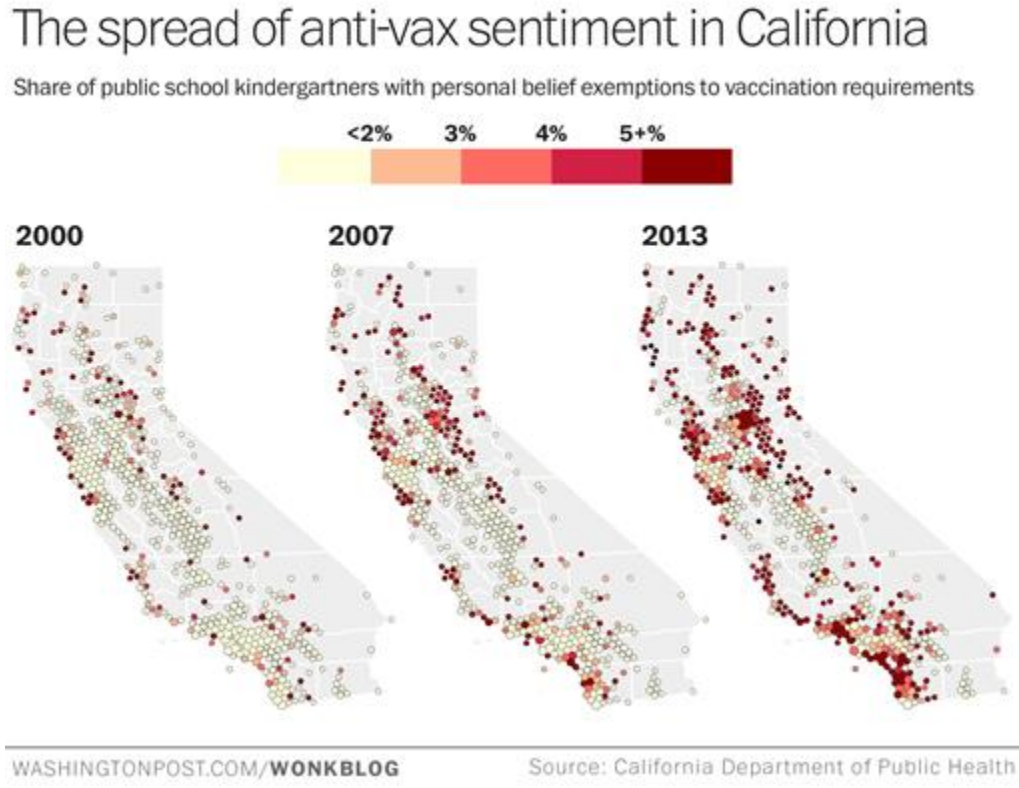
Hypotheses → Experiments → Data → Analysis → Comprehension → Ideas → Hypotheses

Comprehension → Dissemination → Advocacy

Advocacy

belief- rather than
data-driven
basic concepts
missing
unmatched
expectations
mistrust

1971 - PRESIDENT NIXON DECLARES "WAR ON CANCER"
Launching a $1.6 Billion (US) dollar crusade.



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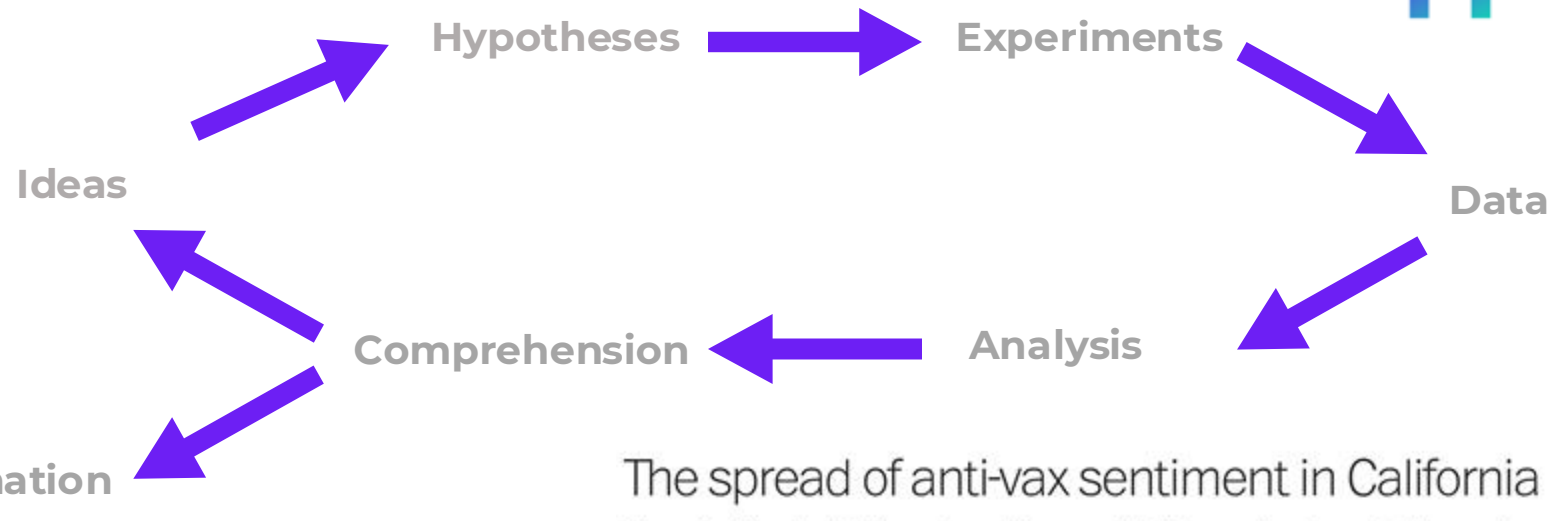
Scientific research: Open Science Solutions

Communicate with the public
Develop training & education in statistics:
courses, conferences, hackathons, etc.



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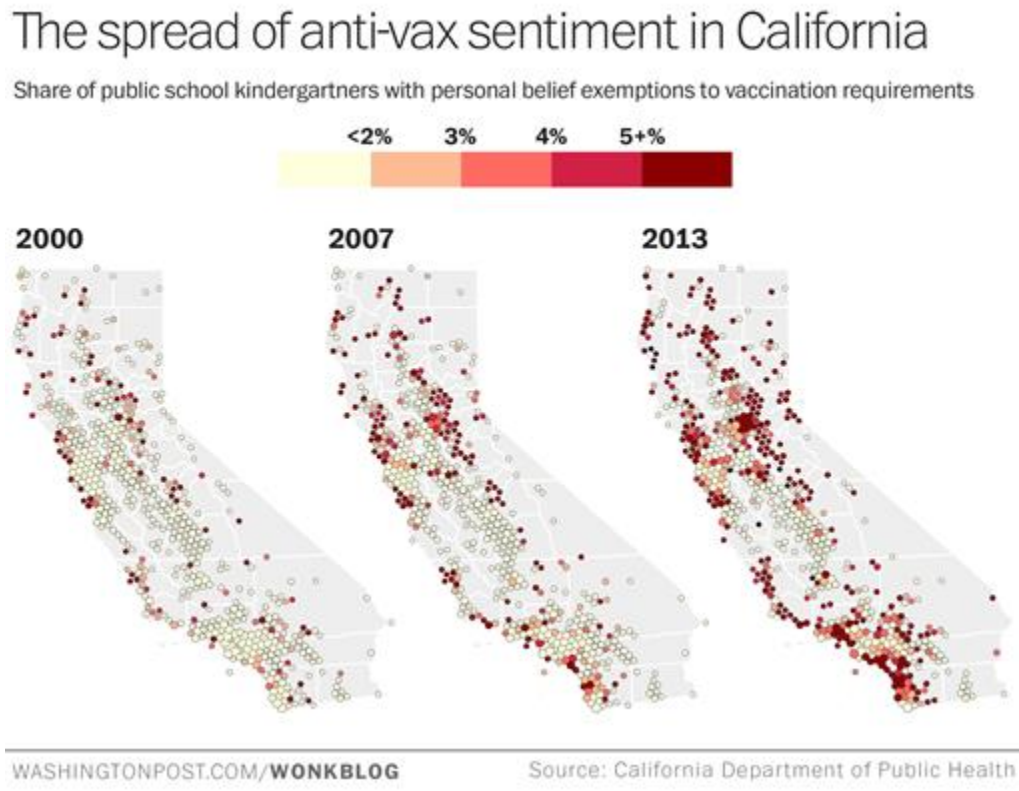

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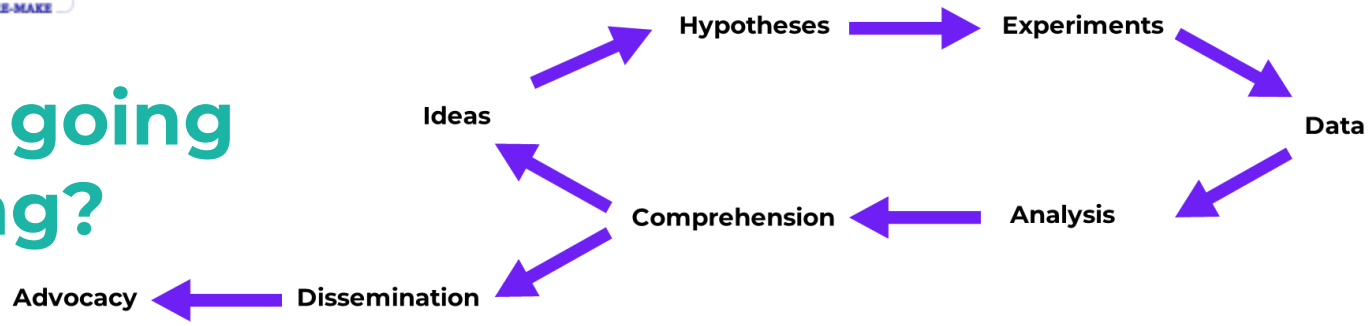
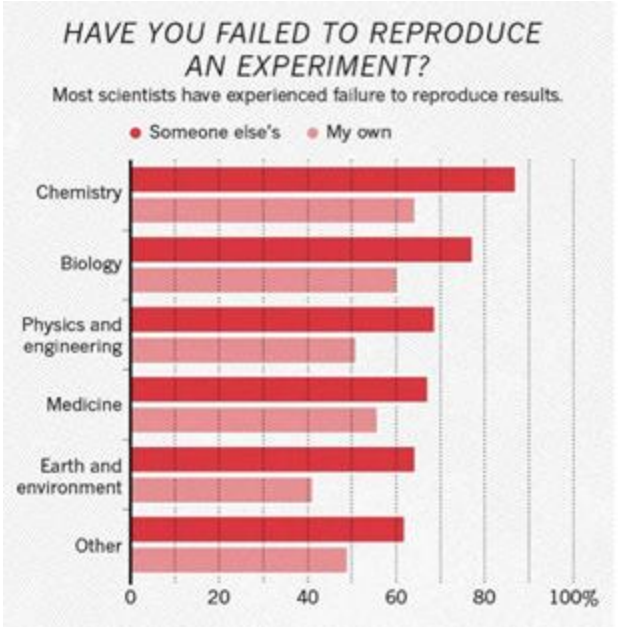
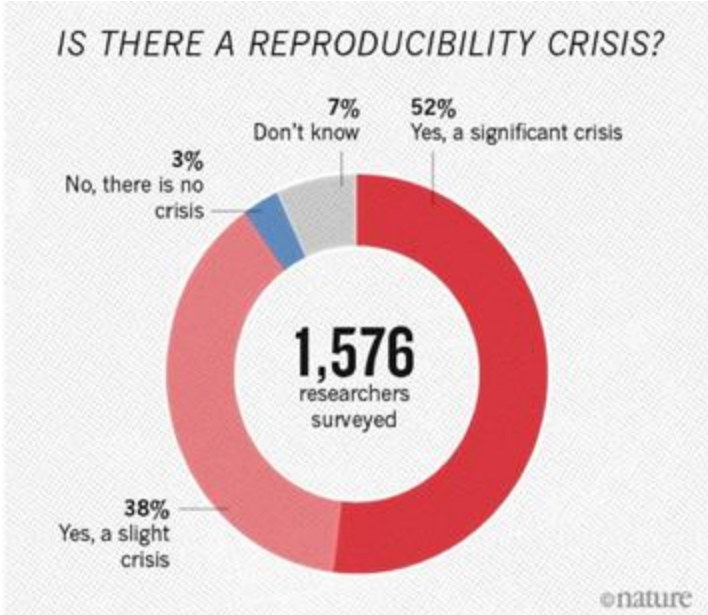
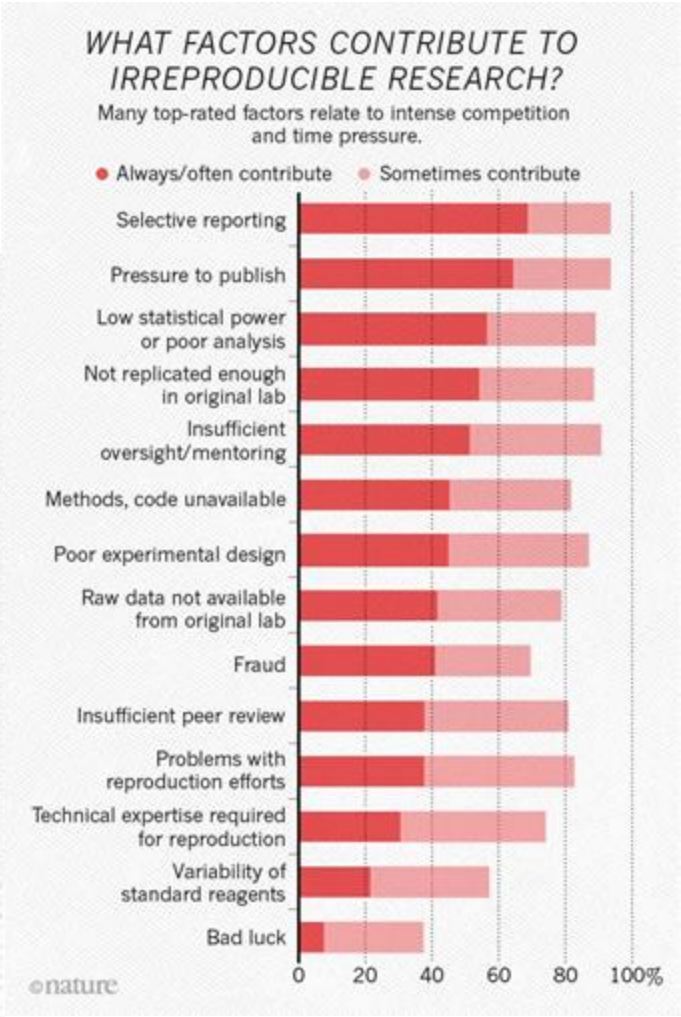
Scientific research:

What IS going wrong?









Number of respondents from each discipline:
Biology **703**, Chemistry **106**, Earth and environmental **95**, Medicine **203**, Physics and engineering **236**, Other **233**

©nature

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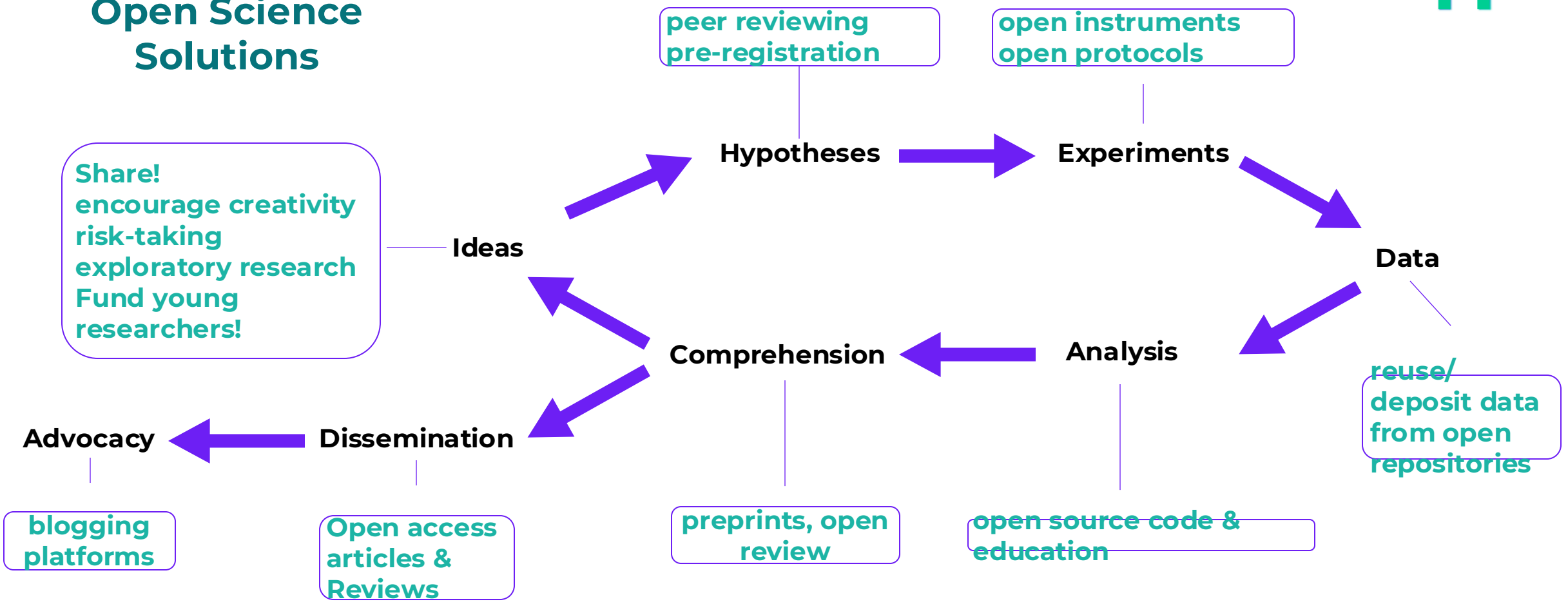
Source: Ask not what you can do for open data; ask what open data can do for you (NatureJobs Blog: link)

1,500 scientists lift the lid on reproducibility, Nature (25 May 2016)

Scientific research: Open Science Solutions



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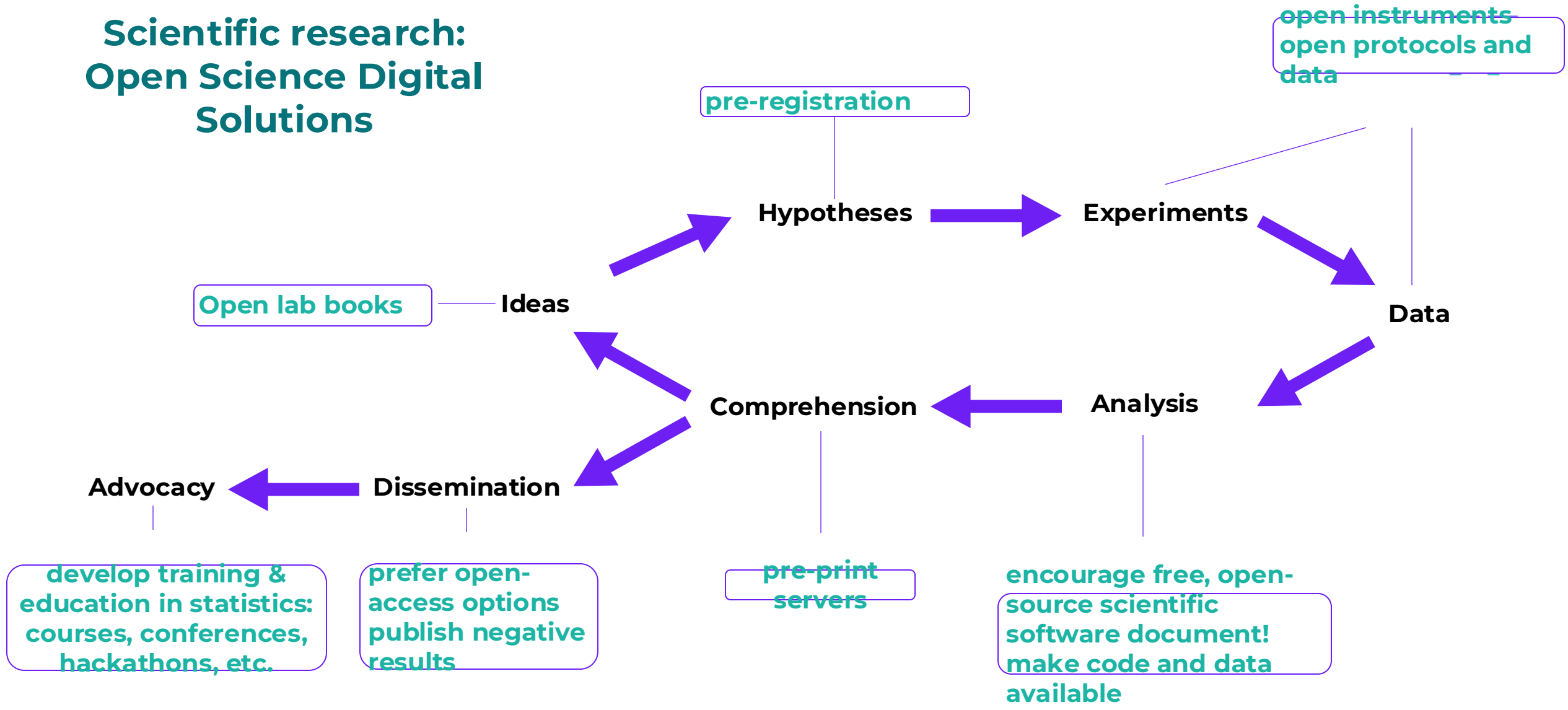
Scientific research: Open Science Digital Solutions



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Scientific research:

What is still good?

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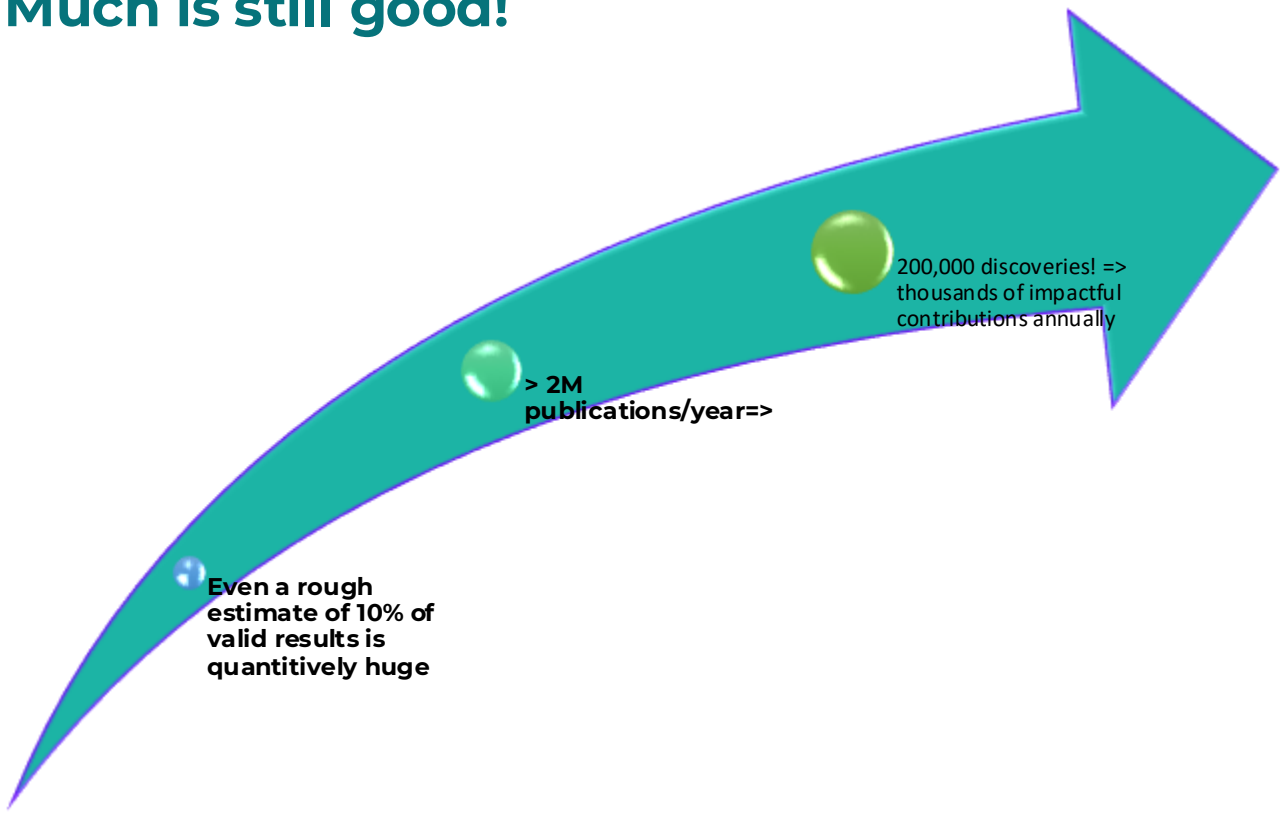
Scientific research:

Much is still good!



Early results from valid (significant, transformative) ideas may be irreproducible (flawed approach, etc.)

Even reproducible results may be invalid (repeated erroneous approach, systemic biases)

=>

Eventually, history of science sorts this all out (>50% of publications are never cited), but takes time.

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Links & Differences

Theoretical ⟷ Practical

Open **S**cience

An approach to the scientific process based on **open cooperative work, tools and diffusing knowledge**

Compliance rules under a Policy Context

Common Framework for Action

A lever for accelerating innovation, academic integrity and improving science and society dialogue

Responsible **R**esearch and **I**nnovation

engaging the public in the research process to **better align the goals and outcomes of research with the needs of society** and to address societal challenges

Multi-Stakeholder-driven science (citizens - policy makers - researchers) towards societal challenges

Citizen **S**cience

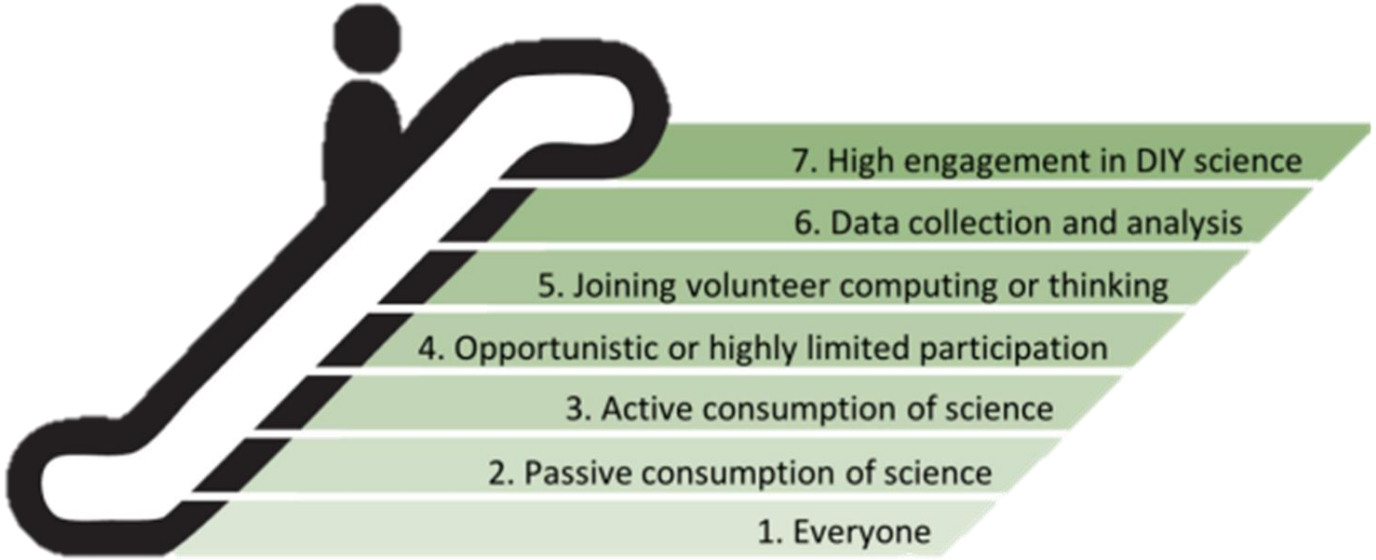
voluntary participation of non-professional scientists in research and innovation **at** different **stages of the process** and **at** different **levels of involvement**

Methodologies and Tool(s) for engagement and co-creation

Communities Capacity Building

Community-driven Science

Levels of Public Participation in Citizen Science



Source: Skarlatidou, A., & Haklay, M. (2021). Citizen science impact pathways for a positive contribution to public participation in science. *Journal of Science Communication*, *20*(06).

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FAIR RDM

Findable by humans and machines

Findable: Data referenced by unique and persistent identifiers

Accessible ≠ Open data: information on how the data should be retrieved (or not) available

Accessible: long term storage and standard technical procedures

Interoperable = standardization: data integrated with other data from the same research field or others

Interoperable: open file formats; metadata standards; standard ontologies; controlled vocabularies; links between data and related digital research objects

Reusable: conditions on how the data can be accessed and reused

Reusable: data notebooks; conform to community standards; machine-readable standard licences

FAIRness of Data Criteria

FAIR principle	Question	Yes/No/Not sure
Findable	Has this data(set) been assigned a globally unique persistent and resolvable identifier when it was deposited in the data repository?	
	Does the data(set) have discovery metadata that make the data(set) findable, understandable and reusable to others?	
	Are the metadata describing your data(set) available in a format readable by machines as well as humans?	
Accessible	Is access to this data(set) controlled and do the metadata include licence information under which the data(set) can be reused?	
	Do you think that metadata will remain available over time, even if the data(set) is no longer accessible?	
Interoperable	Do the metadata describing this data(set) use controlled vocabularies?	
Reusable	Is provenance information about the collection and/or generation of data included in the metadata?	
	Do the metadata describing this data(set) follow the specifications of a community-endorsed standard?	
	Has this data(set) been deposited in a file format that is open and supported by the data repository for long-term preservation?	
	Do you think that keeping your data(set) FAIR over time requires professional data curation and digital preservation?	

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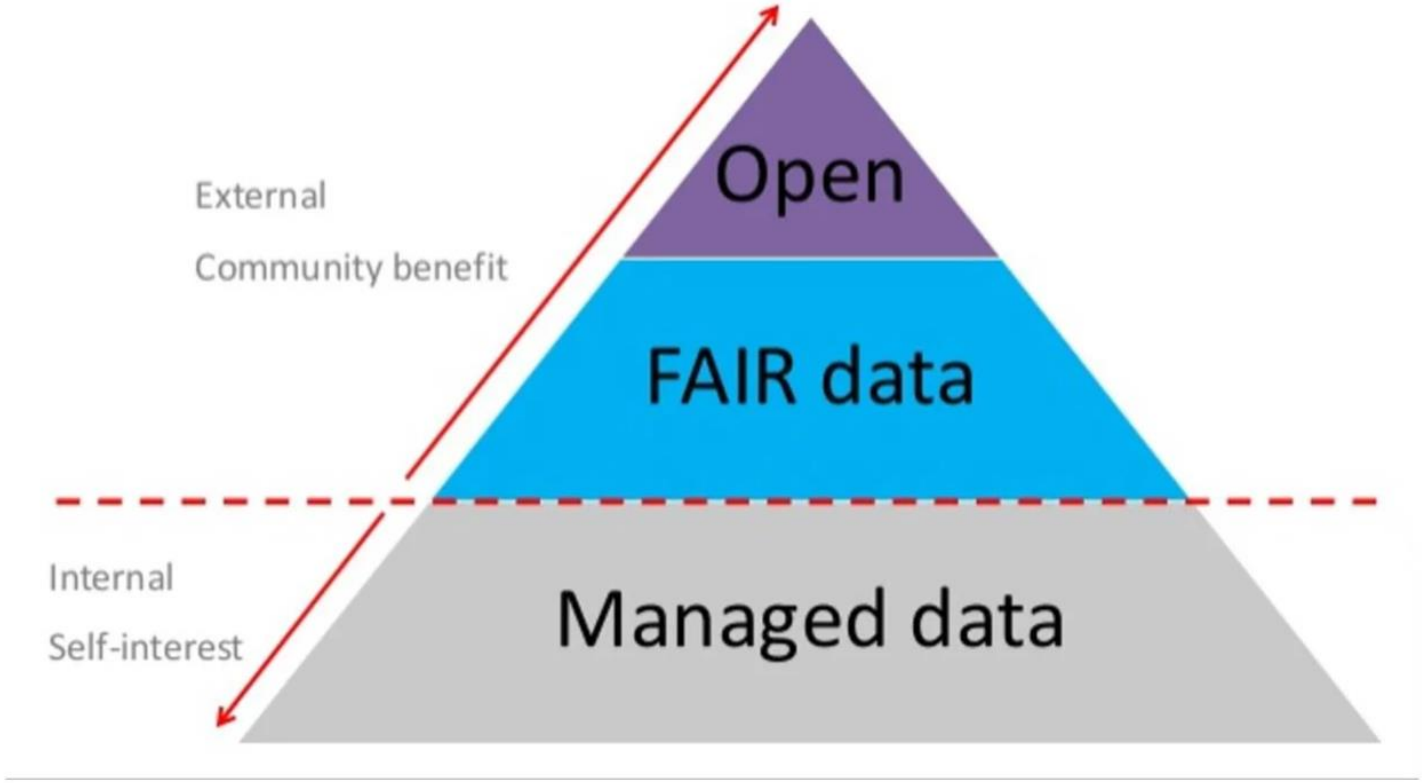
Source: PATTERN FAIR RDM Course (link)

Links and Differences



Source: Sarah Jones, *What it means to be FAIR* (link)

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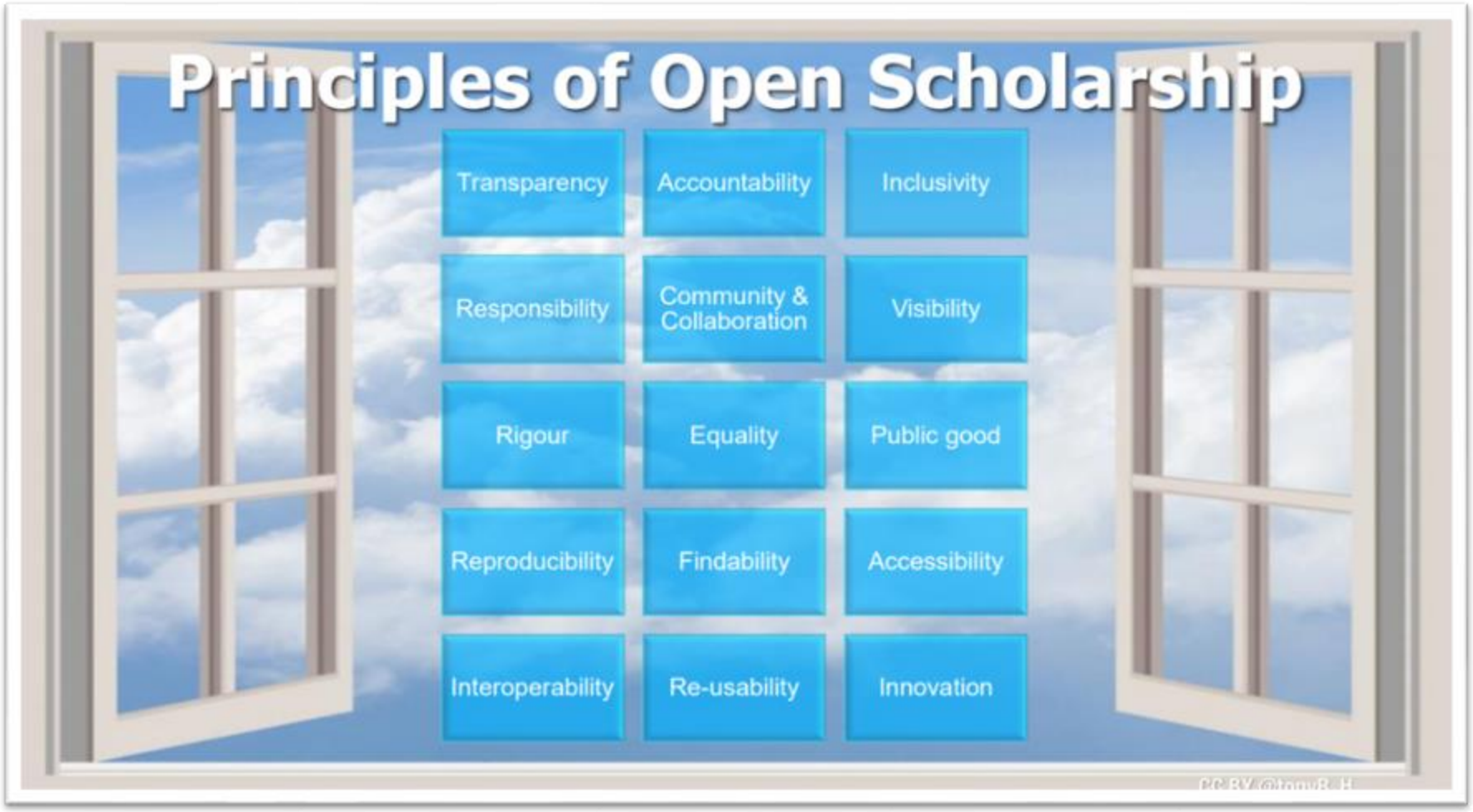
Funded by the European Union

Open Scholarship



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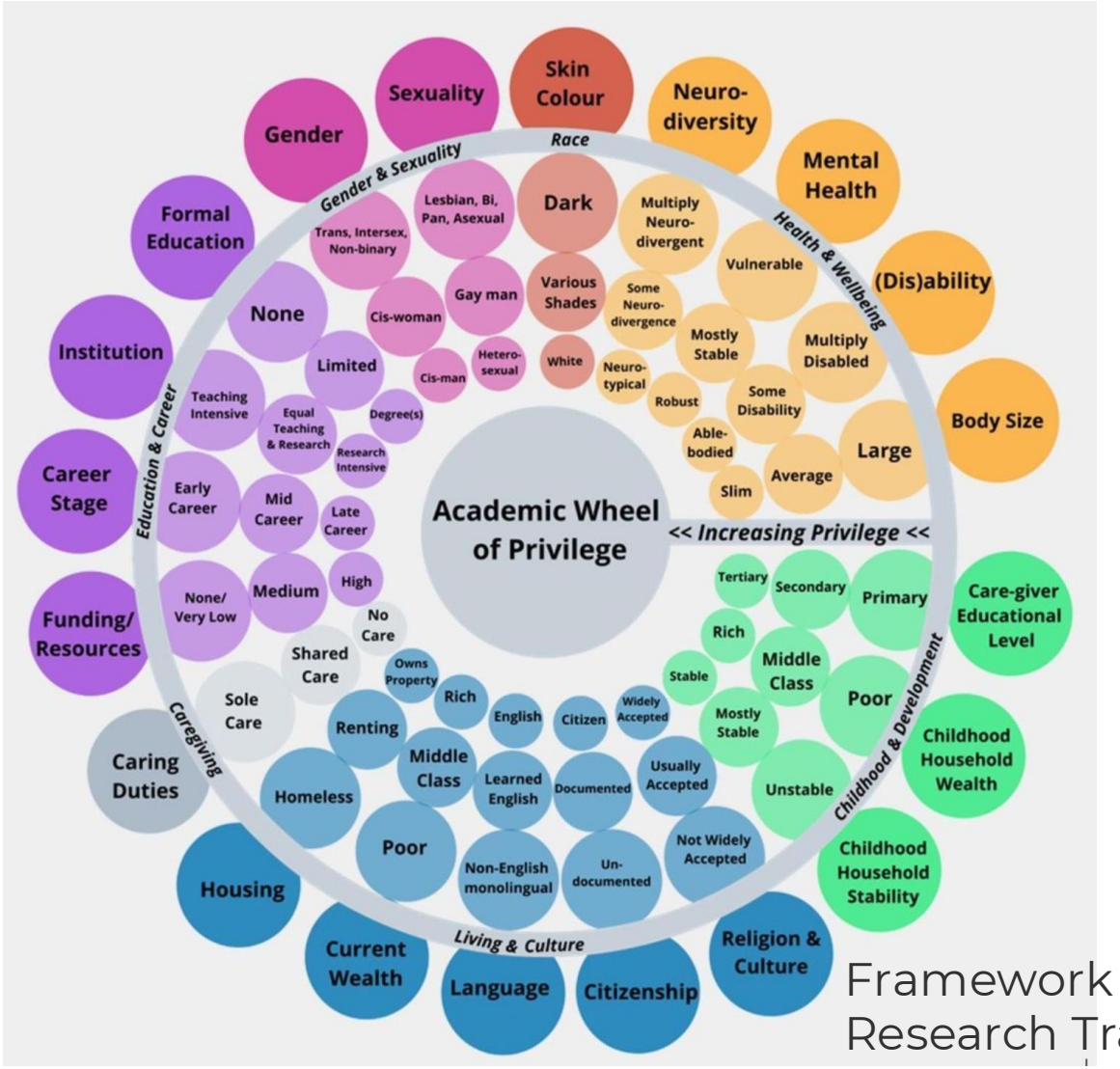
Open Culture

Funded by the European Union

Open Inclusion

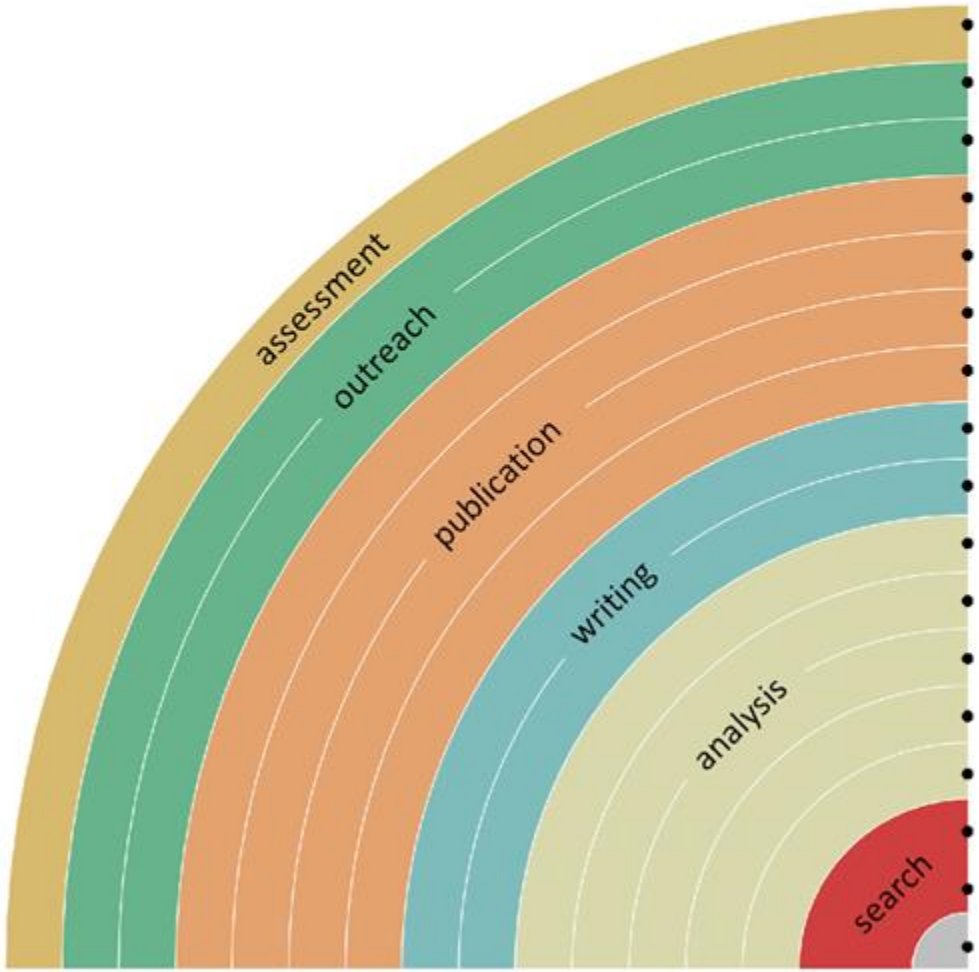


Framework for Open and Reproducible Research Training (FORRT)'s Academic Wheel of Privilege

Funded by the European Union

Open AI?

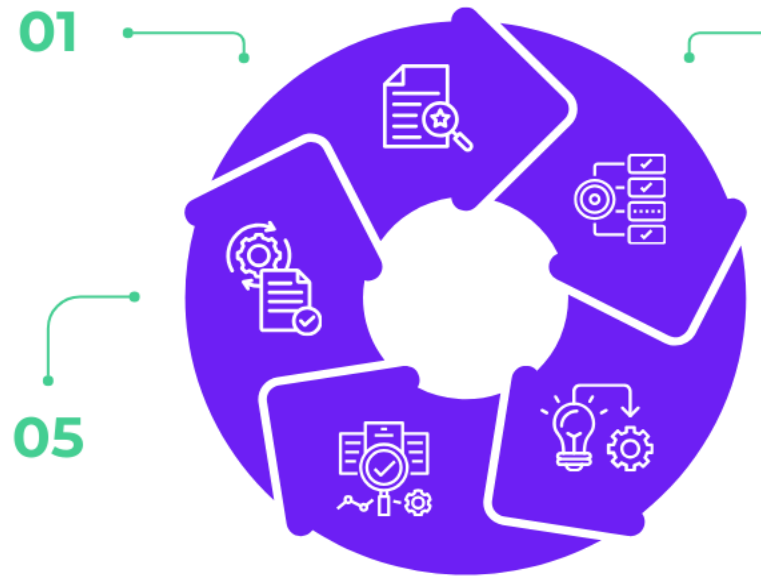
You can make your workflow more open by …



- adding alternative evaluation, e.g. with altmetrics
- communicating through social media, e.g. Mastodon or Bluesky
- 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 CoCalc
- 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 license
- 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

DOI: 10.5281/zenodo.1147025

PATTERN Methods & Piloting structure



2nd Learning Cycle [May 2025-April 2026]

8 transferrable skills

OA; FAIR; Citizen Science; Research Integrity; Gender, non-discrimination and inclusion; D&E; SC; Management & Leadership

8 thematic leaders

- 1 or more for each transferable skill
- Experts on the topic
- Training modules per each trasferrable skill

14 pilot organisations

- Who will deliver the trainings
- Both HEIs and RPOs
- 11 countries covered

1st Learning Cycle [May 2024-April 2025]

Training plans

- Tailored for each pilot organisation
- Implemented in 14 organisations

Fine-tuning

Refinement of training modules according to evaluation results of the 1st LC

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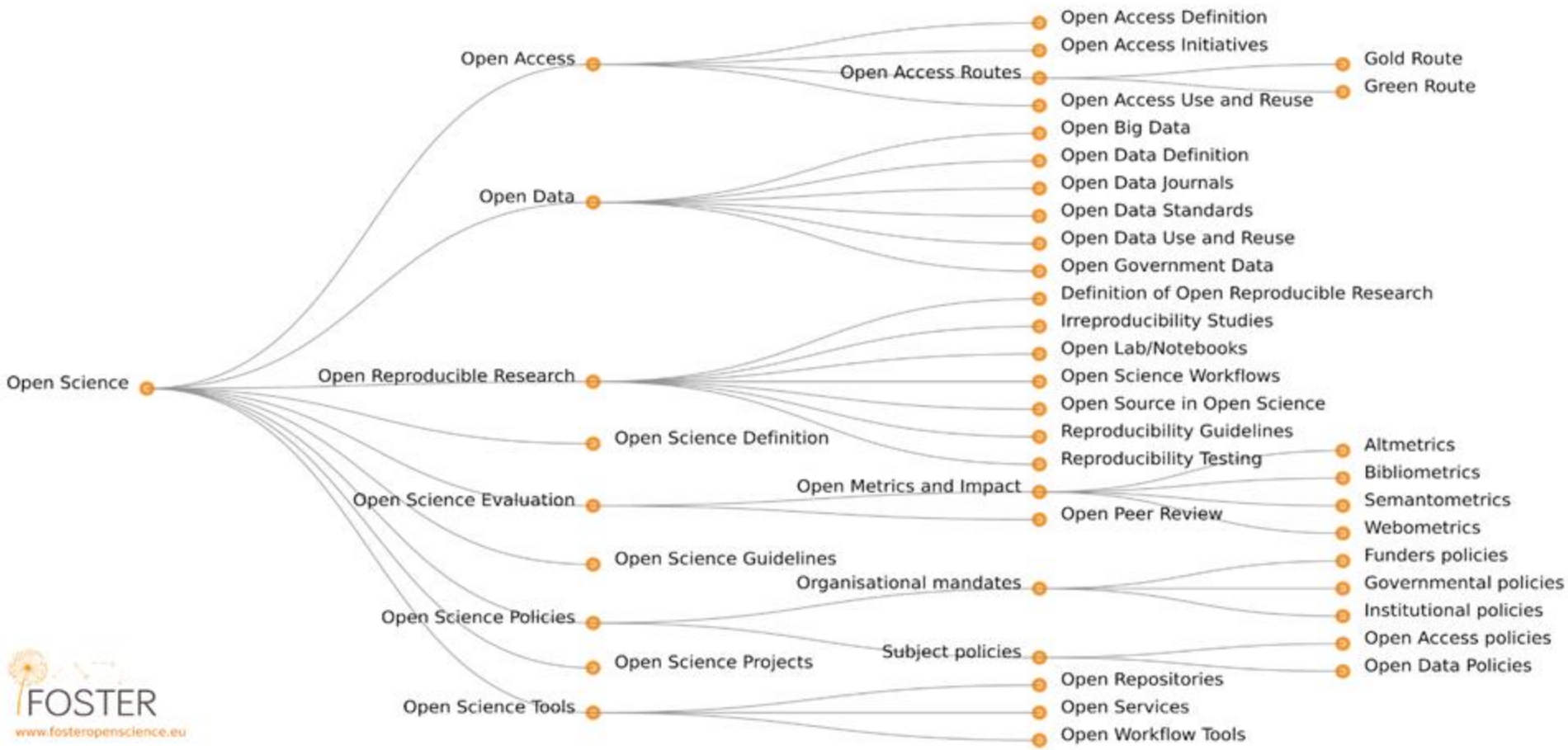
Open Science Taxonomy



FOSTER
www.fosteropenscience.eu

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the European Union

MANAGING RESEARCH TOOLS

1. Manage research data

Produce and analyse research data originating from qualitative and quantitative research methods. Store and maintain the data in research databases. Support the re-use of research data and be familiar with data management principles, including FAIR (Findable, Accessible, Interoperable, and Reusable) principles. Make data as open as possible, and as closed as necessary.

FOUNDATIONAL	INTERMEDIATE	ADVANCED	EXPERT
• Identifies sources of information, and assesses if data is trustworthy, valid, reliable and pertinent. • Knows how to store and organise data in an accessible way digitally. • Uses, transforms, and analyses non-sensitive research data transparently and in accordance with legal and privacy requirements.	• Organises data sets to be find-able, accessible, interoperable, and reusable (FAIR), and to be easily stored and retrieved in a structured environment. • Trains and empowers other team members to work with data in a structured, transparent, and accessible way.	• Applies data analysis tools, understands legal and ethical issues linked to the use of data, and integrates data management plans. • Transforms, organises, and analyses data in a research context, and applies metrics to evaluate the success of data initiatives. • Promotes FAIR principles within own academic community.	• Creates relevant data sets from different sources, and develops effective methods making data more comprehensible for research. • Proposes new processes and practices in managing data, information and digital content in a structured digital environment. • Is known as influential advocate of FAIR principles.

2. Promote citizen science

Engage citizens in scientific and research activities and promote their contribution in terms of knowledge, time or resources invested.

• Understands that citizens are knowledge-holders with the ability to contribute to the research process in some areas of research. • Knows the pros and cons of engaging or not engaging with citizens in research endeavours.	• Is inclusive and transparent in the research process and understands how best to engage with citizens in each specific context.	• Engages all categories of citizens in the research process and integrates them at specific stages of the research cycle.	• Is recognised for engaging with citizens in an inclusive, transparent and effective manner. • Develops novel, reliable, and trustworthy protocols in own research area to include citizens in the research process.

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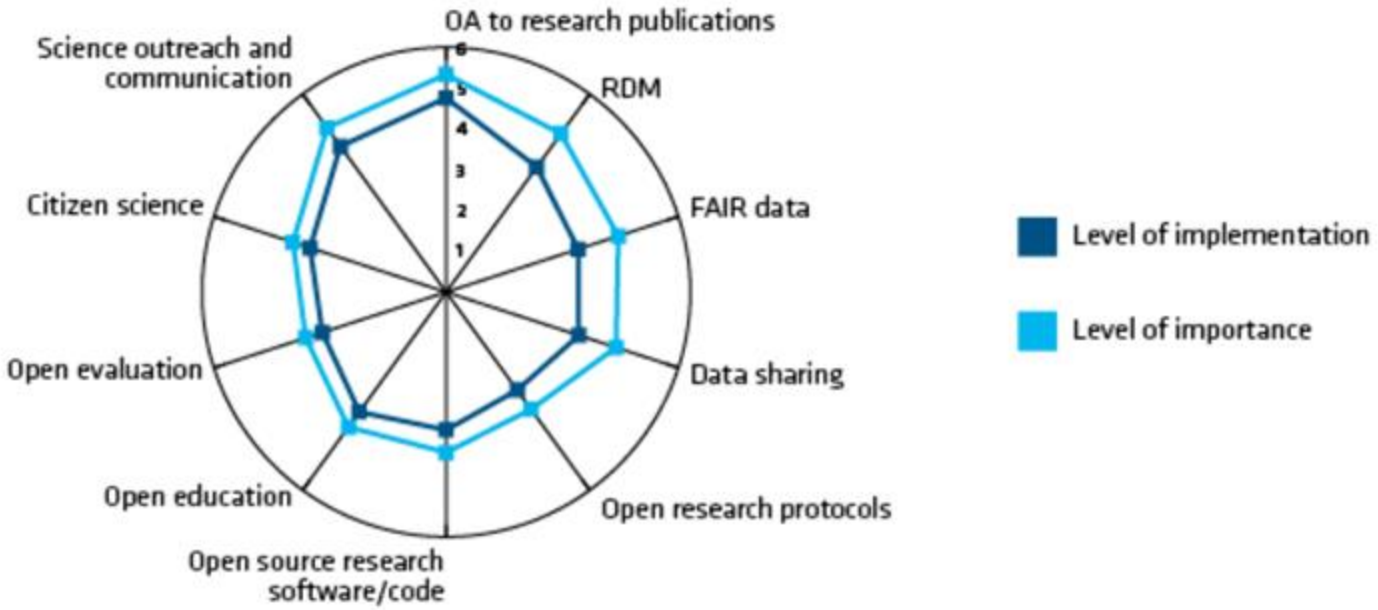
THE EUROPEAN COMPETENCE FRAMEWORK FOR RESEARCHERS

Figure 7 – Level of importance and implementation of Open Science areas

Number of respondents: 265-270/272

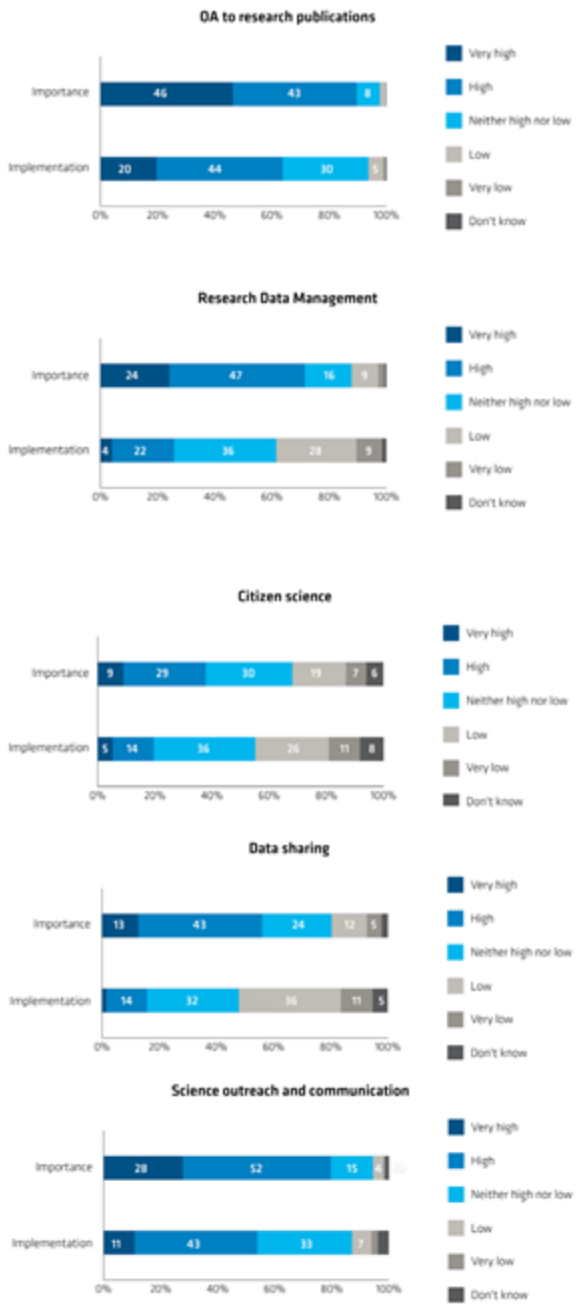


Note: scores represent mean values. Higher values indicate a higher level of importance or implementation.

2020-2021 EUA Open Science Survey results

Figure 8 – Distribution of the importance and implementation of selected areas of Open Science

Number of respondents: 266-270/272.



UNESCO Recommendations 2021

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Open RRI

We need **Collaboratory and Interdisciplinary pathways** to **face societal challenges**.

We needed **methodologies and tools** for **interdisciplinary** but now we need to **train** *how to work with different societal stakeholders and topics*

We need **people**

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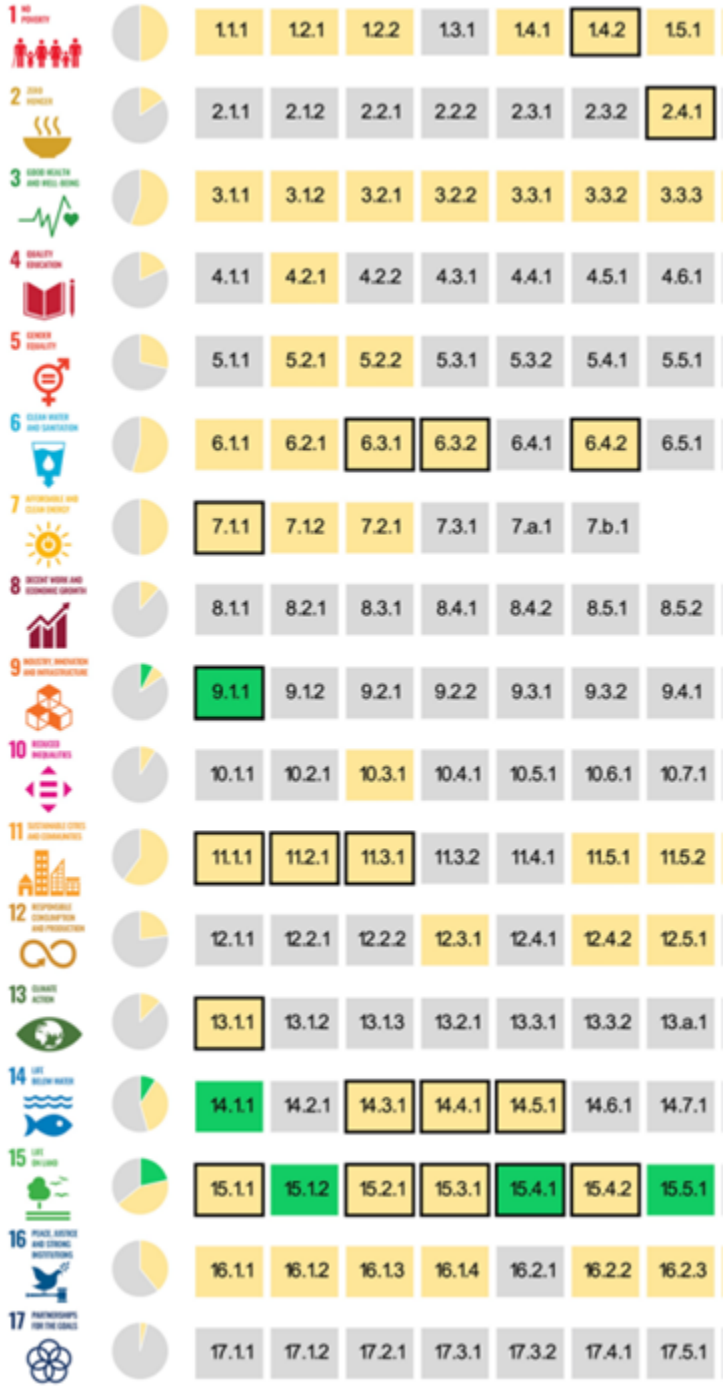


Source: Fraisl, D., Campbell, J., See, L. *et al.* Mapping citizen science contributions to the UN sustainable development goals. *Sustain Sci* 15, 1735–1751 (2020). https://doi.org/10.1007/s11625-020-00833-7

About the speakers: Theodora

theodora.kavvadia@openaire.eu

Funded by
the European Union

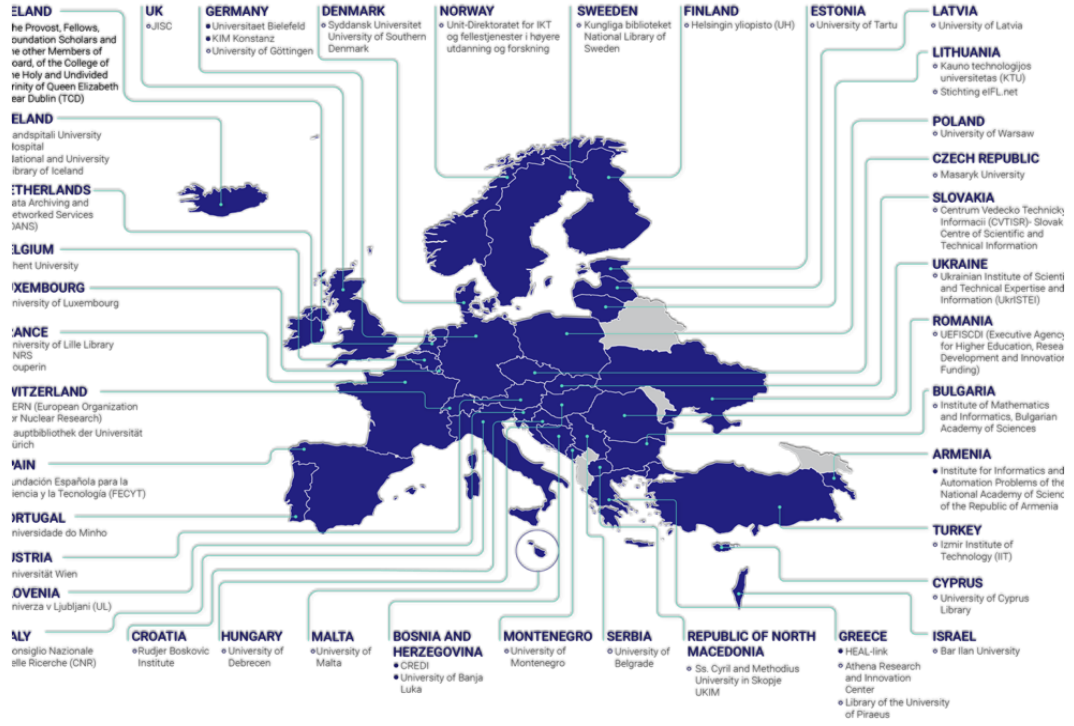
About OpenAIRE

OpenAIRE AMKE was established in 2018 as a **non-profit organisation**

A **Scholarly Communication e-Infrastructure** that brings together **human capital** and **advanced ICT services.**

A network of experts from major national institutions (National Open Access Desks) and services in operation since 2009

- Headquarter Greece
- Virtual office, more than 45 staff members
- Executive Board - 8 members
- 52 members
- From 39 countries



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Open Science

What is Open Science?

Spiros Athanasiou et al, 2020.
National Plan for Open Science.

> "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"
>
> European Commission

Core principles

1. **Collaboration**
2. **Open Access**
   Read and access scientific information
3. **FAIR* principles**
   Discovery, Interoperability, Reuse....
4. **Documentation**
   Transparency, Accuracy

Areas of action

Scientific **outputs (publications, data, software, methodologies, etc.)**

Infrastructures and services for research

Training and new skills

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Open Science

What is Open Science?

"As open as possible, as closed as necessary"

Funded by the European Union

Open Science

Open Science & Eu Funding

The MSCA & Horizon Eu Funds endorse Open Science and Responsible Research and Innovation (RRI) :

- Open access to scientific publications under the conditions required by the grant agreement;

- Responsible management of research data in line with the FAIR principles of 'Findability', 'Accessibility', 'Interoperability' and 'Reusability', notably through the generalized use of data management plans, and open access to research data under the principle 'as open as possible, as closed as necessary', under the conditions required by the grant agreement;

- Information about the research outputs/tools/instruments needed to validate the conclusions of scientific publications or to validate/re-use research data;

- Digital or physical access to the results needed to validate the conclusions of scientific publications, unless exceptions apply;

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Open Science

What Are RRI Dimensions??

Responsible Research and Innovation (RRI) dimensions refer to the key aspects that shape and guide the implementation of RRI principles in the research and innovation ecosystem.

- **Ethics**
- **Governance**
- **Public Engagement**
- **Science Education**
- **Gender Equality**
- **Open Access**

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Open Science

Why RRI?

RRI involves a broad range of stakeholders to ensure that research and innovation processes are democratic and responsive to societal challenges

- **Researchers**
- **Industry stakeholders**
- **Policy Makers**
- **Educational Institutions**
- **Civil Society Organizations (CSOs)**
- **The General Public**

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Open Science

What Are the New Skills & Opportunities?

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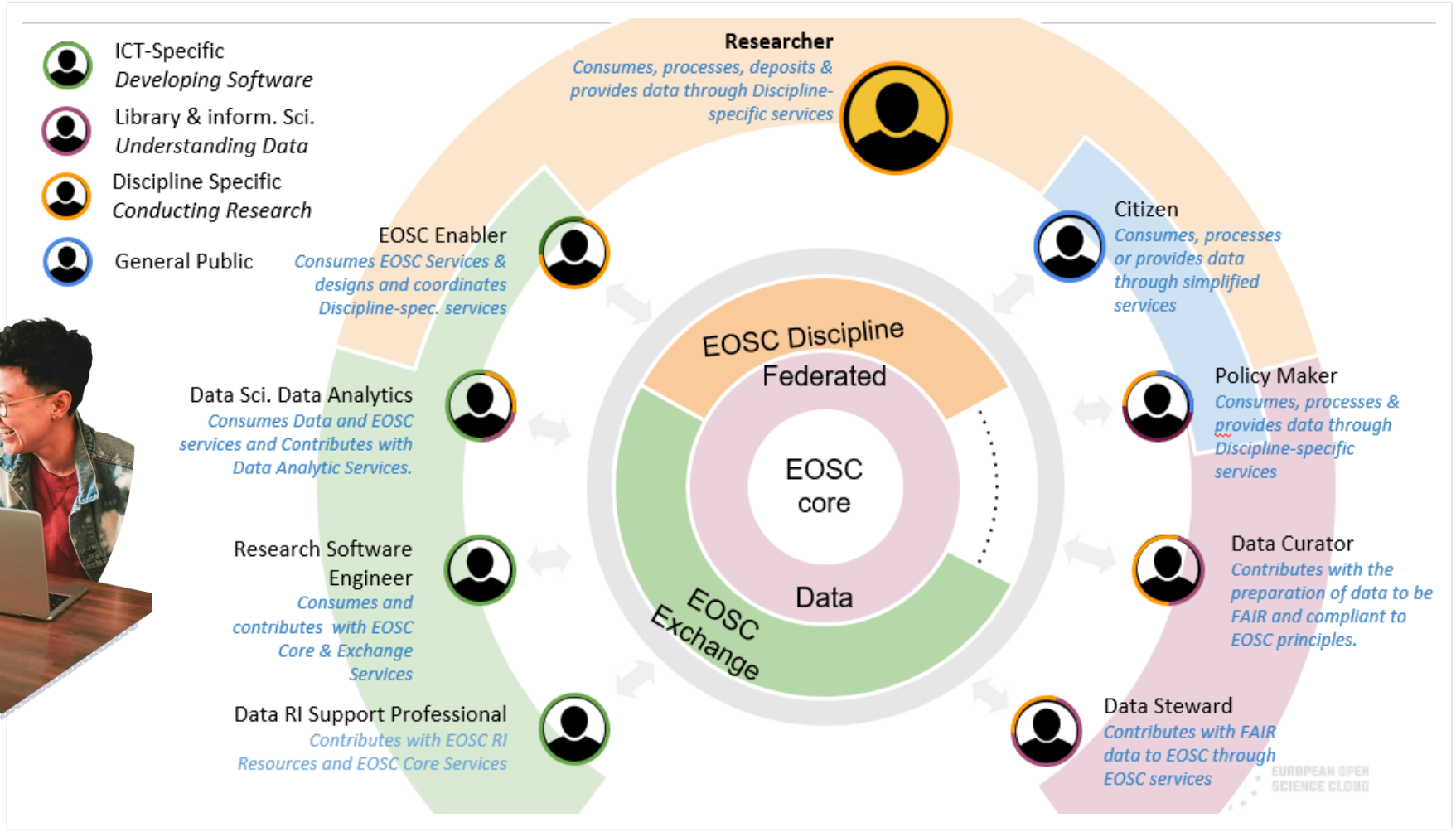
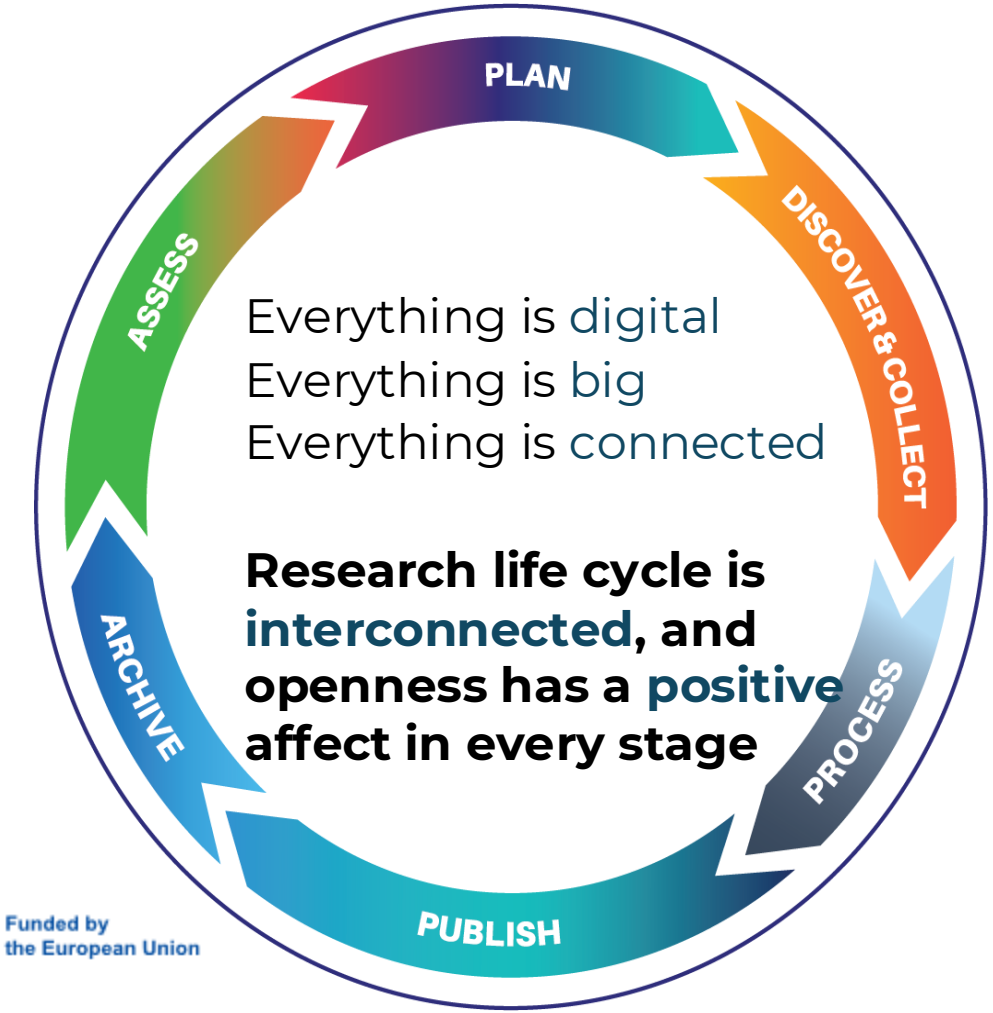
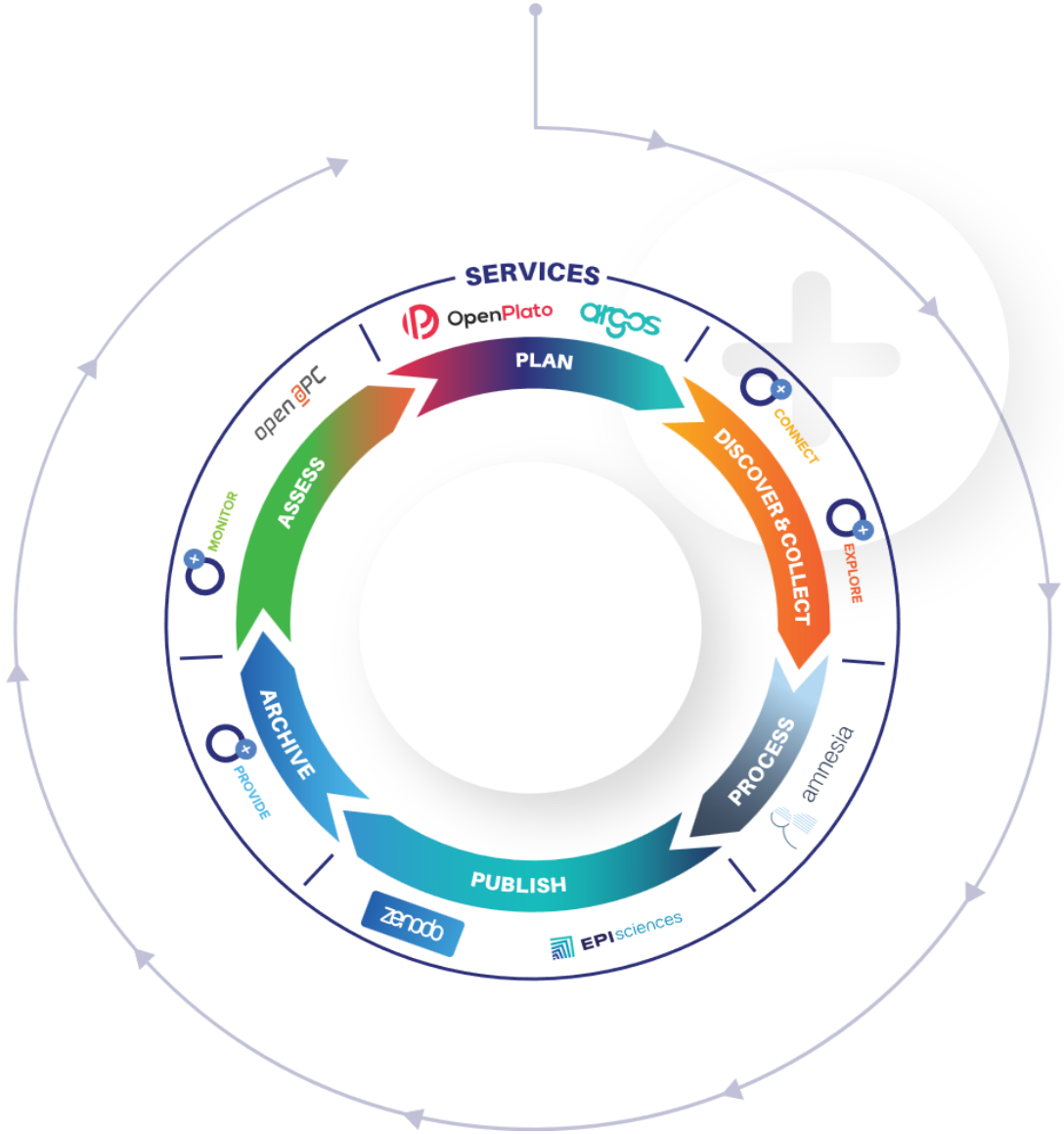


Research Life Cycle &
OpenAIRE Services



Everything is digital
Everything is big
Everything is connected

Research life cycle is interconnected, and openness has a positive affect in every stage



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Research Life Cycle & Open RRI

Good Practices

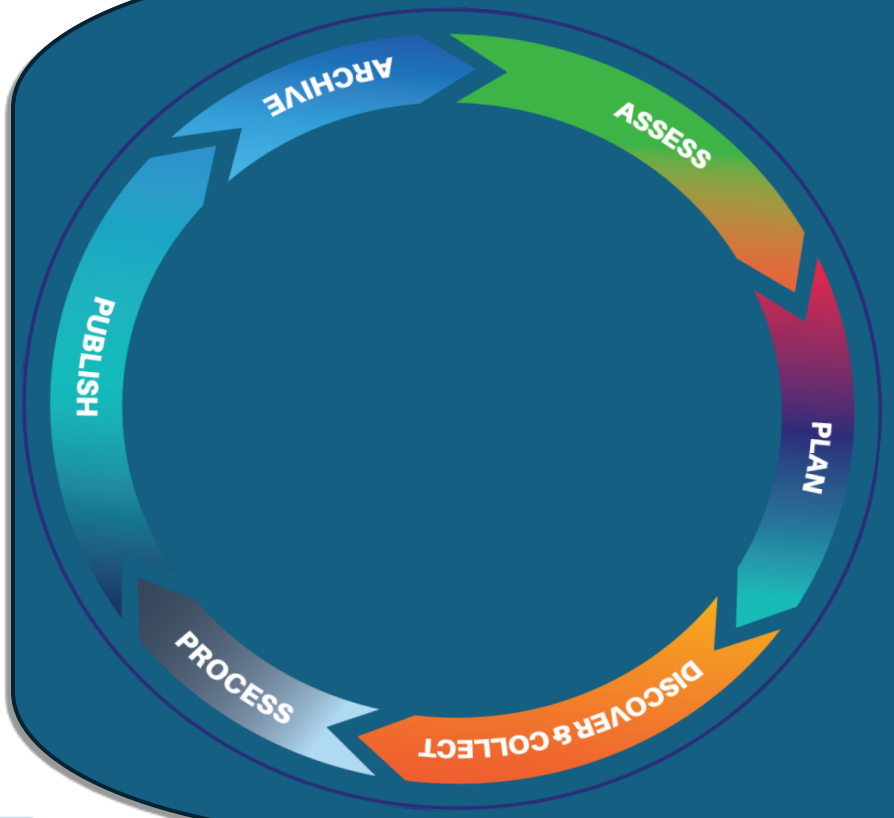
Scenario 1 : Developing a Sustainable Battery Technology

This scenario illustrates the application of Open Responsible Research and Innovation (RRI) principles in the development of sustainable battery technology, emphasizing the integration of these principles throughout the research data lifecycle. It focuses on how each stage—from planning and data collection to analysis, dissemination, and reuse—can be aligned with RRI dimensions like ethics, public engagement, and open access. The goal is to ensure that the research process is not only technologically innovative but also ethically sound and socially beneficial, supporting sustainability goals within the context of the circular economy. This approach highlights the role of RRI in enhancing the societal relevance and impact of research in the sciences and engineering.

Funded by the European Union

Research Life Cycle & Open RRI Good Practices

Step 1 : Planning and Design



Researchers identify the need for sustainable battery technology and define project objectives, including environmental impact assessments. Planning includes setting up an open data management plan.

Related Eu Project:

Battery2030+ - Battery 2030+

Funded by the European Union

Research Life Cycle & Open RRI Good Practices

Step 1 : Planning and Design

Open RRI

- **Benefit:** Ensures research aligns with societal needs and sustainability goals.
- **Good Practice:** Conduct stakeholder workshops early to gather diverse inputs on environmental priorities.
- **Open RRI Principle:** Inclusiveness – involving all stakeholders in the research process(openness). Responsible Governance (ethics).
- **Website: Stakeholder Engagement - European Battery Alliance**

Funded by the European Union

Research Life Cycle & Open RRI

Good Practices

PATTERN TRAINING THEMATIC AREA : FAIR RDM

Session 1: What is FAIR RDM and why should we do it?

Session 2: Planning for FAIR: Introduction to RDM and DMPs

Session 3: Getting started with putting FAIR RDM into practice

Session 4:A deeper dive into putting FAIR RDM into practice. Part 1.

Session 5: A deeper dive into putting FAIR RDM into practice. Part 2.

www.pattern-openresearch.eu

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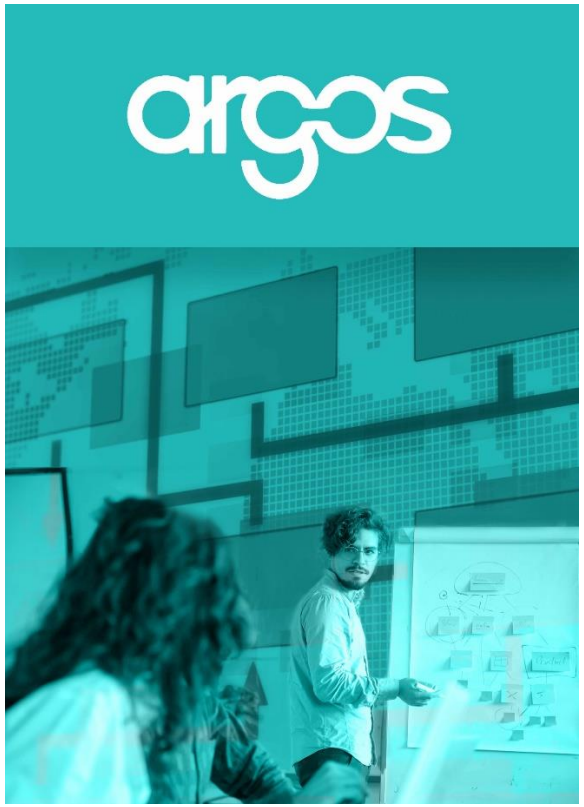
Research Life Cycle & Open RRI

Good Practices

OpenAIRE Service : Step up with data & Create DMP's



A way to support and track Open Science from the onset **mandatory** by research funders. Emerging as an integral part of the research ecosystem with lots of **automations** to make it easy for everyone to use.

argos.openaire.eu

1. Use directly via Argos website **argos.openaire.eu**
2. Implement a **local installation** of Argos in your organisation (local premises)
3. Request a **white labelled** installation of Argos, including personalised support and training.

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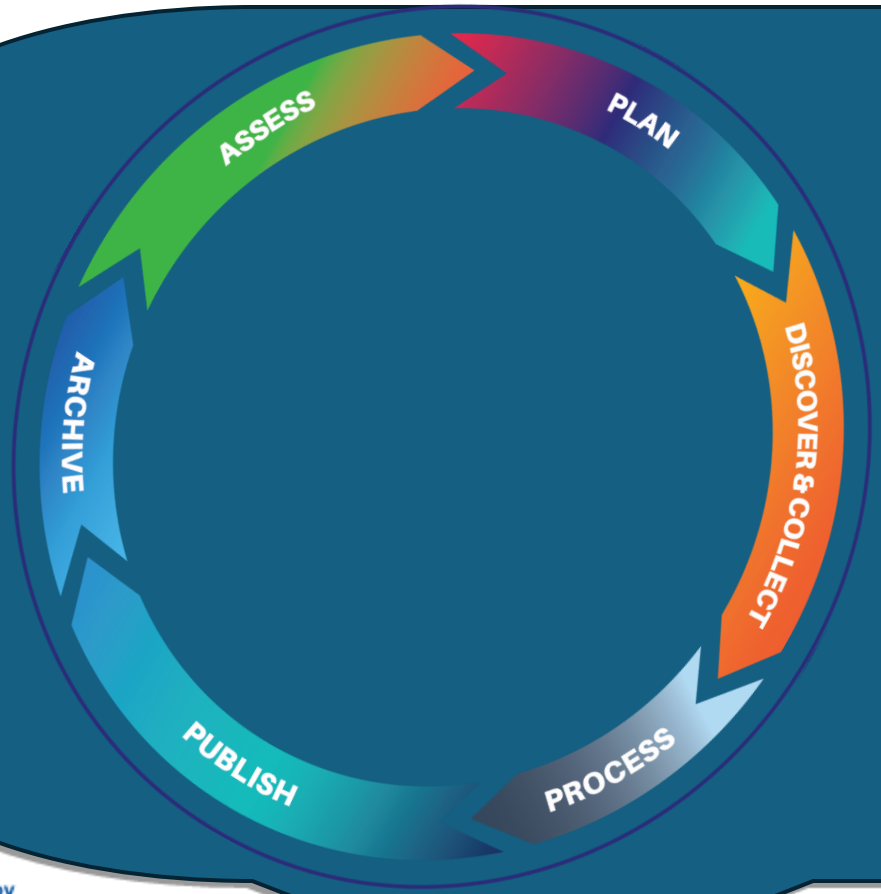
Research Life Cycle & Open RRI Good Practices

Step 2 : Data Discovery & Collection



Data on existing battery materials and environmental impacts are collected from multiple sources, ensuring data are gathered with consent and ethically.

Link: EU Raw Materials Database

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Research Life Cycle & Open RRI Good Practices

Step 2 : Data Discovery & Collection

Open RRI

Benefit: Promotes ethical data governance and enhances public trust.

Good Practice: Use consent frameworks that are easy for data subjects to understand.

Open RRI Principle: Transparency in research involves openly sharing methodologies and practices for peer and public review. Ethics ensures these practices adhere to moral standards, protecting stakeholder rights and well-being.

Website Activity: Ethical Data Collection Guidelines

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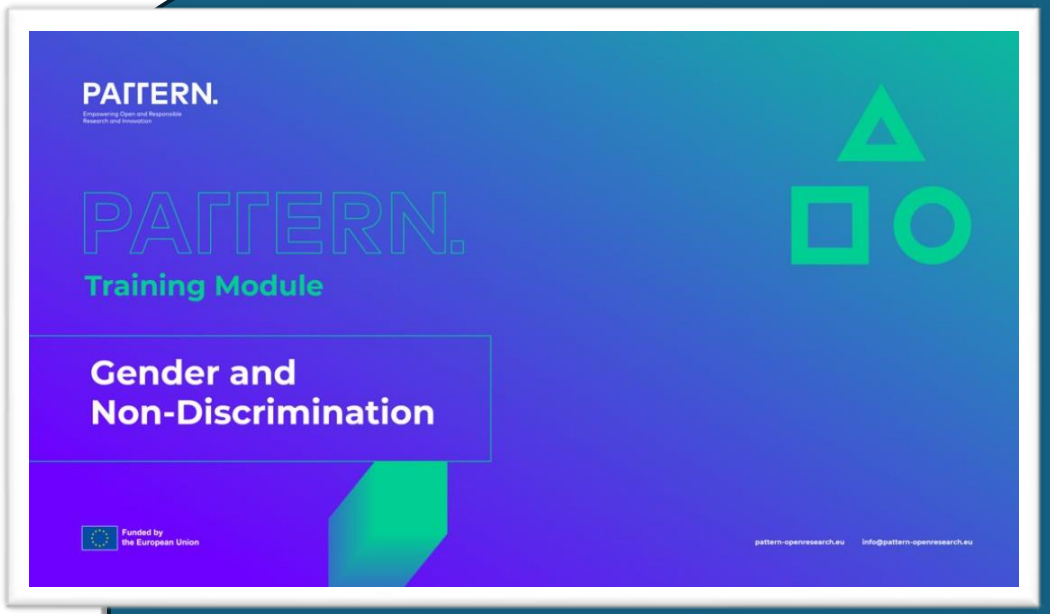
Research Life Cycle & Open RRI Good Practices

PATTERN TRAINING THEMATIC AREA : GENDER & Non-Discrimination



Webinar: Introduction to Gender Statistical Analysis and Inclusive Interdisciplinary Models

Workshop 1: (Inter-)Governmental National Data Statistics

Workshop 2: Non-Governmental Data Analysis

Workshop 3: Data-based Activism

Workshop 4 - Gender Inclusive AI and Big Data Analytics: Standarisation, Predictions, Graphs and Data Modelling

Goup Project Presentation (mentored) - Each group per Video + Project

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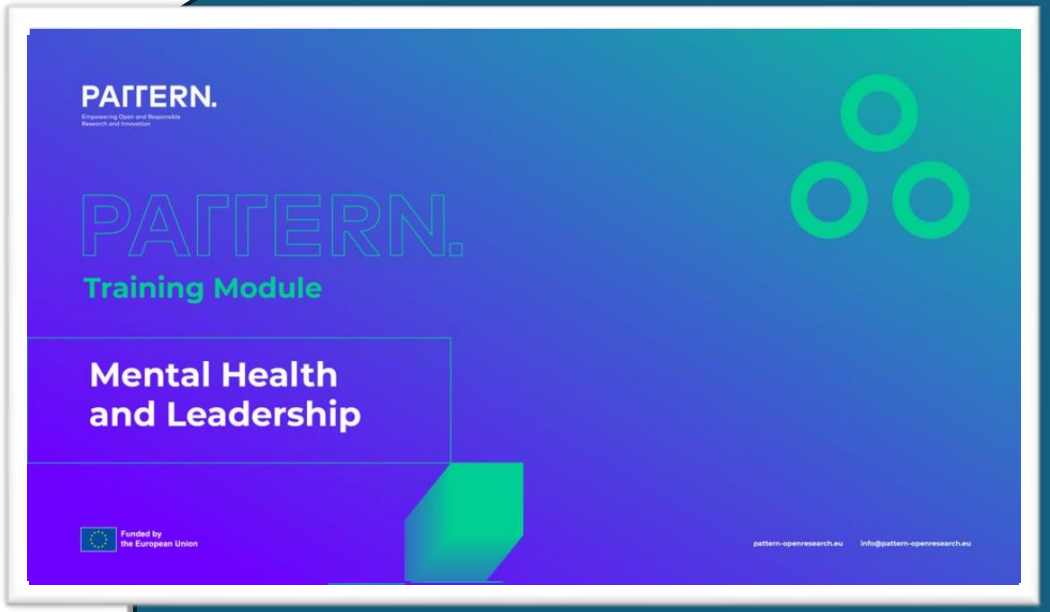
Research Life Cycle & Open RRI Good Practices

PATTERN TRAINING THEMATIC AREA : MENTAL HEALTH



Mental Health Leadership for early career researchers - 'Mental Health Leadership: Developing Your Expertise

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Research Life Cycle & Open RRI

Good Practices

OpenAIRE Service : Enhancing discovery with a customised search engine

Create a **targeted gateway**, configurable to specific content based on

- - repositories/journals of choice
- - funding data
- - enabled by automate selection process

- A secure place for communities to publish their results, in a guided manner, following OS practices
- Useful for **University Alliances**, to showcase their content under one branding
- Set up in **less than one month**

connect.openaire.eu

Funded by the European Union

Research Life Cycle & Open RRI Good Practices

Step 3 : Data Processing & Analysis

Data are analyzed using open-source software tools to determine the most promising materials for further testing. All processing scripts are shared in a repository.

Links: GitHub - Open Source Repository

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Research Life Cycle & Open RRI Good Practices

Step 3 : Data Processing & Analysis

Open RRI

Benefit: Improves the reproducibility of scientific research.

Good Practice: Publish all data processing scripts on open platforms.

Open RRI Principle: Openness and transparency & ethics in research methodologies.

Website: **https://www.episciences.org/**

https://euhubs4data.eu/

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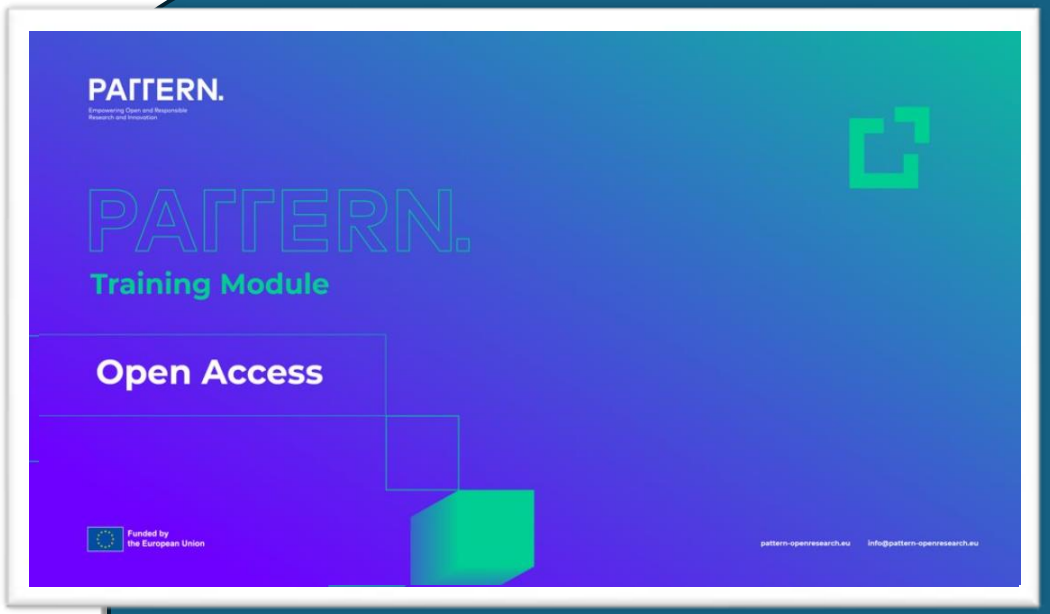
Research Life Cycle & Open RRI Good Practices

PATTERN TRAINING THEMATIC AREA : OPEN ACCESS



1. Open Access publishing: overcoming the challenges and busting the myths
2. Empowering Researchers: retaining Copyright and maximise your impact in Open Access publishing
3. Meeting Funder Requirements: navigating Open Access publishing
4. Trusted Publishers for my research: decoding good practices & overcoming predatory publishers
5. Mastering Open Peer Review: evaluating and engaging in transparent scholarly discourse

Integrating Open Access Publishing into my research: putting into practice (PBL approach for winter/summer Schools)

Designing my research project Open Access strategy: meeting funder requirements (PBL approach for winter/summer Schools)

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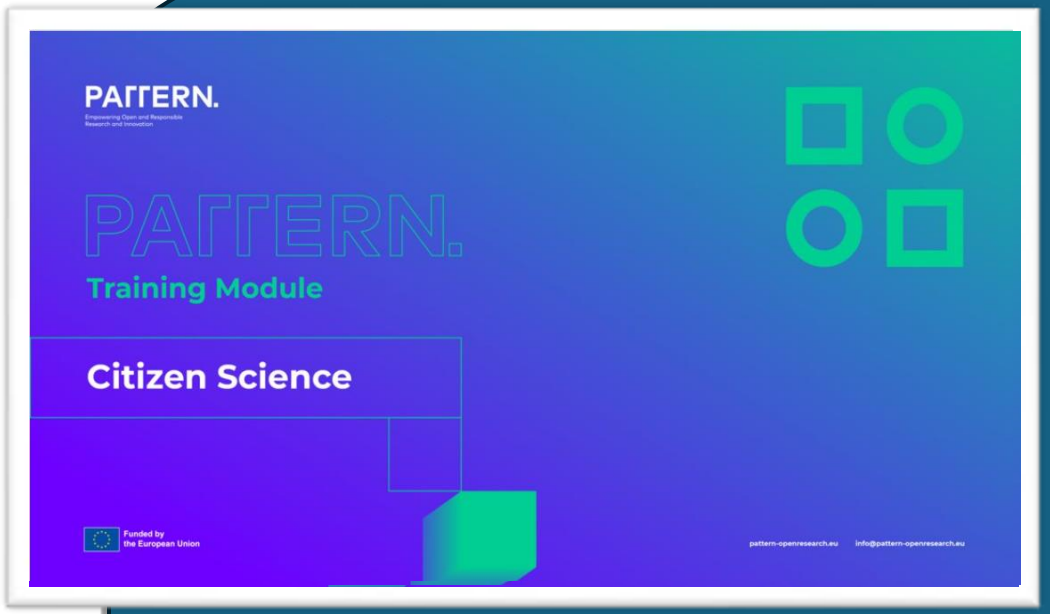
Research Life Cycle & Open RRI Good Practices

PATTERN TRAINING THEMATIC AREA : CITIZEN SCIENCE



Citizen Science, an introduction to Citizen Science

Participant Coordination and Community Engagement

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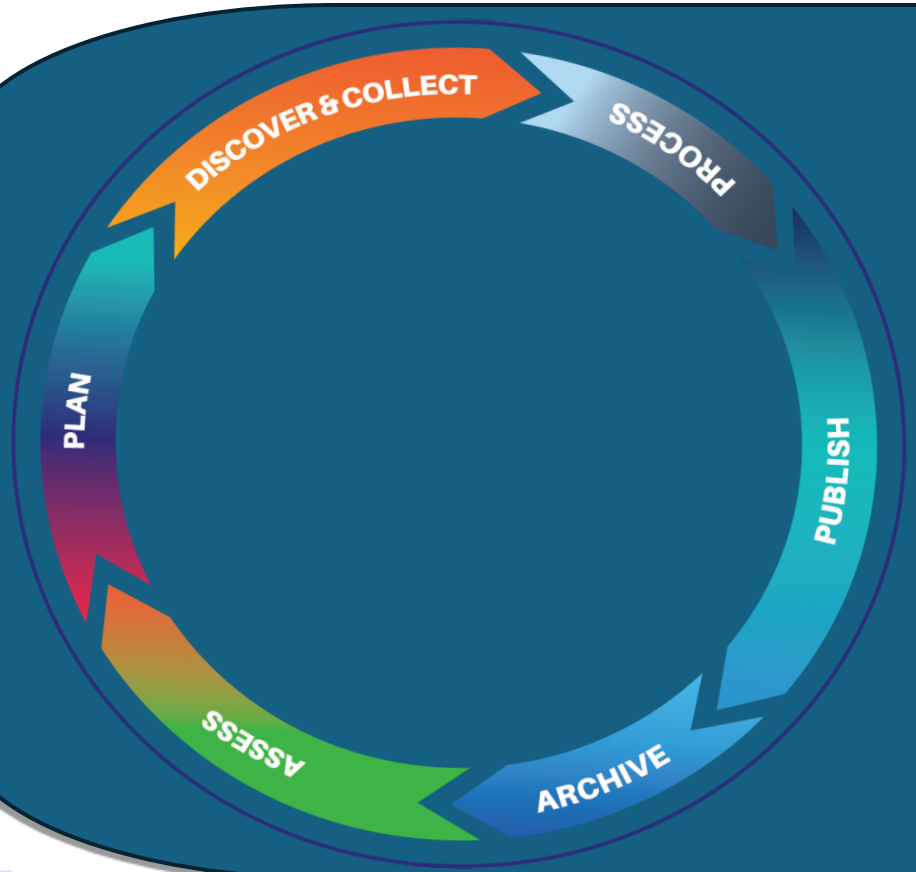
Research Life Cycle & Open RRI Good Practices

Step 4 : Publish & Disseminate



Findings are published in open-access journals and presented at international conferences focused on sustainable technologies. All outcomes are offered for dissemination.

Link: https://open-research-europe.ec.europa.eu/

Funded by the European Union

Research Life Cycle & Open RRI Good Practices

Step 4 : Publish & Disseminate

OPEN RRI

Benefit: Broadens the impact of research by reaching non-academic audiences.

Good Practice: Utilize multiple dissemination channels including open-access journals.

Open RRI Principle: Accessibility – making research available to all societal sectors.

Links: Eu Dissemination Guide

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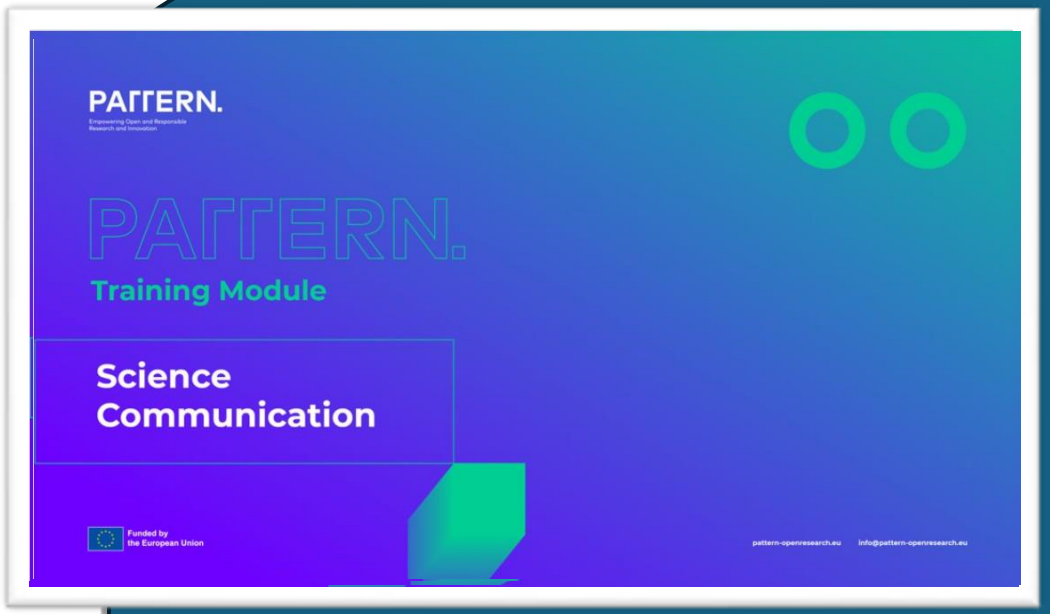
Research Life Cycle & Open RRI Good Practices

PATTERN TRAINING THEMATIC AREA : SCIENCE COMMUNICATION



Science Communication towards media and policy makers: Intro

Media Writing

Media Interview

Social Media

Policy makers

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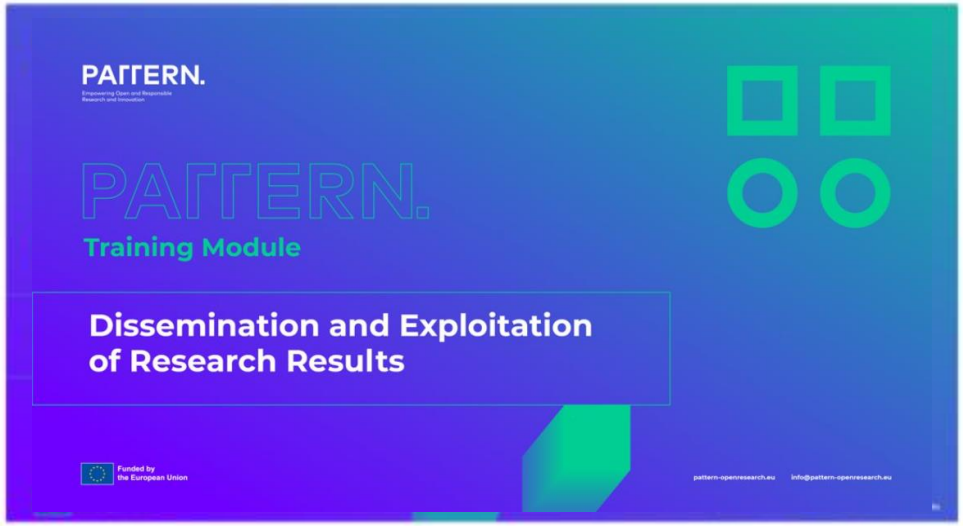
Research Life Cycle & Open RRI Good Practices

PATTERN TRAINING THEMATIC AREA : DISSEMINATION & EXPLOITATION



Lesson 1.1 | Communication, Dissemination and Exploitation in Horizon Europe

Lesson 2.1 | Managing Communication and Dissemination activities in HE projects (including focus on social media, examples of successful CDEPs and Reporting)

Lesson 2.2 | Focus: Exploitation of scientific results and IPR

Lesson 2.3 | Creating Actionable Knowledge: how to visually pitch your research results

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Research Life Cycle & Open RRI

Good Practices

OpenAIRE Service : Anonymise datasets

Ensure whatever your researchers publish abides to the rules about **sensitive** data, **personal** data, and **GDPR** guidelines, might prevent their process and analysis.

WHAT YOU GET

State of the art anonymization algorithms, with **statistical guarantees** that the output **cannot** be **linked** to the original data!

Packaged to be embedded in **workflows:** before publishing (last step before submitting to repository) or before sharing proprietary data.

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Research Life Cycle & Open RRI

Good Practices

Publishing ... Not only manuscripts!

- A **user-friendly** way to **share** research objects in just a few clicks
- Get a **DOI** for **citations**
- **Indexed** at real time be OpenAIRE
- Direct links to **Github** to archive snapshots of code and assign DOI
- Institutional **communities** (also linked to Connect)

1

Upload

Visit: **https://zenodo.org/**
Upload up to **50GB** for each dataset
All file **formats** accepted

2

Describe

Provide rich but flexible **metadata**
Based on DataCite schema
Reserve DOI before publishing

3

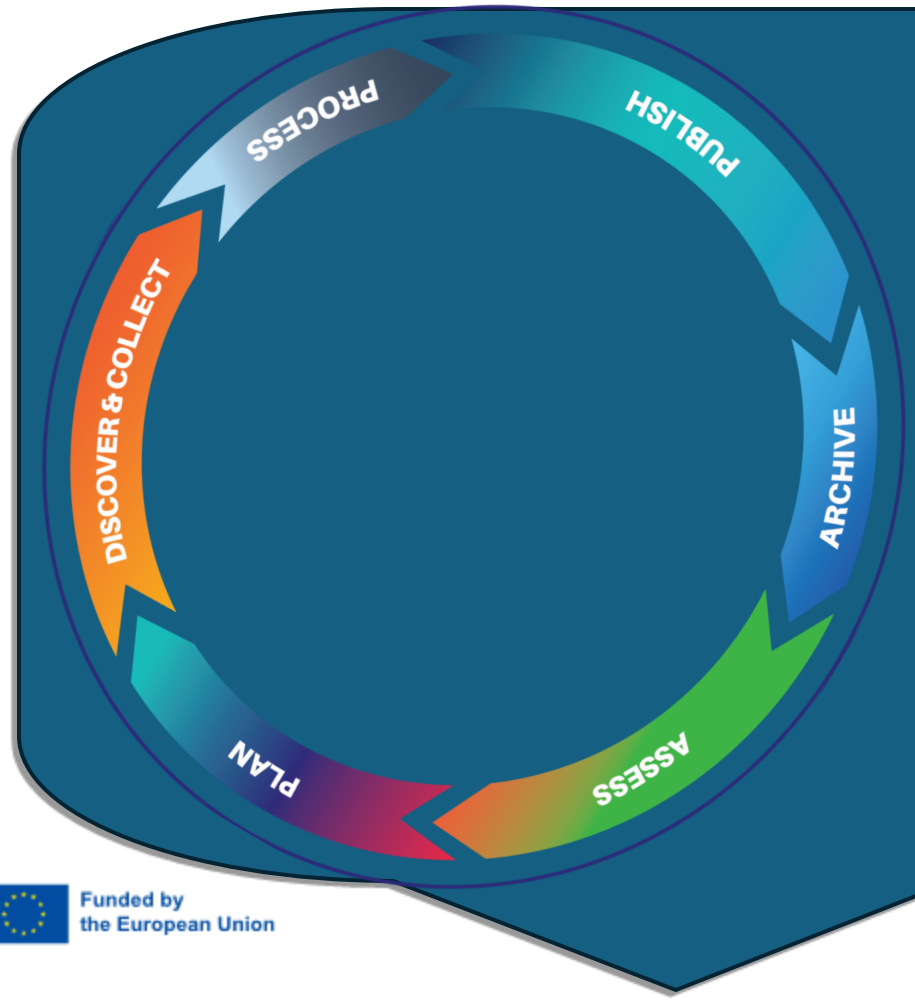
Publish

Get a **citable DOI**
Many **export** formats

Funded by the European Union

Research Life Cycle & Open RRI Good Practices

Step 5 : Archive



All research data are stored in an EU-approved open data repository that adheres to FAIR principles, ensuring accessibility for future research.

Link: EU Open Data Repository

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Research Life Cycle & Open RRI

Good Practices

Step 4 : Archive

OPEN RRI

Benefit: Ensures the longevity and accessibility of research data.

Good Practice: Use a trusted digital repository adhering to international standards.

Open RRI Principle: Sustainability in maintaining accessible data archives.

Website: Zenodo - Open Access Repository

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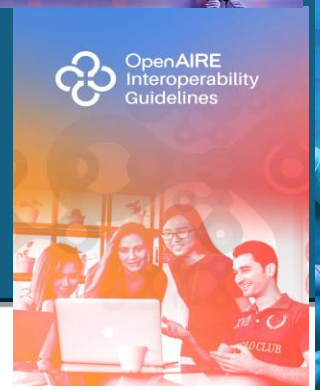
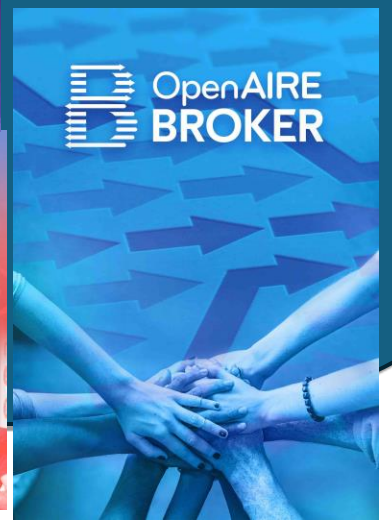
Research Life Cycle & Open RRI Good Practices

OpenAIRE Service: More than Archive

- Make your repository accessible using Open, FAIR, and standard (meta)data
- Connect the research content to the OpenAIRE Graph and EOSC
- Get notifications on metadata updates
- Reveal hidden value of your research through OpenAIRE Services

provide.openaire.eu





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Thank you!

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