

Open Science

Zane Billings

2023-03-01

This talk: <https://wzbillings.com/presentations/open-science-ceid/>

Introduction

- PhD student in Epid/Bios with Andreas Handel
- “Opening Influenza” fellow with Center for Open Science
(So I am qualified for this talk)
- Contact info: <https://wzbillings.com/>

Group picture at EEID 2021!



A screenshot of the website handelgroup.uga.edu/people/. The page has a navigation menu with links for News, Publications, Projects, People, Resources, and Opportunities. Under the heading "Current Members", there are three circular profile pictures. The first is Andreas Handel, Professor. The second is Savannah Hammerton, PhD Student. The third is W Zane Billings, PhD Student. A large purple arrow points down to the profile of W Zane Billings.

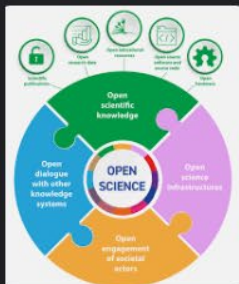
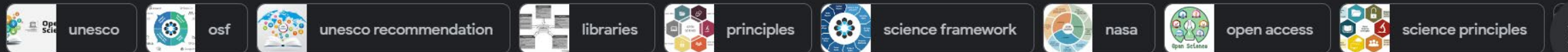
Acknowledgements

- Center for Open Science (<https://cos.io/>)
- FluLab (<https://theflulab.org/>)
- UGA Grad School (<https://grad.uga.edu/>)

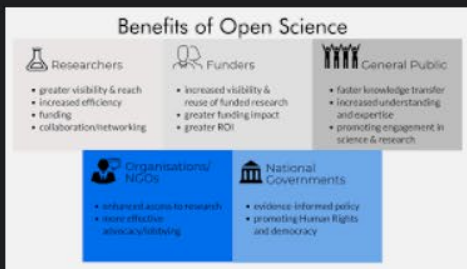
Overview

- What is open science?
- Why open science?
- Practical recommendations for open science

What is open science?



UT Open Science Twente
What is Open Science? | O...



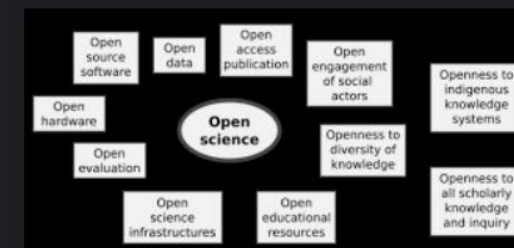
OpenAIRE
what-is-open-science



Foster Open Science
What is Open Science? | What is Open ...



ResearchGate
The six core principles of Open Science ...



Wikipedia
Open science - Wikipedia



UT Open Science Twente
What is Open Science? | ...



Open Social Work
Open Science – Open Social Work



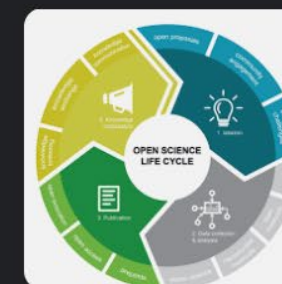
Unesco.org
Open Science | UNESCO



TUM Graduate Council
What is Open Science? – ...



Nature
Nature Ecology & Evolution



Science.gc.ca
Open science - helping make...



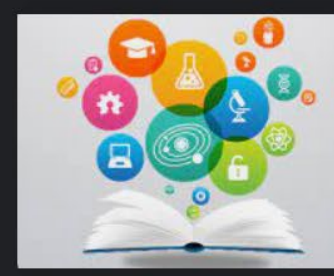
Open Access Belgium
What is Open Science? – Op...



nbsweden.github.io
Reasons for Open Science – Open Science ...



International Science Council
UNESCO Science Commission adopts Open ...



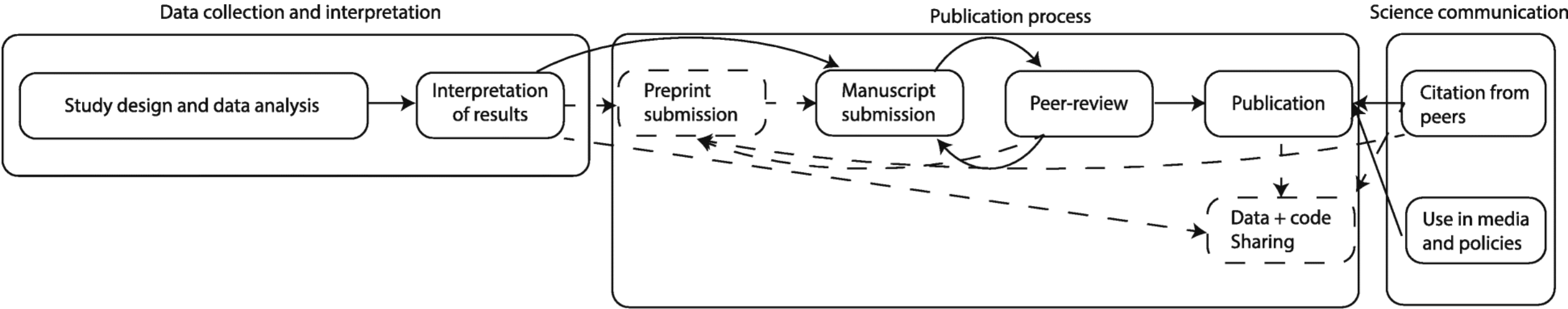
codata
CODATA-coordinated submission to...



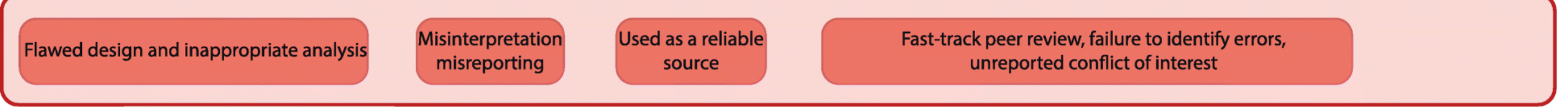
Open Science Twente
What is Open Science? ...



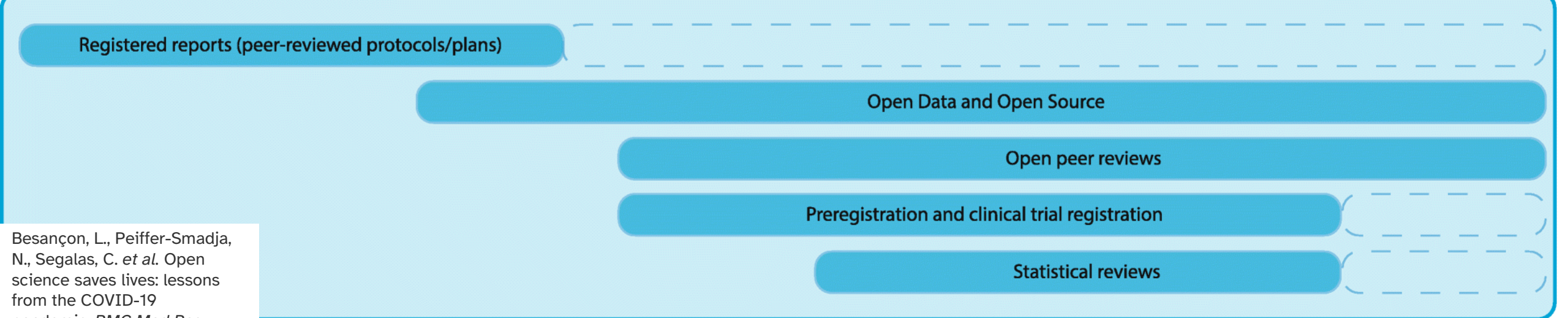
EOSC Hub
Open Science | EOSC Hub



Potential Issues

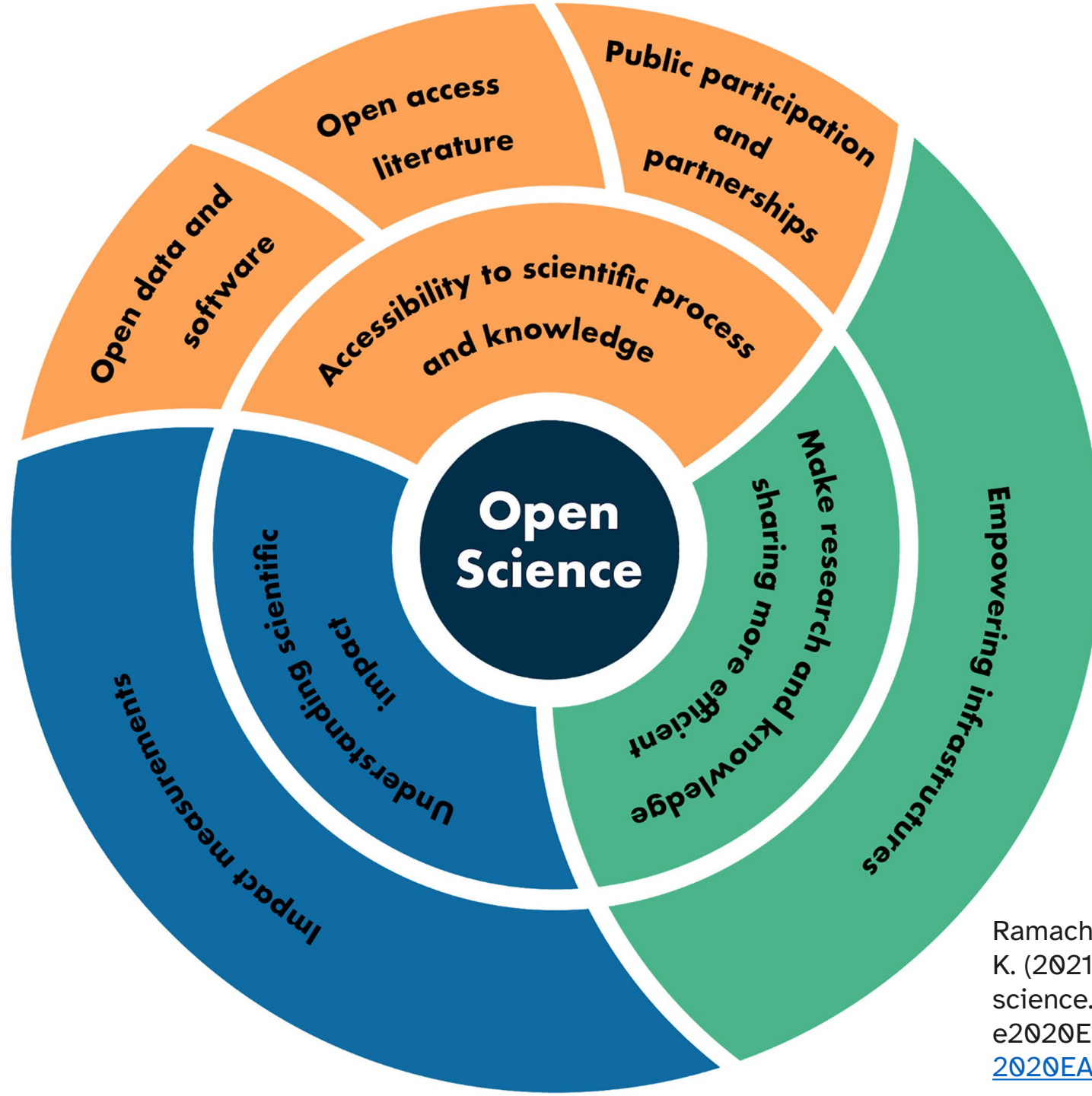


Open Science Solutions

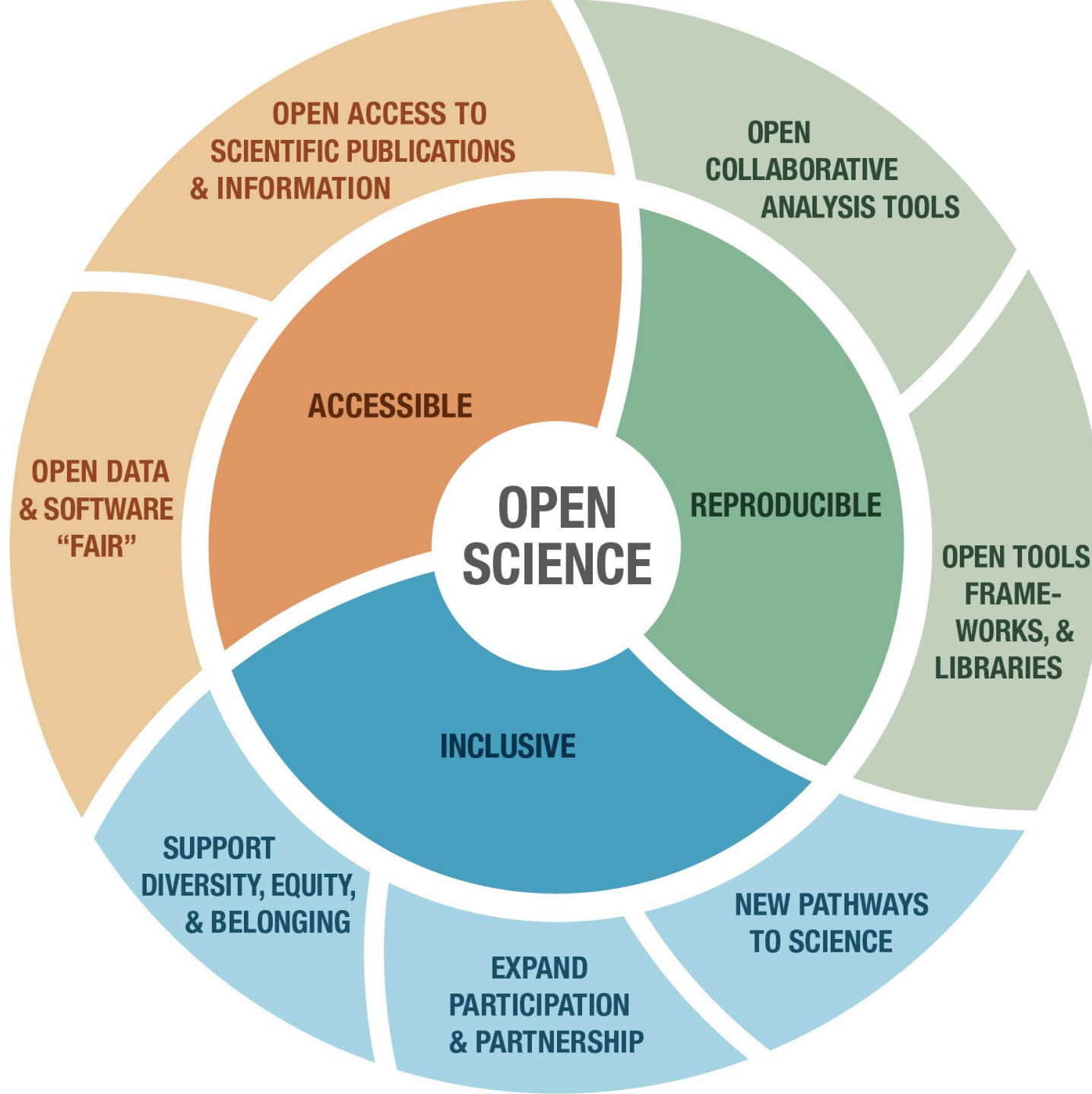


Besançon, L., Peiffer-Smadja, N., Segalas, C. *et al.* Open science saves lives: lessons from the COVID-19 pandemic. *BMC Med Res Methodol* **21**, 117 (2021). <https://doi.org/10.1186/s12874-021-01304-y>





Ramachandran, R., Bugbee, K., & Murphy, K. (2021). From open data to open science. *Earth and Space Science*, 8, e2020EA001562. <https://doi.org/10.1029/2020EA001562>



(NASA made their own that is a bit easier to read)

<https://www.earthdata.nasa.gov/esds/open-science/oss-for-eso-workshops>

“The principle and practice of making research products and processes available to all, while respecting diverse cultures, maintaining security and privacy, and fostering collaborations, reproducibility, and equity.”

White House OSTP

Why bother?

Save lives!

Besançon, L., Peiffer-Smadja, N., Segalas, C. *et al.* Open science saves lives: lessons from the COVID-19 pandemic. *BMC Med Res Methodol* **21**, 117 (2021). <https://doi.org/10.1186/s12874-021-01304-y>

Commentary | [Open Access](#) | [Published: 05 June 2021](#)

Open science saves lives: lessons from the COVID-19 pandemic

[Lonni Besançon](#) , [Nathan Peiffer-Smadja](#), [Corentin Segalas](#), [Haiting Jiang](#), [Paola Masuzzo](#), [Cooper Smout](#), [Eric Billy](#), [Maxime Deforet](#) & [Clémence Leyrat](#)

[BMC Medical Research Methodology](#) **21**, Article number: 117 (2021) | [Cite this article](#)

17k Accesses | **54** Citations | **418** Altmetric | [Metrics](#)

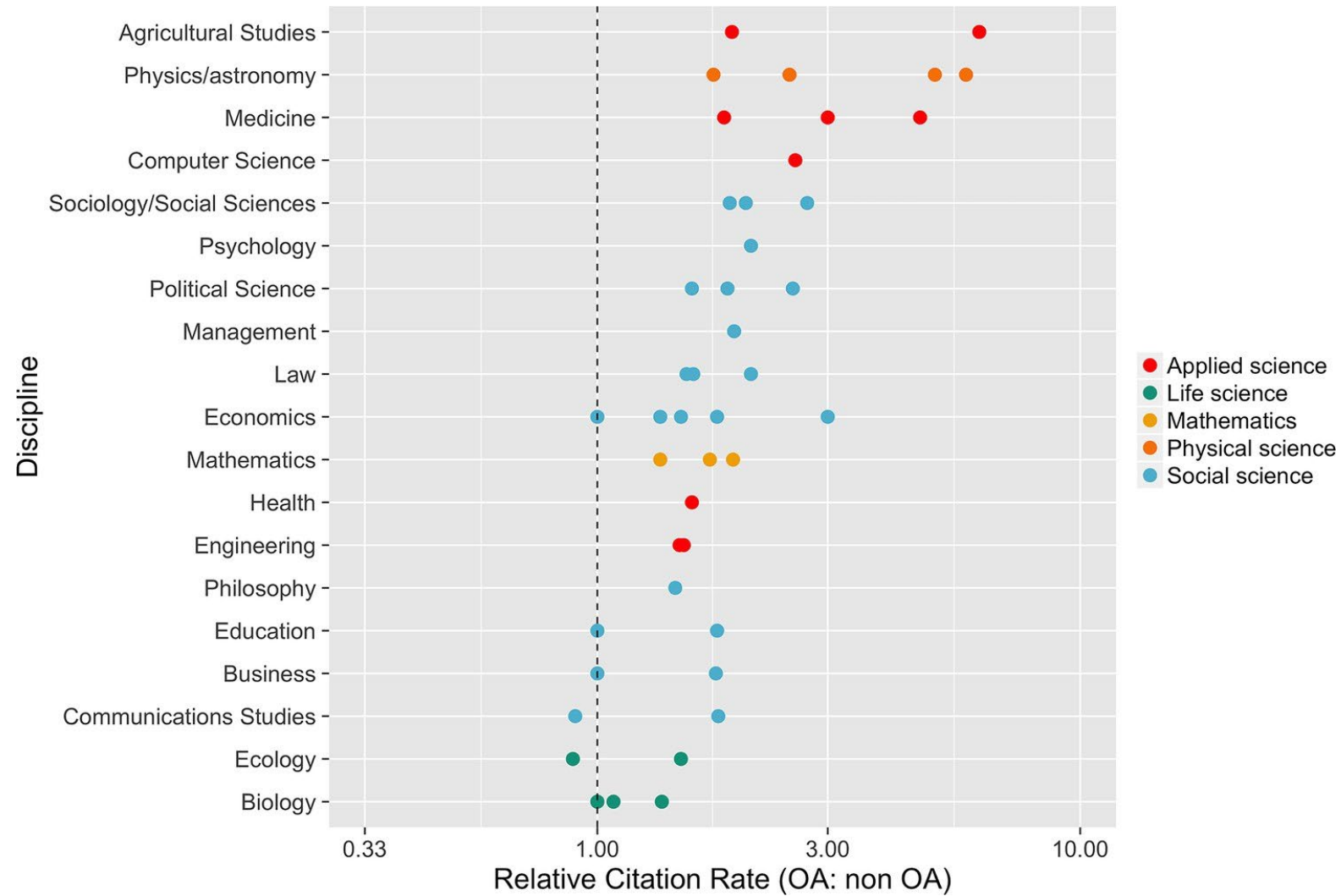
Avoid retractions!

News in focus

COVID-19 RETRACTIONS RAISE CONCERNS ABOUT DATA OVERSIGHT

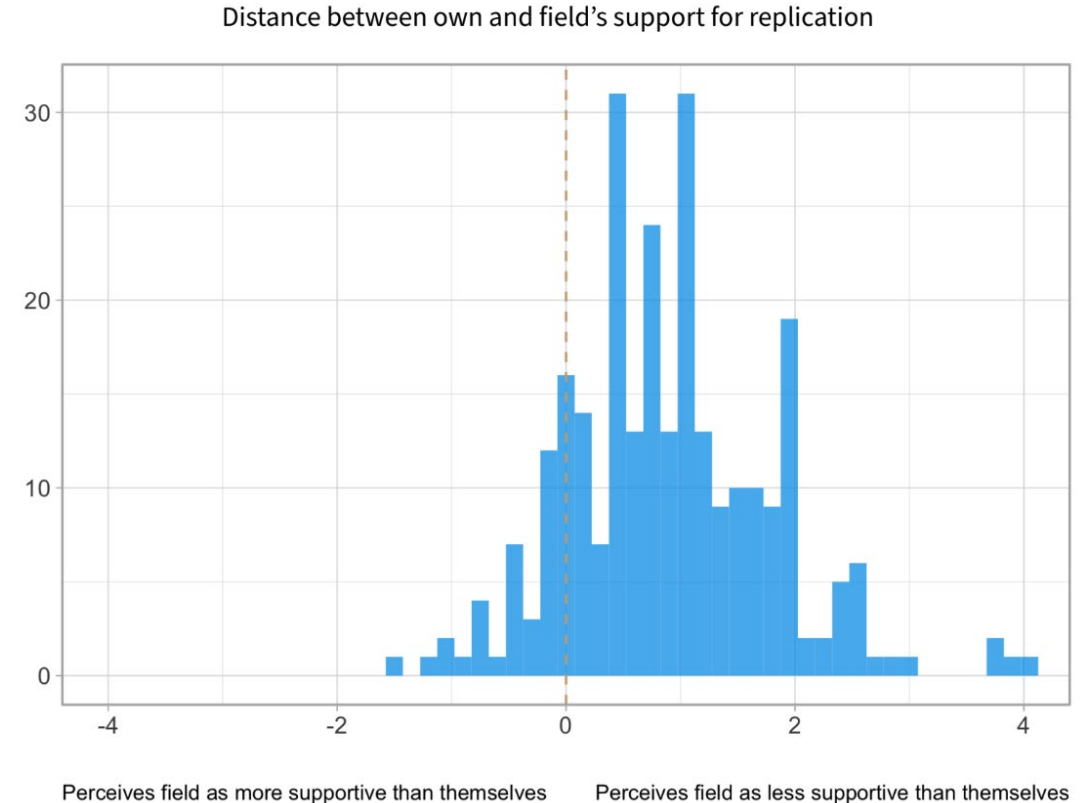
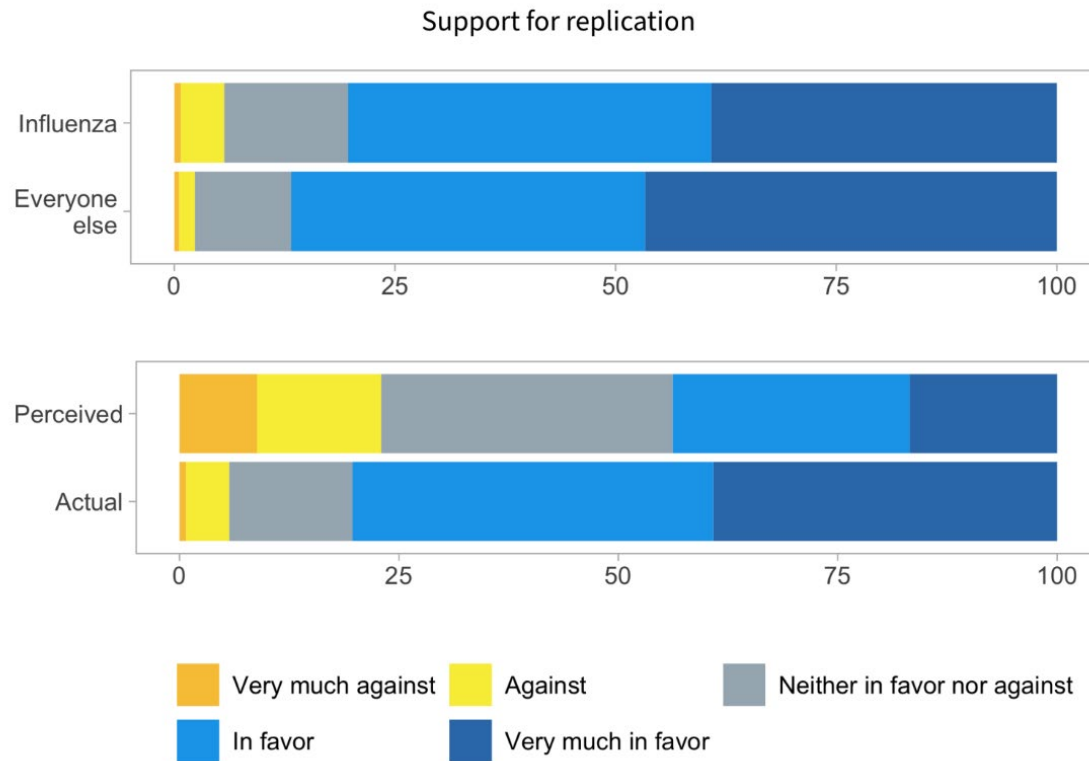
Studies relied on health-record analyses from firm that declined to share its raw data for an audit.

Get citations!



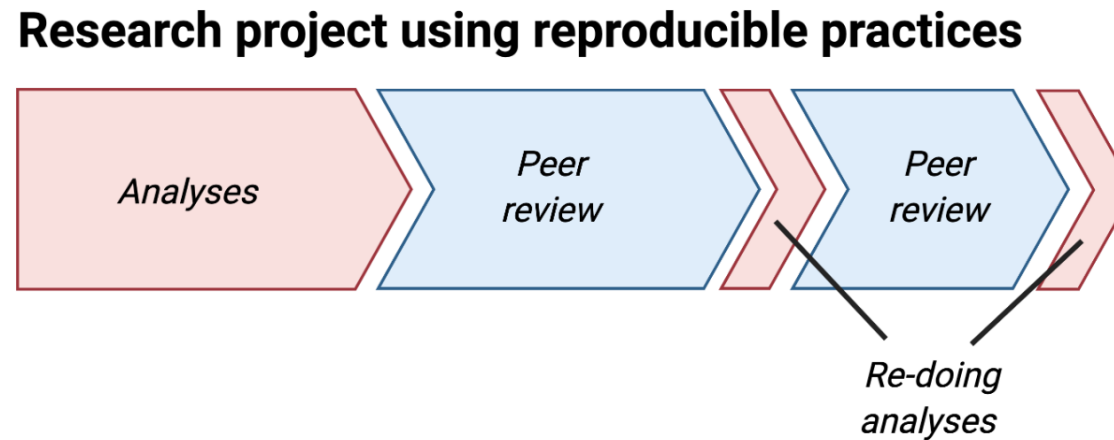
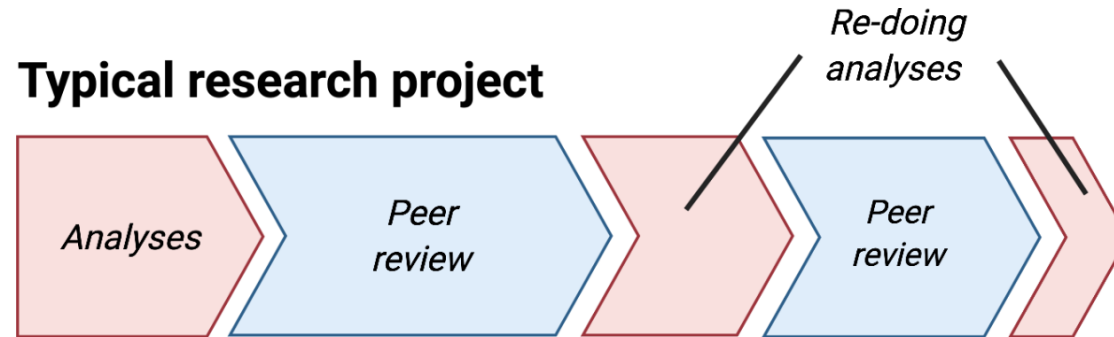
Open scholarship norms among influenza researchers.
Center for Open Science survey results, 2022.
I actually don't have a link to this, only a PDF

Everyone thinks you should!!



Similar trends across many behaviors! Data/material sharing, preregistration, null results, and more!

You aren't even losing time!




***If you get
federal
funding,
soon you
will have to!***



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20502

August 25, 2022

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Dr. Alondra Nelson 
Deputy Assistant to the President and Deputy Director for Science and Society
Performing the Duties of Director
Office of Science and Technology Policy (OSTP)

SUBJECT: Ensuring Free, Immediate, and Equitable Access to Federally Funded Research

This memorandum provides policy guidance to federal agencies with research and development expenditures on updating their public access policies. In accordance with this memorandum, OSTP recommends that federal agencies, to the extent consistent with applicable law:

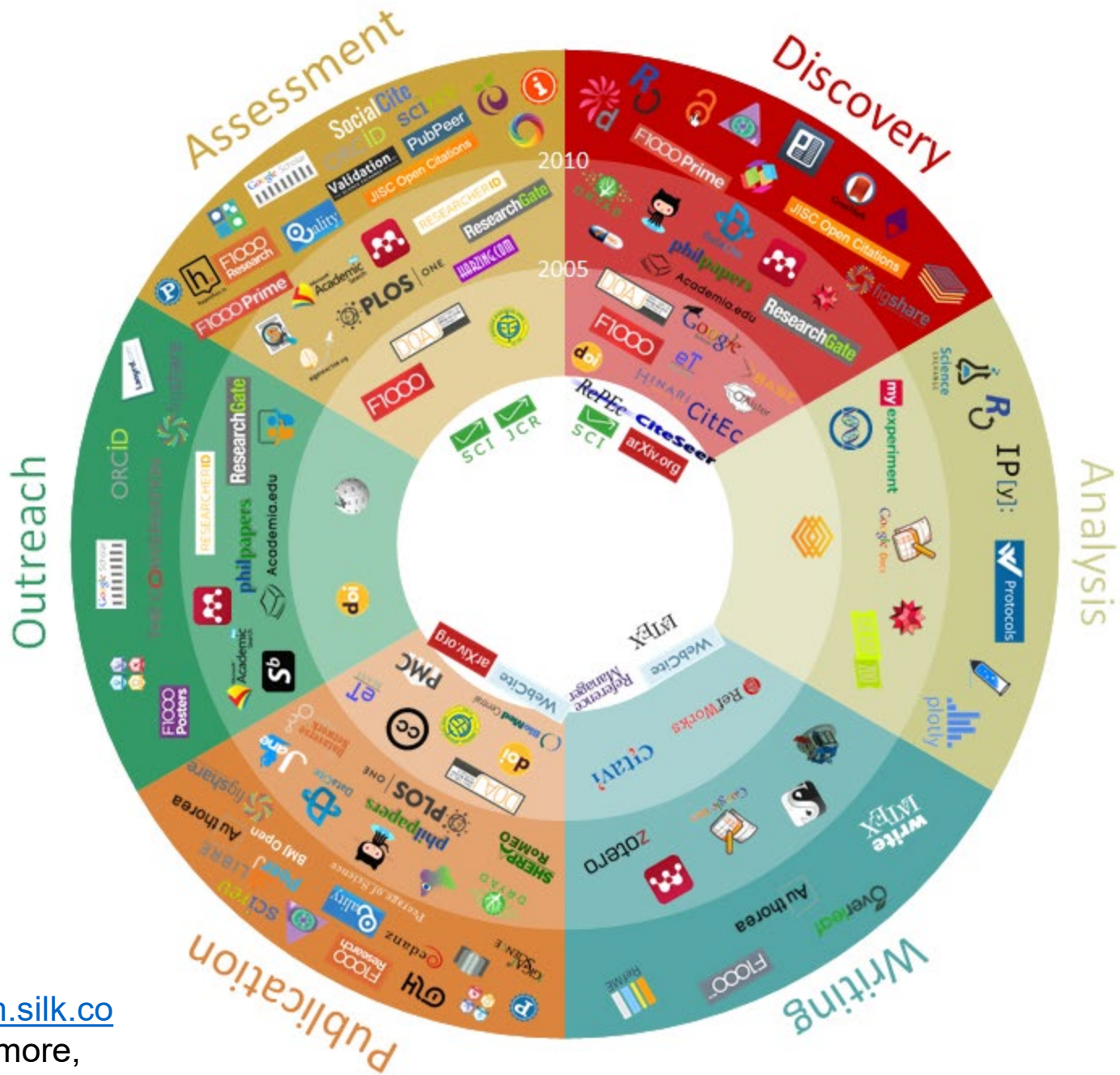
1. Update their public access policies as soon as possible, and no later than December 31st, 2025, to make publications and their supporting data resulting from federally funded research publicly accessible without an embargo on their free and public release;
2. Establish transparent procedures that ensure scientific and research integrity is maintained in public access policies; and,
3. Coordinate with OSTP to ensure equitable delivery of federally funded research results and data.

Practical Recommendations

EVERYTHING EVERYWHERE ALL AT ONCE

A promotional image for the TV show 'Everything Everywhere All at Once'. The title is written in large, white, block letters across the center. The background is a vibrant red with falling confetti. In the foreground, a woman with long dark hair and a purple vest is crouching, looking directly at the camera with her hands outstretched. Behind her, three other characters are visible: a man in a dark sweater holding a whip, a blue-skinned character in a plaid hat and jacket, and a woman in a yellow top and green pants. The overall mood is energetic and chaotic.

SHOWTIME



Source: <https://innoscholcomm.silk.co>
 This website doesn't exist anymore,
 I got this figure from the COS

Small steps!

- OSF website (<https://osf.io/dashboard/>; <https://help.osf.io/>)
- Share and document your code!
 - Code if possible – it is easier for others to use
 - Jamovi syntax mode / Stata and SPSS consoles
- Provide your analysis data in a data depository (e.g. dryad <https://datadryad.org/>).
 - Document your data!
 - The sensitive data issue
- Make sure someone in the lab can reproduce your analysis!
- Preregister/preprint your next paper!

Resources

- <https://help.osf.io/>
- <https://www.cos.io/blog>
- https://nasa.github.io/Transform-to-Open-Science-Book/Year_of_Open_Science_Guide/readme.html