

ESSENTIAL RESEARCHERS TOOL KIT, SECOND BRAIN

and other cool stuff

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Essential PhD Student Tools

Word (Grammarly) Managing references
(Zotero, Mendeley, Endnote, Refworks)

Excel / Adobe / Presentation tools

Tools for statistic

Second brain

AI, Calendar, OneNote, Notion (planning, keeping track)

Writing tools

Grammar

[Grammarly](#), [TRINKA](#), [Paperpal](#),
[Writefull](#), [Qullibot](#)...

Proofreading and more

[The Page Doctor](#)

Reference manager

EndNote, Zotero, Mendeley

Literature tools

PubMed, Scopus, Google scholar

Knowledge maps

[Research Rabbit](#)

[Connected papers](#)

[Litmaps](#)

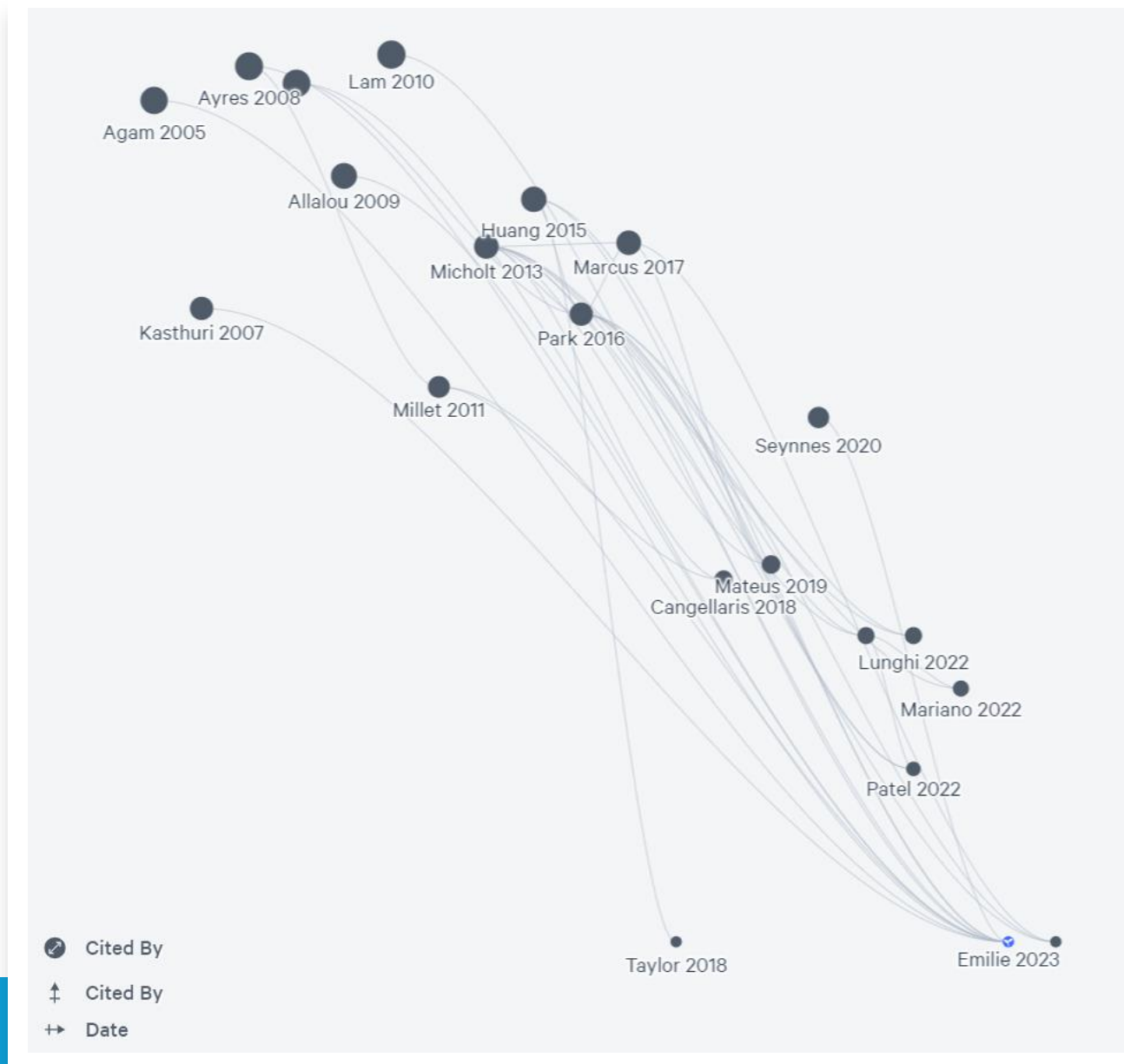
Summarization tools

[SCISPACE](#)

[SCITE](#)

[ELICIT](#)

























[Scholarcy](#)



Plagiarism tools

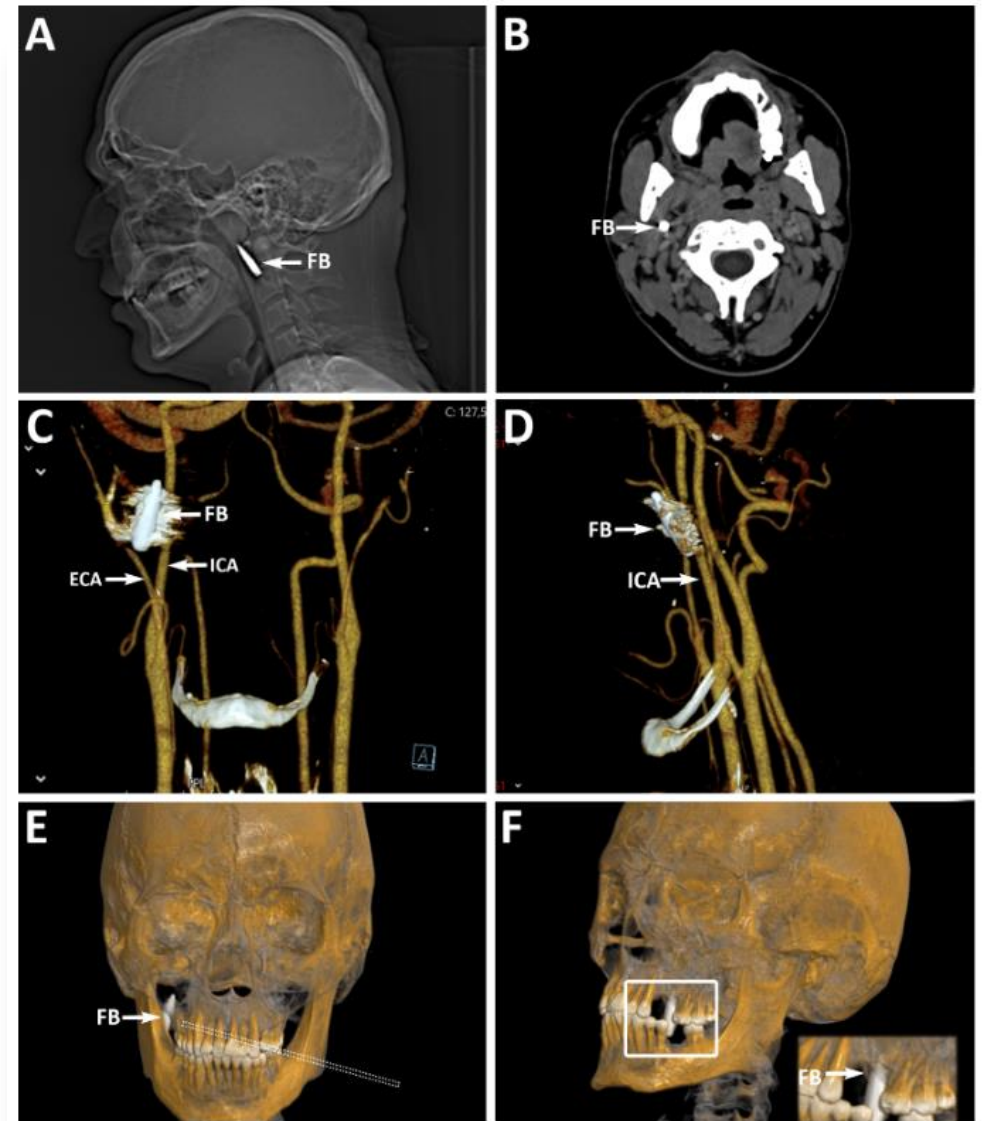
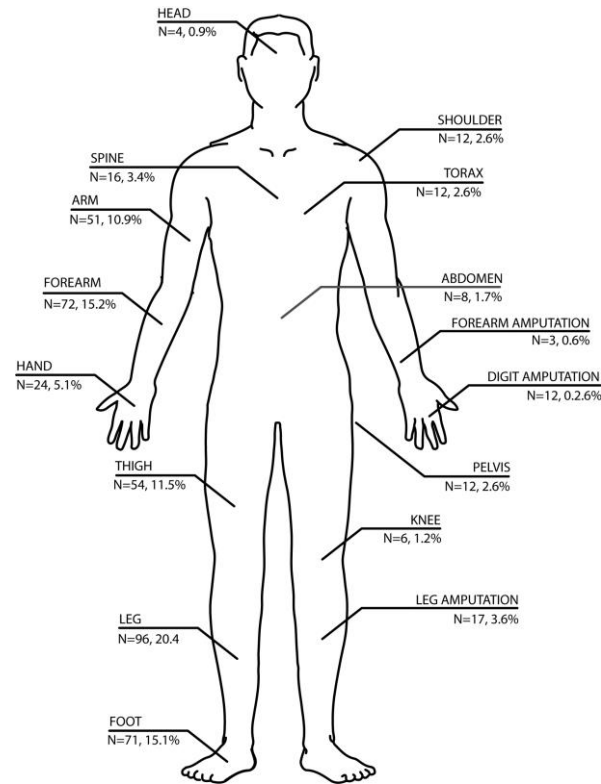
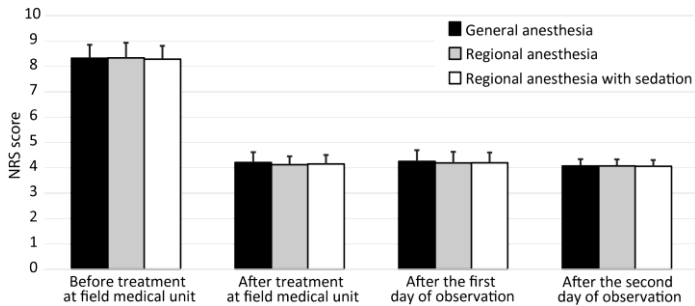
- Turnitin
- Plagscan
- PlagAI

Submit File

<input type="checkbox"/>	AUTHOR	TITLE	SIMILARITY
<input type="checkbox"/>	Dora Pejdo	Pejdo 2	12% 
<input type="checkbox"/>	Mia Jurisic	Jurisic 1	14% 
<input type="checkbox"/>	Irina Pandza	Pandza	16% 
<input type="checkbox"/>	Tea Radosevic	Radosevic 3	17% 
<input type="checkbox"/>	Petar Kaliterna	Kaliterna 2	18% 
<input type="checkbox"/>	Mia Jurisic	Jurisic 2	22% 
<input type="checkbox"/>	Jure Krstulovic	Krstulovic 2	23% 
<input type="checkbox"/>	Dora Pejdo	Pejdo 1	24% 
<input type="checkbox"/>	Andrea Vuksa	Vuksa 3	28% 
<input type="checkbox"/>	Tea Radosevic	Radosevic 1	31% 
<input type="checkbox"/>	Petra Bajto	Bajto 1	32% 
<input type="checkbox"/>	Petra Bajto	Bajto 2	33% 
<input type="checkbox"/>	Jure Krstulovic	Krstulovic 1	33% 
<input type="checkbox"/>	Luka Markulin	Markulin	33% 
<input type="checkbox"/>	Ante Tavra	Tavra 1	33% 
<input type="checkbox"/>	Meri Mirceta	Mirceta 2	34% 
<input type="checkbox"/>	Petar Kaliterna	Kaliterna 1	35% 
<input type="checkbox"/>	Vedrana Koroman Drop...	Koroman	35% 
<input type="checkbox"/>	Andrea Vuksa	Vuksa 4	35% 
<input type="checkbox"/>	Terezija Gložinić	Glozinic	37% 
<input type="checkbox"/>	Meri Mirceta	Mirceta 1	39% 
<input type="checkbox"/>	Andrea Vuksa	Vuksa 2	39% 
<input type="checkbox"/>	Zrinka Hrgović	Hrgovic 1	40% 
<input type="checkbox"/>	Tea Radosevic	Radosevic 2	40% 
<input type="checkbox"/>	Jelena Popovic Sukan	Popovic Sukan 1	41% 

Excel / Adobe

Patterns of anatomical injury in wounded Ukrainian soldiers from Anti-Terrorist Operation/Operation Joint Forces: a retrospective study



Ballistic injury to the neck in a soldier injured in the war in Ukraine: a case report

Figure & presentation tools

Adobe Photoshop

Adobe Illustrator

[Biorender](#)

[CANVA](#)

[GRAPHMAKER](#)

Presentation tools

PowerPoint

[Prezi](#)

Tools for statistics

- Excel
- [SPSS](#)
- [R](#)
- [Jamovi](#)

Statistical checking

[StatReview](#)

[StatCheck](#)

Topic vs Project approach

I am going to learn statistic

VS

I am going to compare two groups

SECOND BRAIN

Why do we need it?

Information overload!!!
Approximately 30-40 GB a day
(170-180 newspapers in your inbox)

You are gathering new ideas from all the things we
acquire during the day

NEWS BLOG

Global scientific output doubles every nine years

[07 May 2014 | 16:46 GMT](#) | Posted by Richard Van Noorden | Category: Policy, Publishing

Myth: You will remember it!

Solution: Write things down – Commonplace book

Problem: You can't search, organize

Solutions: Digital commonplace book

Problems: What is a proper tool, app...?

CALENDAR

Google calendar, Outlook calendar,
FANTASTICAL, CRON

Today < > November 2023 Washington, D.C. ☀ To: 59

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Nov 20 + 25 pravna 10pm TRIBE uvod P	31	Nov 1 All Saints' Day, Croatia Ranka	2 Ponavljanje MED 11:25am Air Serbia flight 231 to Belgrade (ANTQHI); Pleso Airport (Ulica Rudolfa Fizira 1, 10150 Zagreb Zagreb, Croatia)	3 Beograd 120% CRs HNK LA STRAVAGANZA/ NOCES 9:30am Air Serbia flight 230 to Zagreb (A... 9:30am Flight to Zagreb (JU 230); Belgrad... 12:05pm Flight to Split (OU 658); Zagreb ... 3:00pm Suceļļavanje WYG	4
7 IBE 10:00am Zvone 10:00pm A1 serviser 10pm TRIBE; https://us02web.zoom.us/j/89703096603?pwd=ZWlkc20yRkZlSjQmUTJlUjUsczQ0UT09;imir.Sapunar	7 Rodendan Liana 10:30am Suceļļavanje 10:30am FW: MZO Suoļļavanje struĳnjaka; Microsoft Teams Meeting; Perković, Ivona 3:30pm TRIBE Juras	8 TRIBE 8:00am Damir Sapunar's Zoom Meeting; https://us02web.zoom.us/j/87075200048?pwd=SVd0PTg1ak10VmlhNSlmlGMmR0a2h3ZDZ0;Damir.Sapunar 3:30pm TRIBE; https://us02web.zoom.us/j/86363625700?pwd=SFj0L0VwVVVGRThURUJlUjU5NmhmZmN...	9 Perkovic za Brac Rasprava ostavina Ante Submit paper	10	11 Brac berba Pretprijava HNK Ujara
14 ISPIT MED % CRs	15 ANKETA IBZ	16 Livia nastava	17 10:30am Matko	18 Troskovi? kartica 2:00pm Obrana, disertacije_A_Miljkovic, mag. mol. biol./BIO4; Microsoft Teams Meeting; Julija Puić	
21 pravna Kovic	22 Livia nastava 1:30pm Lucija	23 3:30pm TRIBE Photoshop; https://us02web.zoom.us/j/81769680363?pwd=L1E2qRUVXtzeVhuNjRBdW0zZHE1Q0T0;Damir.Sapunar	24 100% CRs 11:00am Reakreditacija B104	25 Obnova ugovora za sef Thanksgiving	
28 10am Anketa 5 godina 10:00am Anketa 1 god	29 Skokic	30 8:00am FARMACIJA PRED 9:30am Rasprava Sandi Mršić	31 1:00pm Vijeće 1:30pm Rossini obrana	Dec 1 Certolovni rok HM birth Javiti se Tandari Luka rođendan 10:30am Anketa 1 god	2

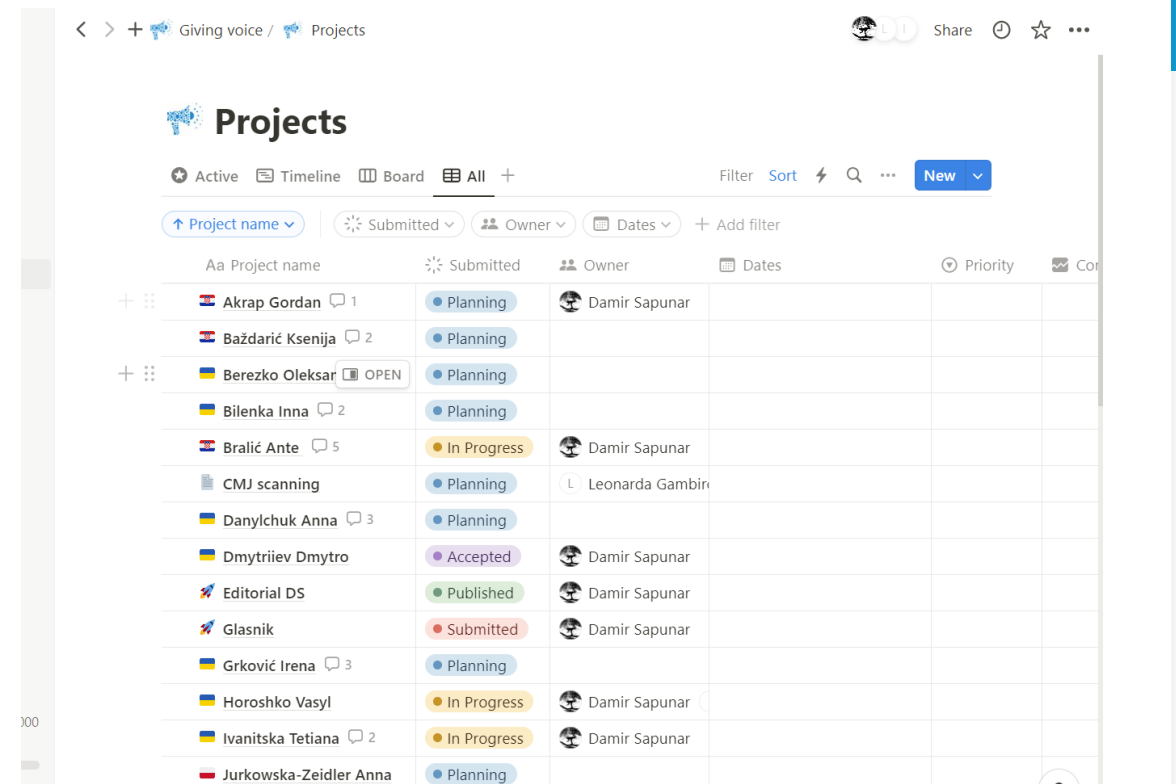


OTHER TOOLS

- OneNote
- Obsidian
- EverNote
- Apple notes

PROJECT MANAGEMENT SYSTEM

- NOTION
- TRELLO
- Obsidian
- TODOIST



AI tools

Chat GTP

Perplexity

Copilot

Phind

... list is growing every day



Artificial Intelligence - Use of Large Language Models and generative AI tools

How LLMs (e.g. ChatGPT) and generative AI tools can help authors in preparing their articles for submission:

- generating the initial ideas for a structure
- summarizing, paraphrasing, language polishing etc.

Limitations:

- Unable to replicate human creative and critical thinking.
 - Human intervention with these tools is essential.
 - Objectivity and contextual understanding
 - Accuracy - LLMs can 'hallucinate' i.e. generate false content
 - Training data: LLMs require a large amount of high-quality training data to achieve optimal performance.
-

Artificial Intelligence - Use of Large Language Models and generative AI tools

Authors are required to:

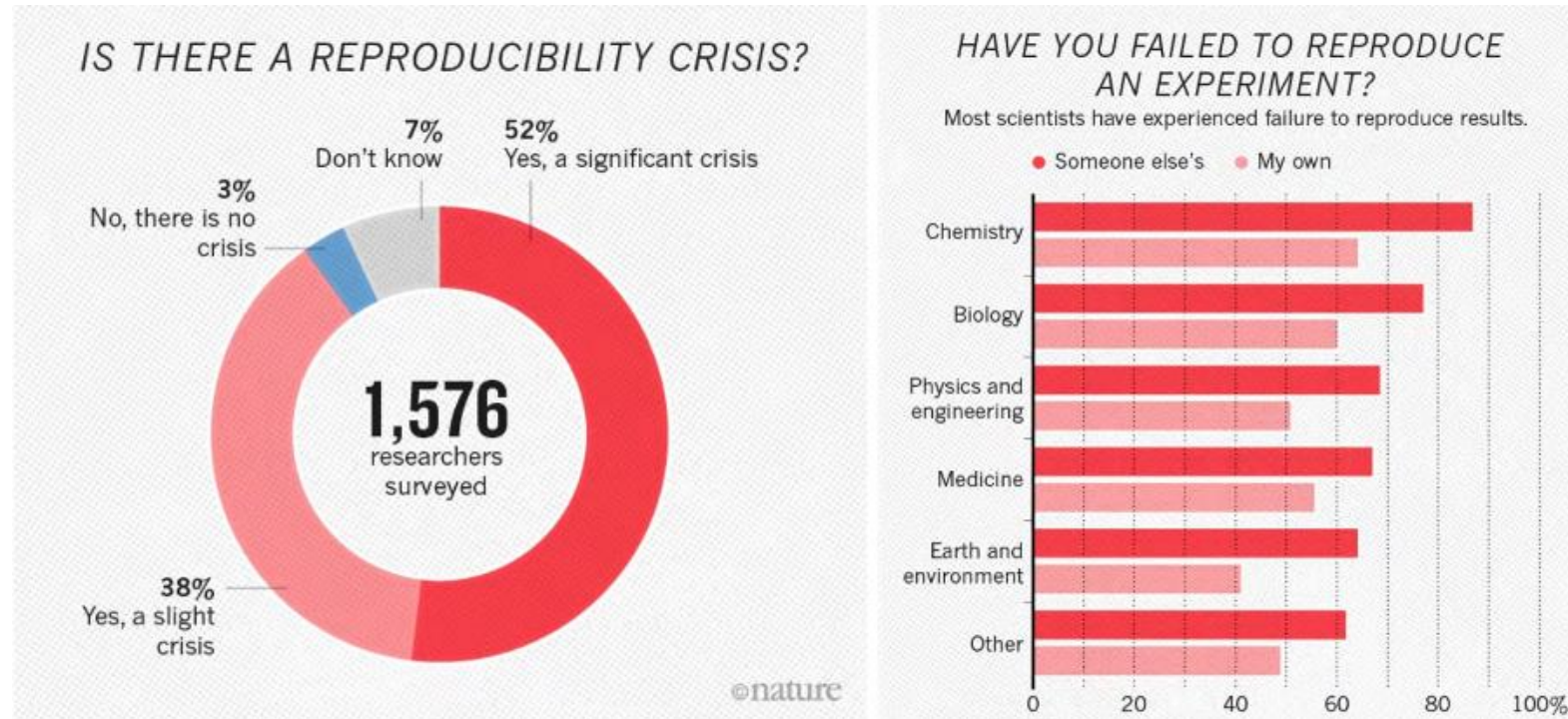
- Indicate the use of LLMs in the manuscript in acknowledgment (which model, what purpose).
- Verify the accuracy, validity, and appropriateness of the content and any citations generated by LLM.
- Double-check citations to ensure they are accurate and are properly referenced
- Be conscious of the potential for plagiarism by LLMs.
- Do not use images or data generated by AI tools.
- Acknowledge the limitations of LLMs, including the potential for bias, errors, and gaps in knowledge.
- Please note that AI bots such as ChatGPT should not be listed as authors on your submission.



OPEN SCIENCE

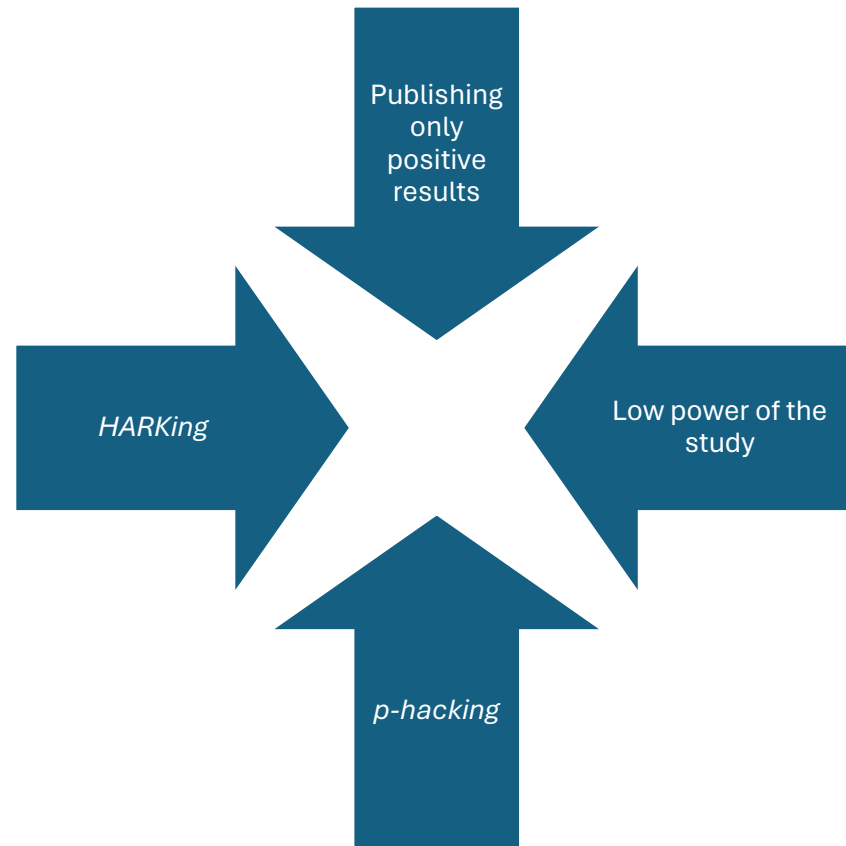
Fight for better science

Reproducibility crisis



“More than 70% of researchers have tried and failed to reproduce another scientist's experiments, and more than half have failed to reproduce their own experiments .”

Main factors of the reproducibility crisis



nature

S

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About the journal ▾

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[nature](#) > [world view](#) > article

WORLD VIEW | 24 April 2019

Rein in the four horsemen of irreproducibility

Publishing only positive results

Skewed View of Reality

Replicability Issues

Wasted Resources

Hindrance to Progress

Bias in Meta-Analyses and Reviews

Ethical Concerns

Low power of the study

[PLoS Med.](#) 2005 Aug; 2(8): e124.

Published online 2005 Aug 30. doi: [10.1371/journal.pmed.0020124](https://doi.org/10.1371/journal.pmed.0020124)

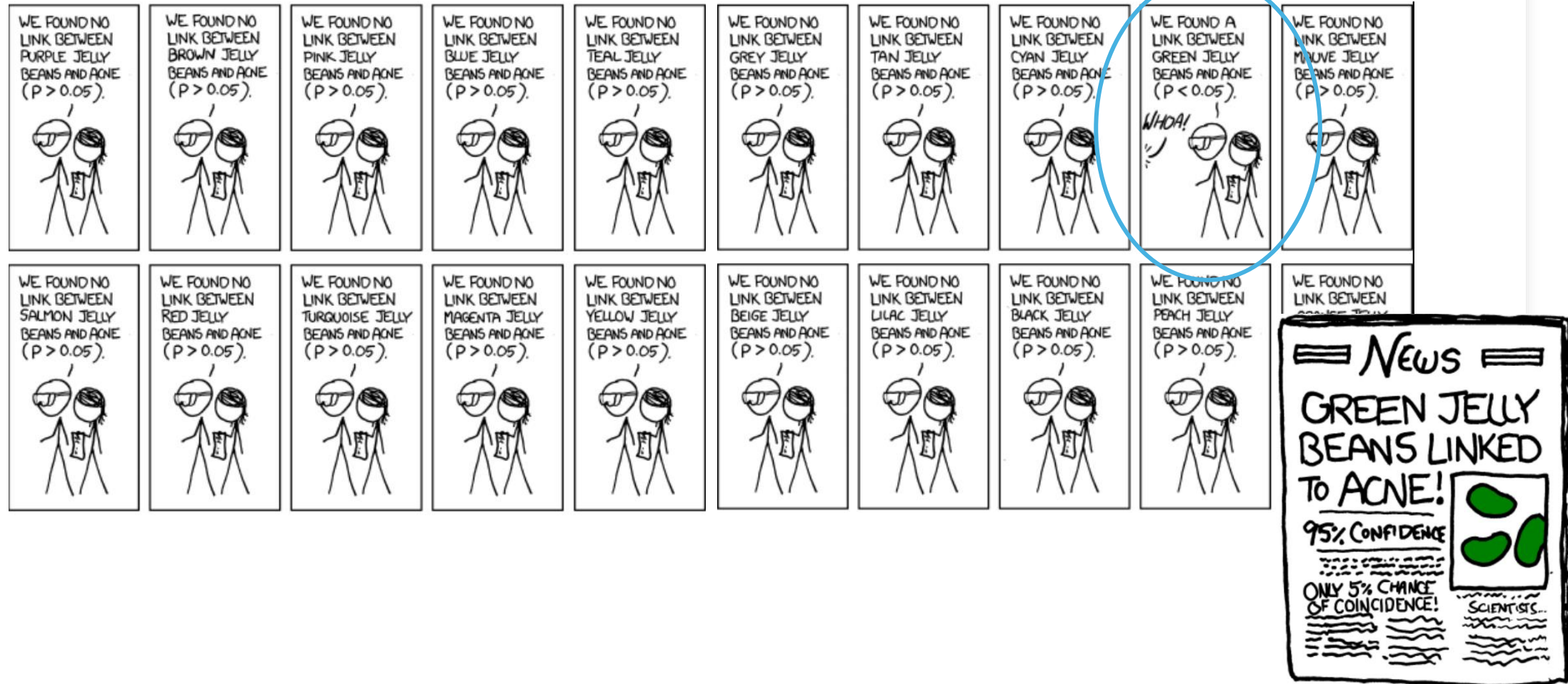
Why Most Published Research Findings Are False

[John P. A. Ioannidis](#)

**John Ioannidis: Why most published research findings
don't need to be false**

<https://www.youtube.com/watch?v=iHNySjbSQhM>

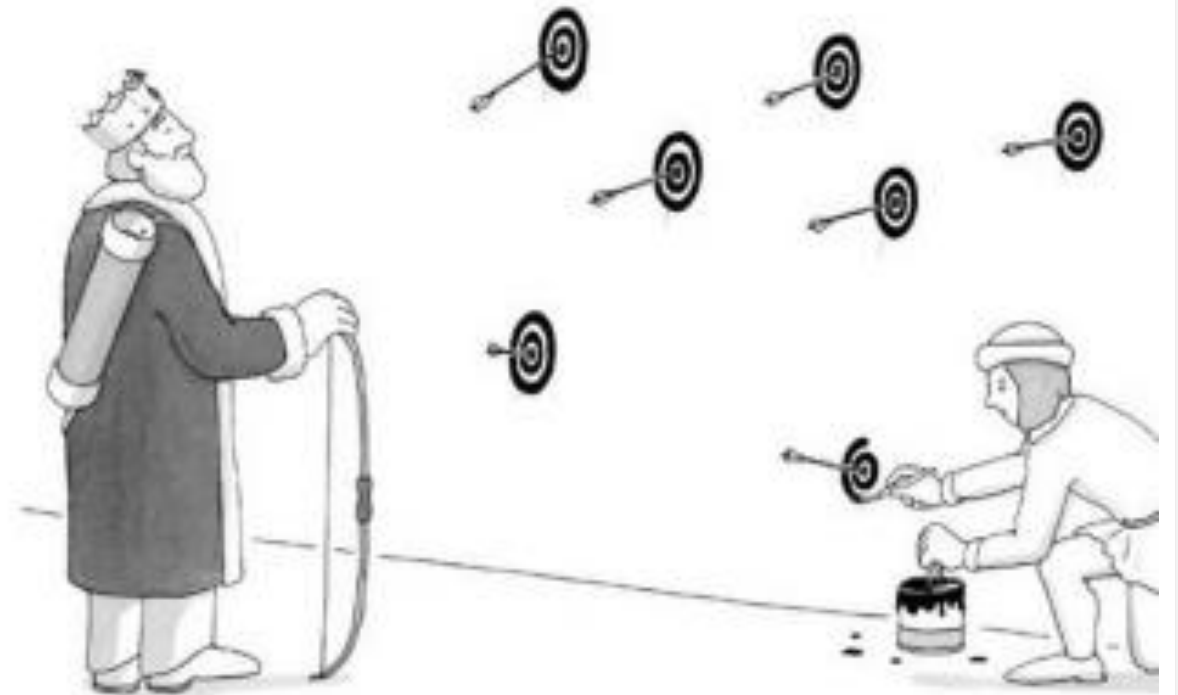
P - hacking



HARKing

Hypothesizing After the Results are Known

Post-hoc hypothesis



Open Science

Open Science (OS) is **the movement to make scientific research, data, and their dissemination available to any member of an inquiring society, from professionals to citizens.**

Benefits of Open Science



Open Science is now a requirement



English

Search

Research and innovation

European Commission > Research and innovation > Strategy on research and innovation > Strategy 2020-2024 > Our digital future > Open Science

Open Science

An approach to the scientific process that focuses on spreading knowledge as soon as it is available using digital and collaborative technology. Expert groups, publications, news and events.

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[Future of open science under Horizon Europe](#)

[Tracking open research trends - Open Science Monitor](#)

[Documents](#)

[Latest](#)

[Events](#)

The EU's open science policy

Open science is a policy priority for the European Commission and the standard method of working under its research and innovation funding programmes as it improves the quality, efficiency and responsiveness of research.

When researchers share knowledge and data as early as possible in the research process with all relevant actors it helps diffuse the latest knowledge.

And when partners from across academia, industry, public authorities and citizen groups are invited to participate in the research and innovation process, creativity and trust in science increases.

That is why the Commission requires beneficiaries of research and innovation funding to make their publications available in open access and make their data as open as possible and as closed as necessary. It recognises and rewards the participation of citizens and end users.

Furthermore, the [European Open Science Cloud](#) will enable researchers across disciplines and countries to store, curate and share data.

CAREERS COMMENTARY JOURNALS

COVID-19

Science

News Home All News ScienceInsider News Features

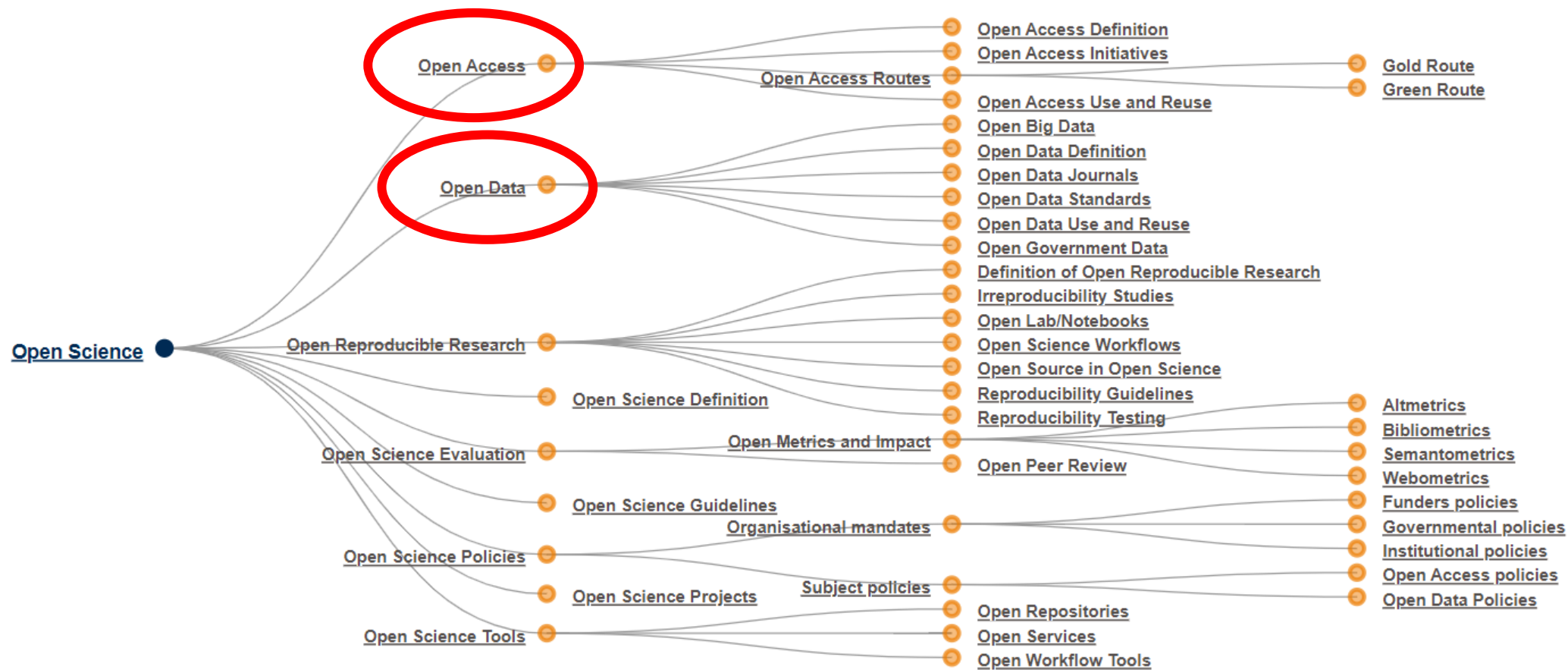
HOME > NEWS > SCIENCEINSIDER > WHITE HOUSE REQUIRES IMMEDIATE PUBLIC ACCESS TO ALL U.S.-FUNDED RESEARCH PAPERS BY 2025

SCIENCEINSIDER | POLICY

White House requires immediate public access to all U.S.-funded research papers by 2025

Policy is a blow to journal paywalls, but its impact on publishing is unclear

26 AUG 2022 • 2:20 PM • BY JEFFREY BRAINARD, JOCELYN KAISER



Open access was intended to solve three problems: ***accessibility***, ***affordability***, and ***equity*** (Budapest Open Access Initiative).

Unfortunately, the movement failed

- The publishers co-opted OA for their own purposes (infamous article processing charge - APC).
- Pay-to-publish OA is now the dominant form of open access.
- It increased the cost of scholarly publishing and worsened the *affordability* problem.

There are two main models, or 'routes', to Open Access: the Gold route and the Green route.

Gold Open Access

Author, institution, or research funder pays an Open Access Fee (Article Processing Charge - APC) and the publisher makes the published version free to read.

In such publications, articles are licensed for sharing and reuse via Creative Commons licenses or similar.

Publishers regard Gold as the most desirable model (sic!)

Green Open Access

The reader pays to read the publisher's 'version of record', but there is also a manuscript (where the text is very similar to the published version but has not been typeset by the publishers) that is free to read and is available from a platform like an institutional repository (after embargo period).

Multiple versions of manuscripts available can make the finding of an accessible version of a text even more complex than it already is.

Other models of Open Access

Bronze Open Access

No Open Access Fee is paid but the publisher chooses to make a publication freely available to read. Availability of the publication relies upon the goodwill of the publisher. No Creative Commons license.

Platinum/Diamond Open Access

Authors, institutions, or funders do not pay an Open Access Fee and the reader does not pay to read. In effect, this is a 'publisher-pays' model and is usually offered by university presses where the costs of publication are subsumed within existing budgets and regarded as part of the mission of a university.

-

Sherpa Romeo

[About](#)[Search](#)[TJ List](#)[Statistics](#)[Help](#)[Support Us](#)[Contact](#)[Admin](#)

Welcome to Sherpa Romeo

Sherpa Romeo is an online resource that aggregates and analyses publisher open access policies from around the world and provides summaries of publisher copyright and open access archiving policies on a journal-by-journal basis.

Enter a journal title or issn, or a publisher name below:

Journal Title or ISSN

Search

Publisher Name

Search



Data management



What is research data?

- raw (initially collected)
 - cleaned (prepared for analysis)
 - processed (data that are the result of the analysis)
 - presentation (data version adapted to the presentation).
-
- Data vs Information

-
- Data management is a business process that includes planning, acquiring, validating, organizing, storing, protecting, processing, and sharing of data required to produce valuable information.



What is FAIR DATA?



Data and supplementary materials have sufficiently rich metadata and a unique and persistent identifier.

FINDABLE



Metadata and data are understandable to humans and machines. Data is deposited in a trusted repository.

ACCESSIBLE



Metadata use a formal, accessible, shared, and broadly applicable language for knowledge representation.

INTEROPERABLE



Data and collections have a clear usage licenses and provide accurate information on provenance.

REUSABLE

Hierarchical folder organization and naming of data files

USE ISO 8601 standard:

Date	2021-03-09
Date and time in UTC	2021-03-09T09:24:40+00:00 2021-03-09T09:24:40Z 20210309T092440Z
Week	2021-W10
Week with weekday	2021-W10-2
Date without year	--03-09 ^[1]
Ordinal date	2021-068

ORGANISING

Where is your data?










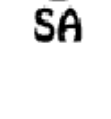






STORING

Keep your data in one place
and
perform regular backups

COPYRIGHT

- Creative Commons is a global nonprofit organization that enables sharing and reuse of creativity and knowledge through the provision of free legal tools.

LICENSES	TERMS
	 Attribution Others can copy, distribute, display, perform and remix your work if they credit your name as requested by you
	 BY
	 No Derivative Works Others can only copy, distribute, display or perform verbatim copies of your work
	 Share Alike Others can distribute your work only under a license identical to the one you have chosen for your work
	 SA
	 Non-Commercial Others can copy, distribute, display, perform or remix your work but for non-commercial purposes only.
	 NC

PRIVACY

- Exceptions:
- Ethical and legal restrictions
- Patent rights or proprietary data
- Protection of subjects or materials
- Conflict with regulatory agency
- All should be stated in **Data Availability Statement**

SECURITY

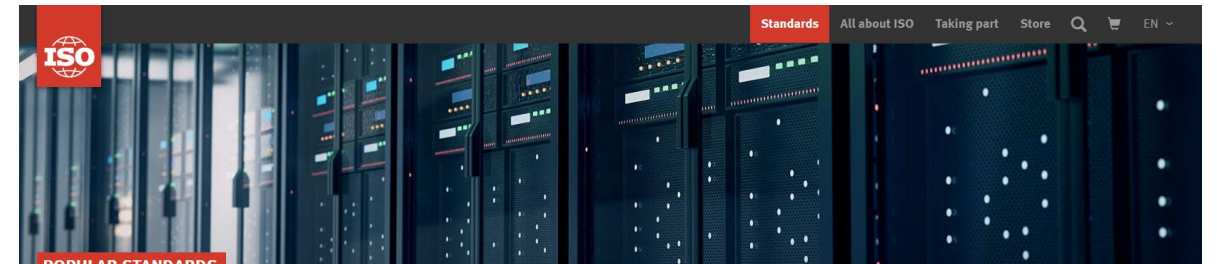
The ISO/IEC 27000 family of standards helps organizations keep information assets secure.

Purpose of ISO 27001

- Confidentiality (who can access)
- Integrity (who can edit)
- Availability

How to protect information

Procedure; Password; Encryption; Legal (statement); Training & Awareness



POPULAR STANDARDS

ISO/IEC 27001 INFORMATION SECURITY MANAGEMENT

[nature](#) > [news](#) > article

NEWS | 21 June 2022

Many researchers say they'll share data – but don't

Reasons included a lack of informed consent or ethics approval to share; misplaced data; and that others had moved on from the project.

Types of Data Repositories

- Project specific
(usually large single faculty/faculty team projects)
- Discipline specific
(i.e. Academic Specialization, Purdue Nanohub, Engineering etc.)
- Institutional or National Repository
(either institution-wide or consortial)
- Journal repository

Types of Data Repositories

A Data Object is defined: An **Identifiable Data Item with Data elements + Metadata + PI**

- **Metadata content and format**
- **Metadata standards** ([XML](#))
- A **persistent identifier** (PI) is a long-lasting reference to a document, file, web page, or other object.
- The term "persistent identifier" is usually used in the context of digital objects that are **accessible** over the Internet. Typically, such an identifier is not only persistent but **actionable**.

What is Open Science Framework (OSF)?

Preregistration involves documenting the planned hypotheses, research design, and analysis strategies before beginning the research itself.

Benefits:

Time-Sealed Documentation

Transparency and Accountability

Unique DOI Identifier

Protection of Originality

Combatting HARKing and p-hacking



How OSF supports Open Science?



Research plan



Protocols



Storing & sharing



Distributing preprints

What is Open Science Framework (OSF)?

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Preprint vs Postprint

Key Differences and Considerations

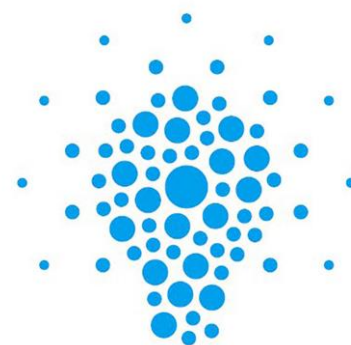
Peer Review: The most critical difference is that preprints have not been peer-reviewed, whereas postprints have undergone peer review.

Access and Dissemination: Preprints are freely accessible from the moment of their initial posting, which can lead to quicker dissemination and feedback. Postprints, depending on the journal's policies, may also be shared publicly after publication, but there might be restrictions or embargo periods.

A version of Record: Neither preprints nor postprints are the versions of record; the version of the record is the final published article as it appears in the journal, complete with formatting and possibly corrections or errata.



SVEUČILIŠTE U SPLITU
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TRIBE
PHD PROGRAM
TRANSLATIONAL
RESEARCH
IN BIOMEDICINE



50 years of
University
of Split

GIVING
VOICE

