Open Science / Open Access / Open Source

UMONS
Université de Mons

UMONS Université de Mons
DIRECTION
AVRE
Administration et Valorisation de la Recherche

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Outline

- Scope of this training
- What is Open Science
- Open Access
- Open Peer Review
- Open Data
- Open Source
- Q&A

Scope of this training

- Make you familiar with the concepts of Open Science.
- Provide you some tips and tricks for your scientific contributions.
- Provide you resources to help you gain visibility.

What is Open Science ?

What is “Open Science”?

- **Many definitions**:
  - "*Open science is a set of principles and practices that aim to **make scientific research** from all fields **accessible to everyone***" – UNESCO
  - “*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.*” ORION Open Science
  - “*Open Science is a movement that aims to **make scientific research more transparent**, **collaborative** and **accessible to all**.*” ULiège Library

Take-home message:
Approach to make research/data/science accessible to ***ANYONE***

What is “Open Science”?

https://open-access.network/en/information/open-access-primers/what-does-open-access-mean#c8619

What is “Open Science”?

Open Science is driven by several **core principles:**

- **Scientific progress:** accelerate scientific research.
- **Transparency, integrity:** share methods, data, errors to strengthen reliability.
- **Collaboration:** expand the pool of expertise and bring diverse perspectives to scientific problems.
- **Access to knowledge:** ensure that progress is not locked behind paywalls (in contradiction with the rise of subscription fees, see later).

Benefits of Open Science

For everyone:

- Making science and its progress accessible.
- Making scientific publications more ethical by making the research process more transparent.
- Fair return to the society that indirectly funds researchers (public goods).

For you:

- Better dissemination of your scientific productions, increase the impact of your research.
- Higher chance of reproducibility and hence a higher trust in your research outputs.
- Better efficiency by avoiding to reinvent the wheel.

https://www.yearofopen.org/what-is-open-access/

Benefits of Open Science

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These benefits align with the ***FAIR principles***.

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FAIR Principles

The FAIR principles are a set of instructions formulated to **maximize the (re)use of data** and other digital objects such as code and software.

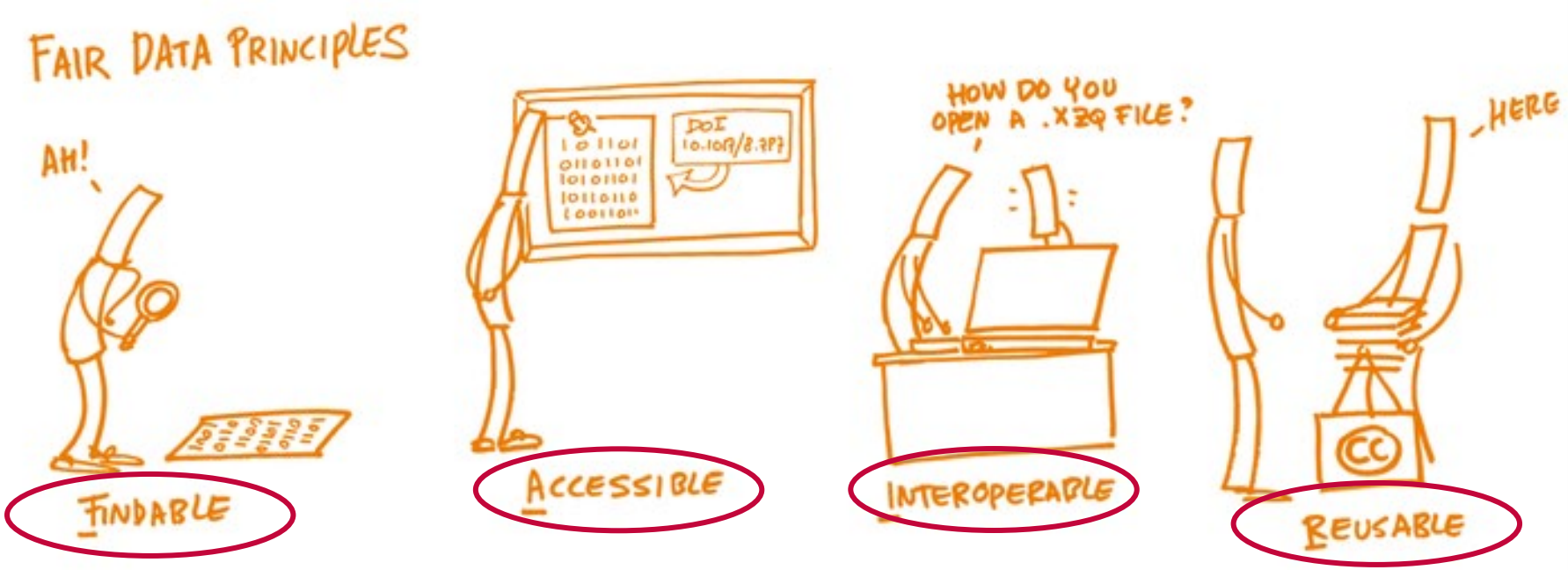

Image by Patrick Hochstenbach, CC0 1.0
The FAIR principles - Research Data Management Support - Utrecht University

FAIR principles

Findable: your data can be discovered by others.

👉 **Where to find data ❓**

- Online, in data repositories!
  - Zenodo: general purpose repository.
  - SODHA: the federal Belgian data archive for social sciences and the digital humanities.
  - And many more: re3data.
- Unique and persistent identifier (ex: a DOI) to be found and be cited.
- Content harvested by multiple platforms: increase of visibility and impact.
- ***Meta***data associated to the data.

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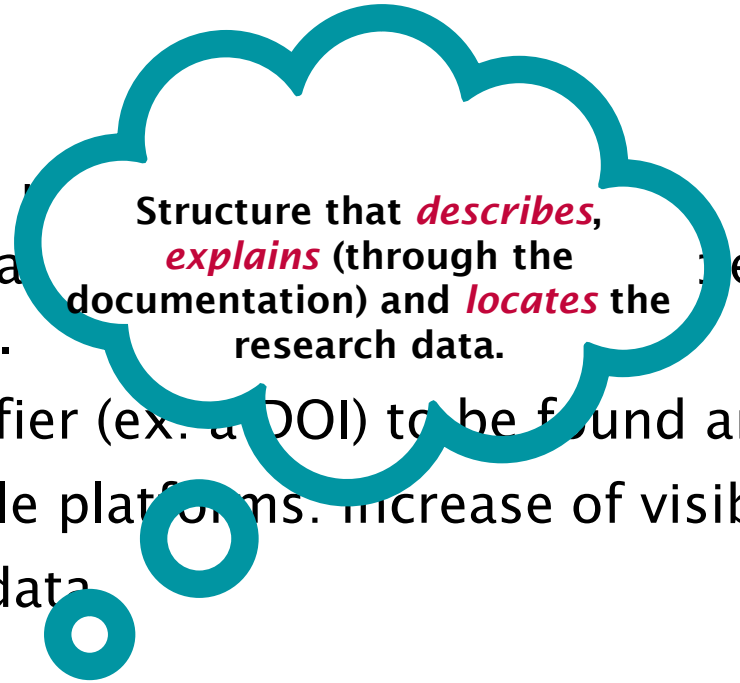

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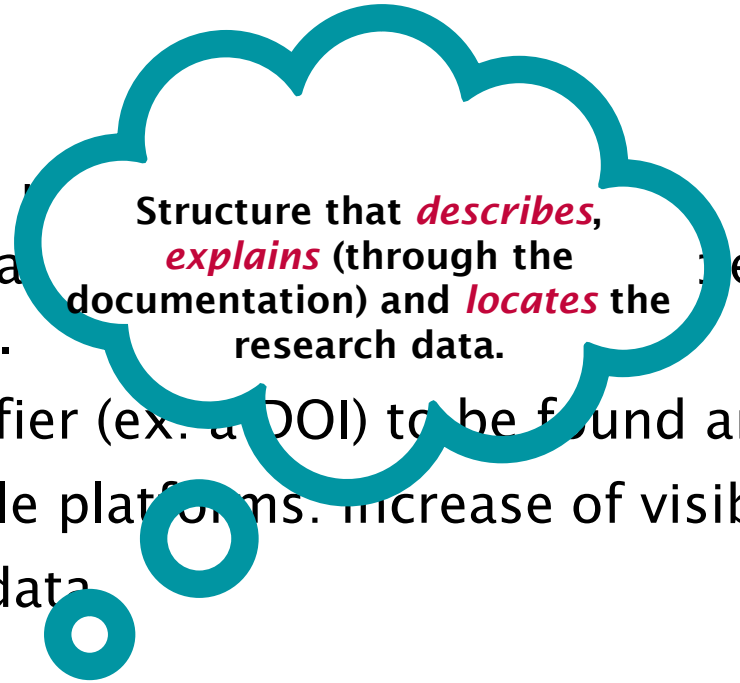

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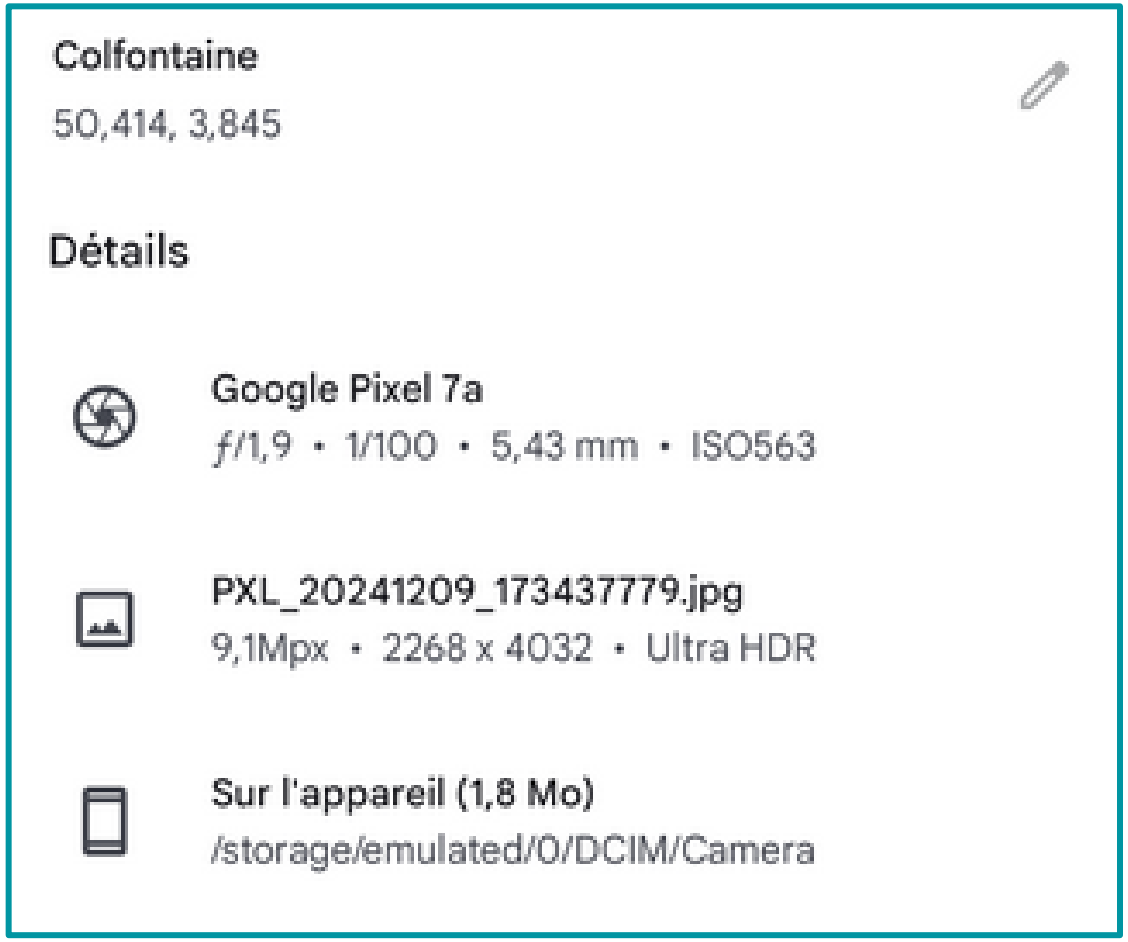
FAIR principles



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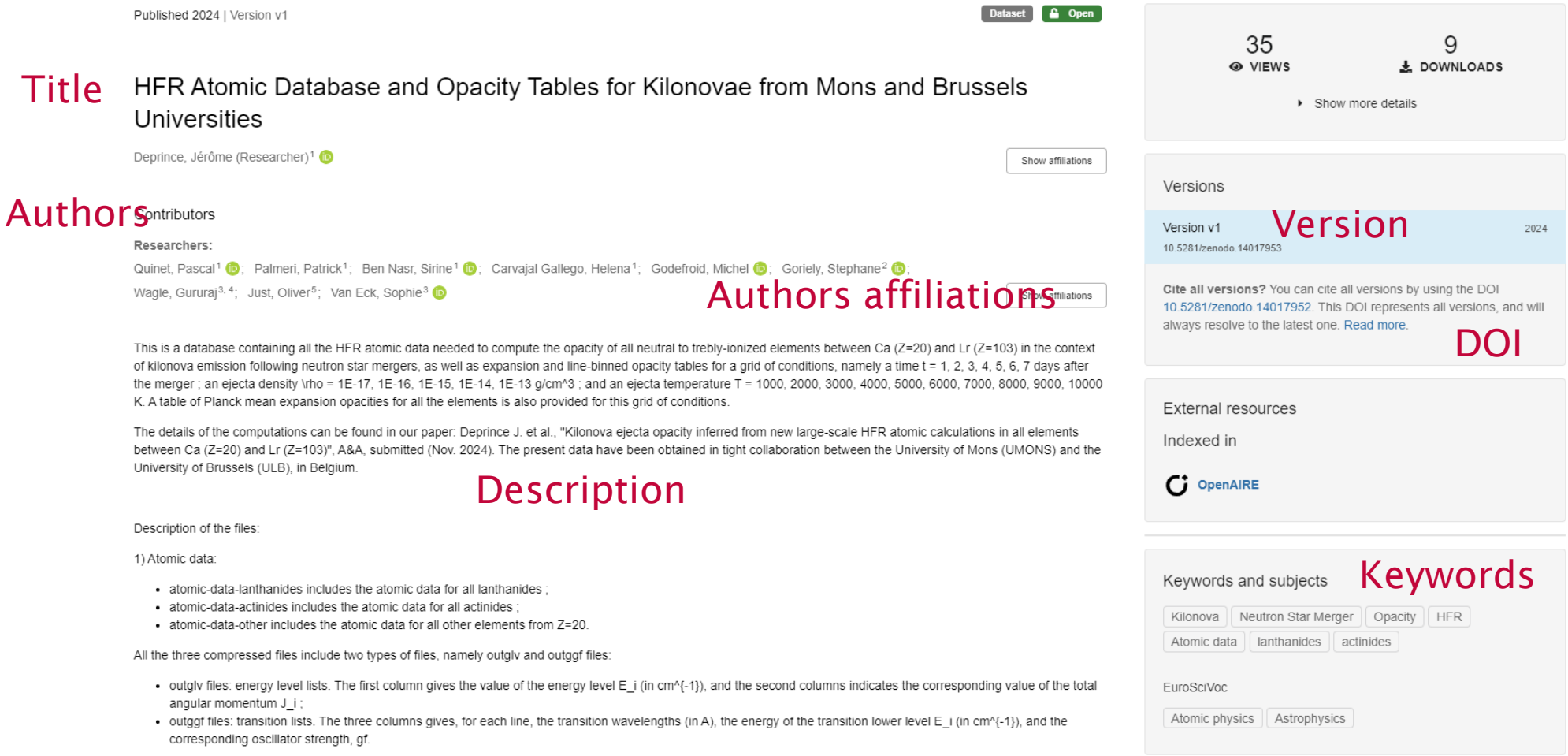

Published 2024 | Version v1

Dataset Open

Title

HFR Atomic Database and Opacity Tables for Kilonovae from Mons and Brussels Universities

Deprince, Jérôme (Researcher)[1]

Show affiliations

Authors

Contributors

Researchers:

Quinet, Pascal[1]; Palmeri, Patrick[1]; Ben Nasr, Sirine[1]; Carvajal Gallego, Helena[1]; Godefroid, Michel; Goriely, Stephane[2]; Wagle, Gururaj[3, 4]; Just, Oliver[5]; Van Eck, Sophie[3]

Show affiliations

Authors affiliations

This is a database containing all the HFR atomic data needed to compute the opacity of all neutral to trebly-ionized elements between Ca (Z=20) and Lr (Z=103) in the context of kilonova emission following neutron star mergers, as well as expansion and line-binned opacity tables for a grid of conditions, namely a time t = 1, 2, 3, 4, 5, 6, 7 days after the merger ; an ejecta density \rho = 1E-17, 1E-16, 1E-15, 1E-14, 1E-13 g/cm^3 ; and an ejecta temperature T = 1000, 2000, 3000, 4000, 5000, 6000, 7000, 8000, 9000, 10000 K. A table of Planck mean expansion opacities for all the elements is also provided for this grid of conditions.

The details of the computations can be found in our paper: Deprince J. et al., "Kilonova ejecta opacity inferred from new large-scale HFR atomic calculations in all elements between Ca (Z=20) and Lr (Z=103)", A&A, submitted (Nov. 2024). The present data have been obtained in tight collaboration between the University of Mons (UMONS) and the University of Brussels (ULB), in Belgium.

Description

Description of the files:

1) Atomic data:

- atomic-data-lanthanides includes the atomic data for all lanthanides ;
- atomic-data-actinides includes the atomic data for all actinides ;
- atomic-data-other includes the atomic data for all other elements from Z=20.

All the three compressed files include two types of files, namely outglv and outggf files:

- outglv files: energy level lists. The first column gives the value of the energy level E_i (in cm^{-1}), and the second columns indicates the corresponding value of the total angular momentum J_i ;
- outggf files: transition lists. The three columns gives, for each line, the transition wavelengths (in A), the energy of the transition lower level E_i (in cm^{-1}), and the corresponding oscillator strength, gf.

35 VIEWS

9 DOWNLOADS

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Versions

Version v1 2024

10.5281/zenodo.14017953

Version

Cite all versions? You can cite all versions by using the DOI 10.5281/zenodo.14017952. This DOI represents all versions, and will always resolve to the latest one. Read more.

DOI

External resources

Indexed in

OpenAIRE

Keywords and subjects

Keywords

Kilonova | Neutron Star Merger | Opacity | HFR | Atomic data | lanthanides | actinides

EuroSciVoc

Atomic physics | Astrophysics

The FAIR principles - Research Data Management Support - Utrecht University

FAIR principles

Accessible: your data can be made available to others.

Data can be accessed in a data repository.

- **A in FAIR means Accessible, not necessarily publicly available!**
- If necessary, authentication procedure can be set up to check whether access can be granted (sensitive/confidential data, commercial reasons, etc.).
- Metadata must be publicly available and they specify if and how the data can be accessed (open or with restrictions).
- Metadata should remain accessible**, even if the data are no longer available** (archive policy, etc.).

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FAIR principles

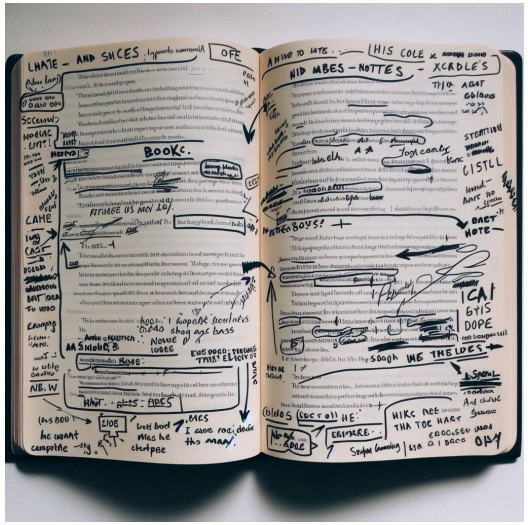
Interoperable: your data can be integrated seemlessly with different systems, datasets.

Humans and machines should be able to exchange and interpret each other's data.

- Use standards in (meta)data for dates, coordinates, etc.
- Use metadata standards machine-readable file formats (XML, JSON).
- If possible, save the data in a widely used file format compatible with different operating systems and softwares (.txt, .md, .pdf, .csv, etc.).

The FAIR principles - Research Data Management Support - Utrecht University

FAIR principles



Reusable: your data can be reused by others.

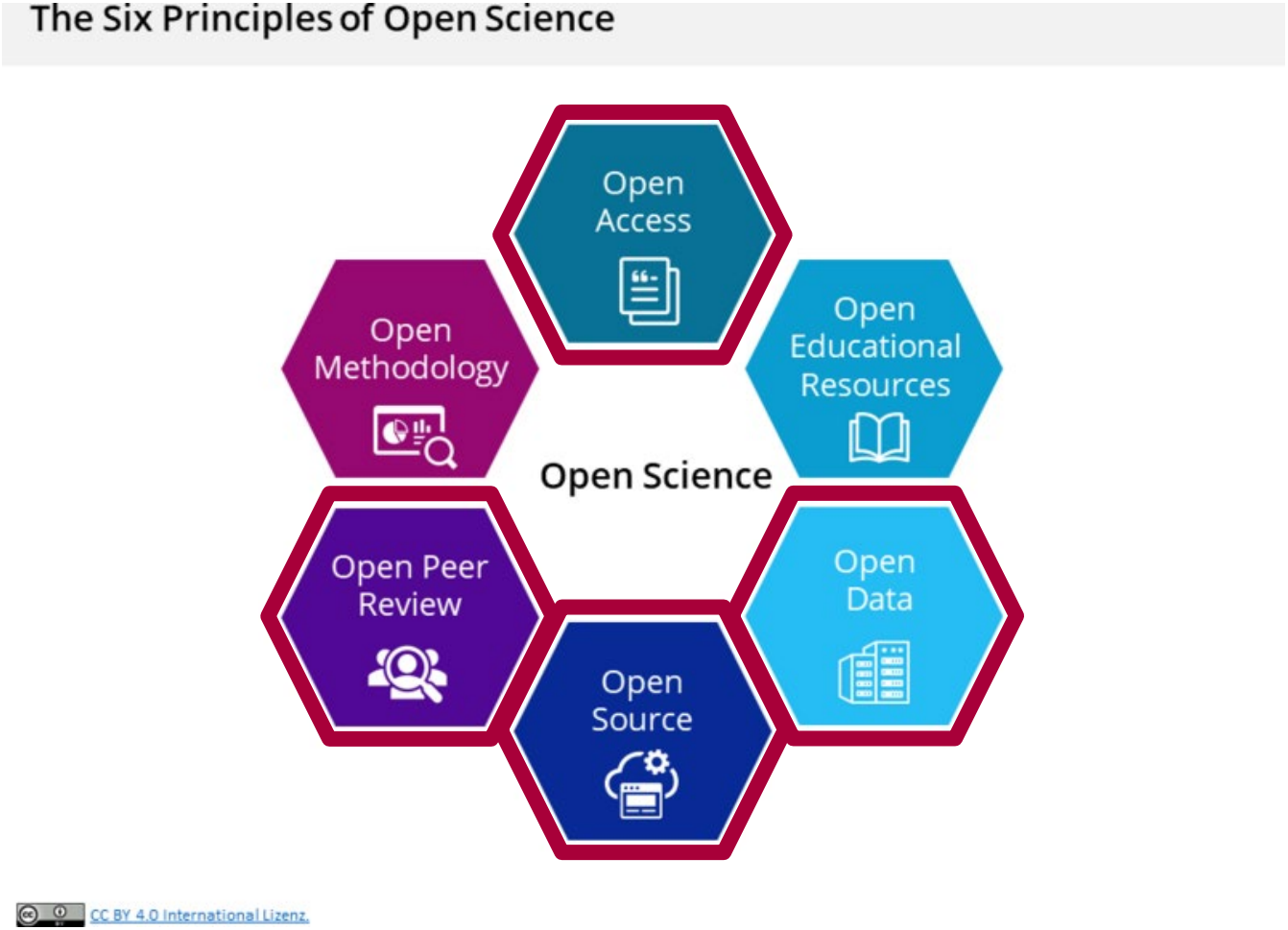
Your data should be accompanied by **thorough documentation** to enhance the reproducibility and a clear description about **who can use them and under which conditions**.

- A clear license describing the rights of use (ask your TTO/legal departement).
- Metadata should inform other researchers on how to cite, where the data came from, where to find the documentation on how the data were collected, analyzed, etc. (such as a README file).

TTO
= **T**echnology **T**ransfer **O**ffice
= AVRE

Image by Patrick Hochstenbach, CC0 1.0
The FAIR principles - Research Data Management Support - Utrecht University

Topics



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Open Access

Open Access

Scientific Publishing Models

- **Traditional paid mode**: researchers submit their work to journals that charge readers or institutions for access to articles on article-by-article basis or subscription.

- **Open Access**: researchers/universities submit their work **and may pay** so that ***ANY*** readers can freely access the article.

- **Hybrid**: same as the traditional paid mode, with extra fee for publishing in open access (***is it really removing the paywalls?***).

Open Access

Different roads to <u>publish</u> in Open Access: Diamond, Gold

Gold Open Access

Gold Open Access is the most prevalent way of publishing in open access.

You submit a paper to a journal, it gets peer-reviewed and if it gets accepted, you **pay** fees called **Article Processing Charges (APC)** to make it openly available for free to others.

The fees are typically between 1.000 and 10.000 € !!! Fees keep rising…

https://www.scienceeurope.org/our-priorities/open-access/diamond-open-access/
https://www.unige.ch/biblio/en/openaccess/understand/roads/
https://lib.uliege.be/fr/news/les-apc-payes-par-les-chercheurs-uliege-ont-encore-fortement-augmente-en-2023

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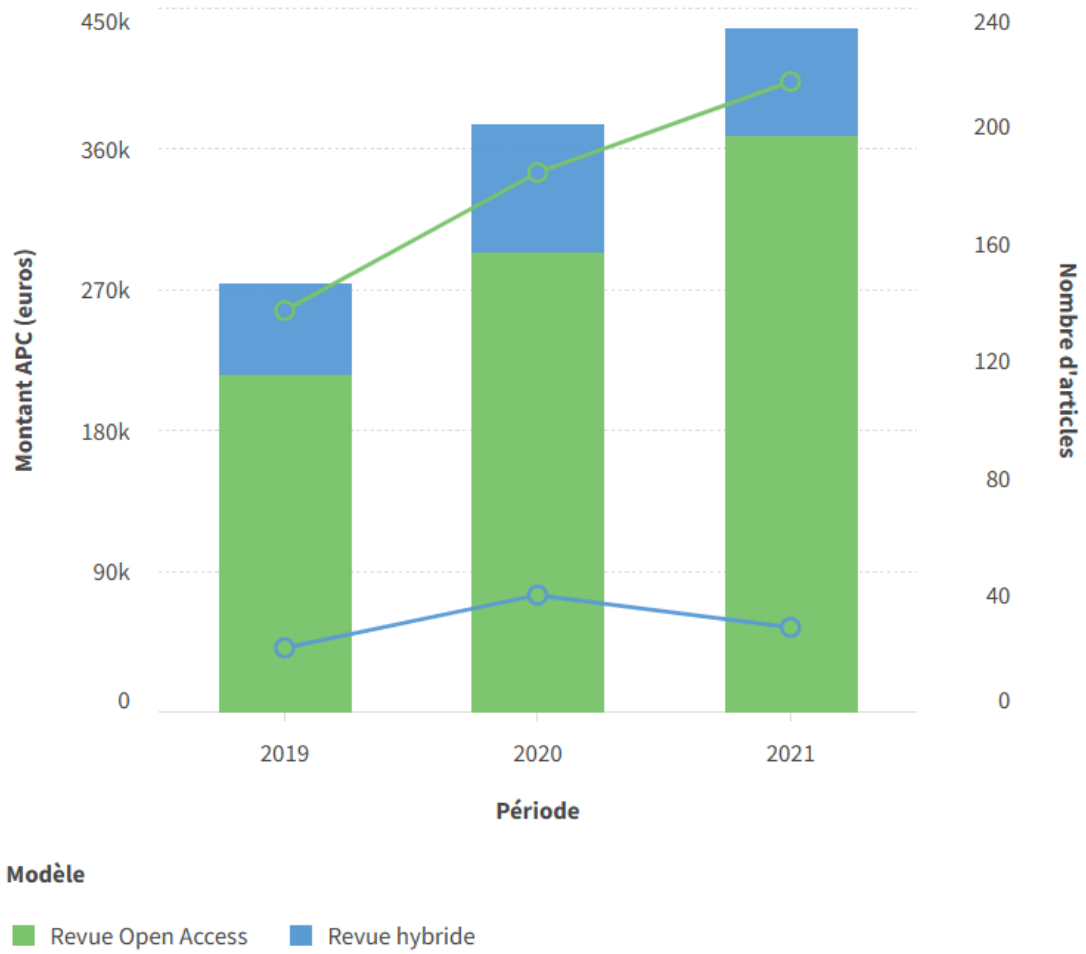

Open APC | ULiège Library

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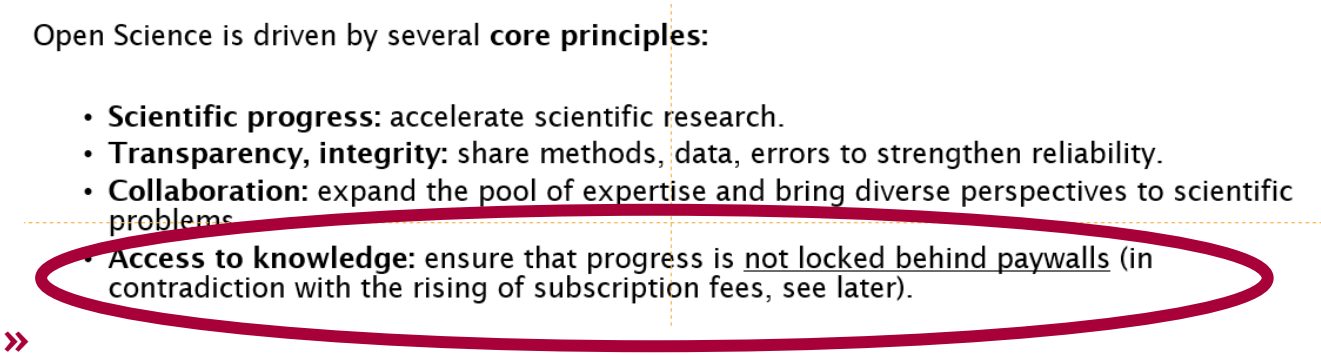
Hybrid journals earn even more than before: subscription + open access fees…

Not really respecting the OS principles…

« unfair gold open access »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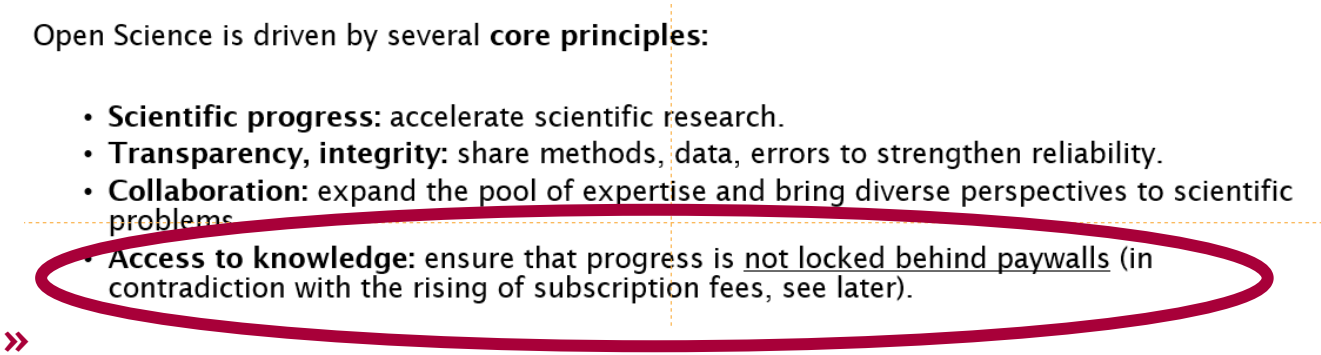

Webinar (in French) about open access and APCs on February 18th, from 12 to 14

https://www.scienceeurope.org/our-priorities/open-access/diamond-open-access/
https://www.unige.ch/biblio/en/openaccess/understand/roads/
https://lib.uliege.be/fr/news/les-apc-payes-par-les-chercheurs-uliege-ont-encore-fortement-augmente-en-2023

Gold Open Access

It does not mean Gold Open Access is a bad practice.

« All work deserves to be rewarded »

It means publishers of such Gold Open Access journals are **not really ethical**.

They make a **huge profit** on the back of researchers.

Researchers are pushed to publish as much as possible (« ***publish or perish*** ») and open access is more and more an important evaluation criterion as well.

https://www.scienceeurope.org/our-priorities/open-access/diamond-open-access/
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Gold Open Access

Note : *predatory journals*

Shady pseudo-journals/editors of poor quality that only want to generate money (no real peer-review process, fake committees, etc.).

Tool to check if the journal you envisage is legit or not: Compass to Publish

More info on:

- https://scienceouverte.univ-rennes1.fr/les-revues-predatrices
- List of "predatory" journals: Beall's List – of Potential Predatory Journals and Publishers (beallslist.net)
- Checklist (B. Pochet, ULiège): http://infolit.be/wordpress/ressources/identifier-une-pseudo-revue

The situation is getting better thanks to global awareness so spread the word!

https://www.scienceeurope.org/our-priorities/open-access/diamond-open-access/
https://lib.uliege.be/fr/news/les-apc-payes-par-les-chercheurs-uliege-ont-encore-fortement-augmente-en-2023
https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0224541

Diamond Open Access

There are **no APCs**, their quality is as good as traditional journals.

Such journals are generally funded by institutions, volunteer workers, etc.
It means if the funding ends, the journal ends too…

But fairer and more ethical option!

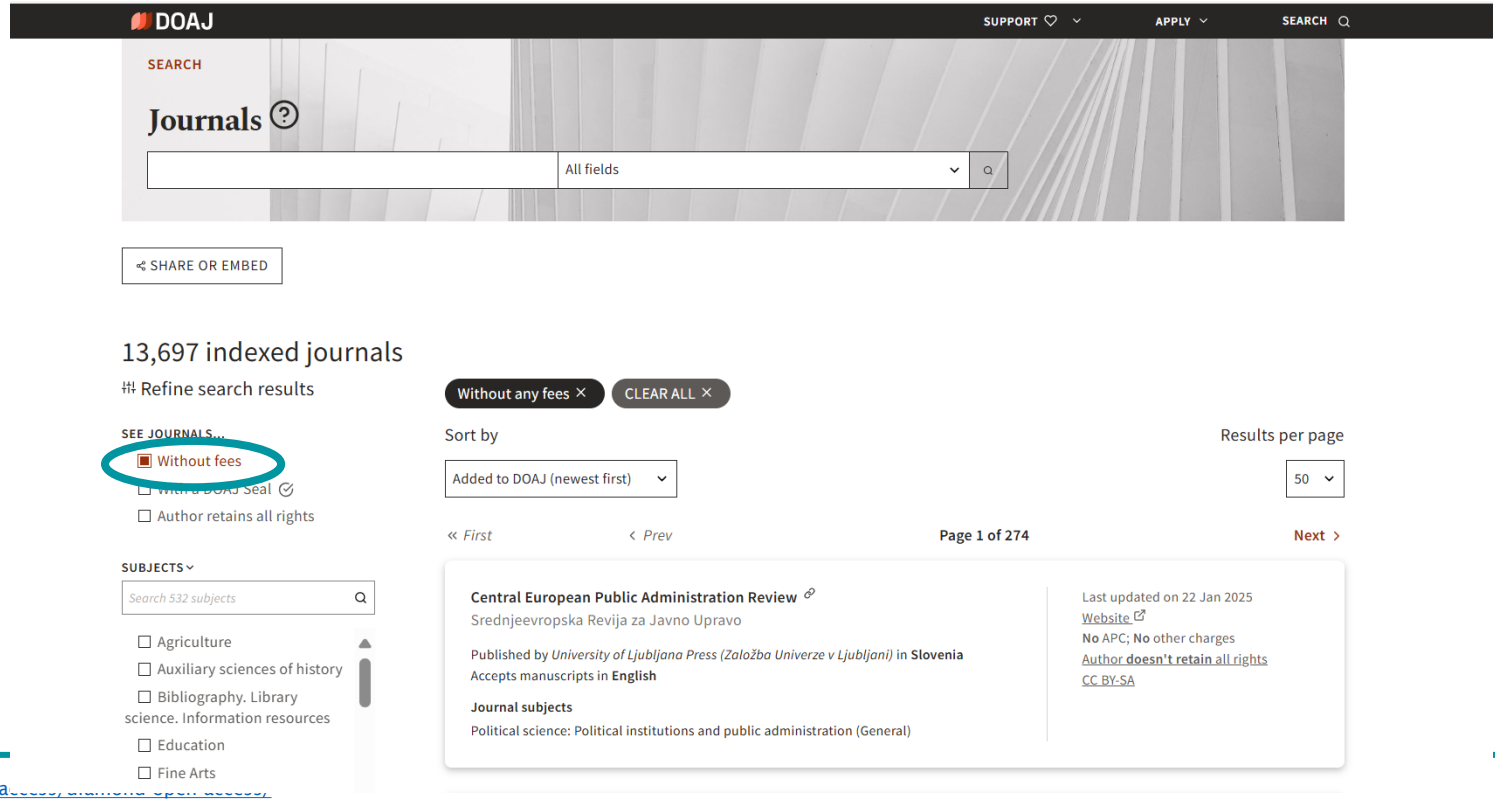
Many Diamond Open Access journals also work with *Open Peer-Review* (see later).

https://www.scienceeurope.org/our-priorities/open-access/diamond-open-access/
https://lib.uliege.be/fr/news/les-apc-payes-par-les-chercheurs-uliege-ont-encore-fortement-augmente-en-2023
https://www.diamondopen.com/

Diamond Open Access

How to find Diamond Open Access journals?

Directory of Open Access Journals: [Journals - DOAJ]



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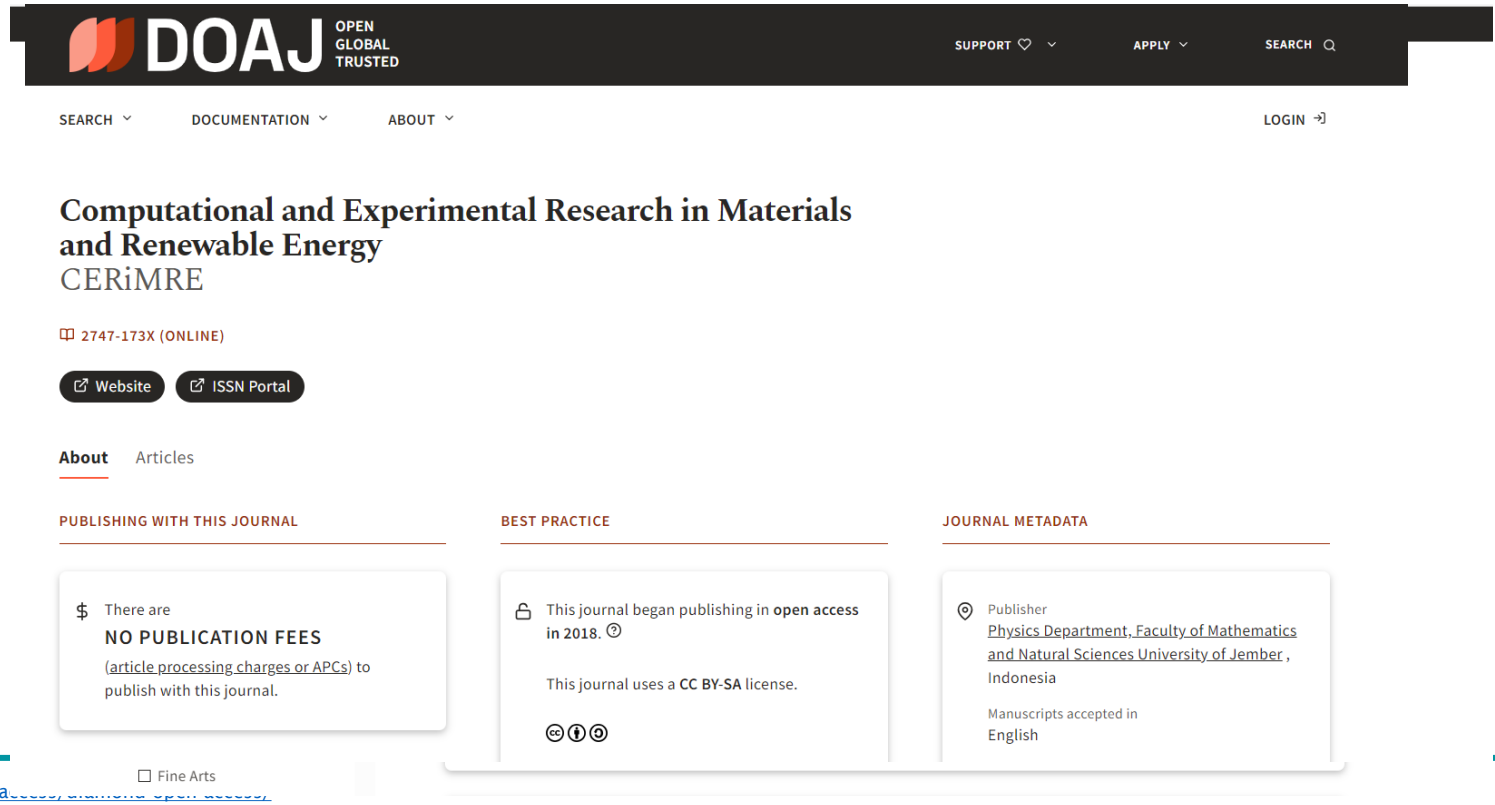

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https://www.diamondopen.com/

Another way: Green Open Access

Green Open Access is not about ***publishing*** in Open Access but about ***depositing*** in Open Access.

You can publish in traditional journals and still provide your manuscript in Open Access!

Decree from September 2018

CHAPITRE IV. - Obligation pour les chercheurs de déposer leurs publications en libre accès

Article 5. - Les chercheurs déposent dans une archive numérique institutionnelle toutes leurs publications issues de leurs recherches réalisées en tout ou en partie sur fonds publics émanant totalement ou partiellement de la Communauté française, in extenso, immédiatement après l'acceptation de l'article par un éditeur.

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Decree from September 2

CHAPITRI déposer leurs

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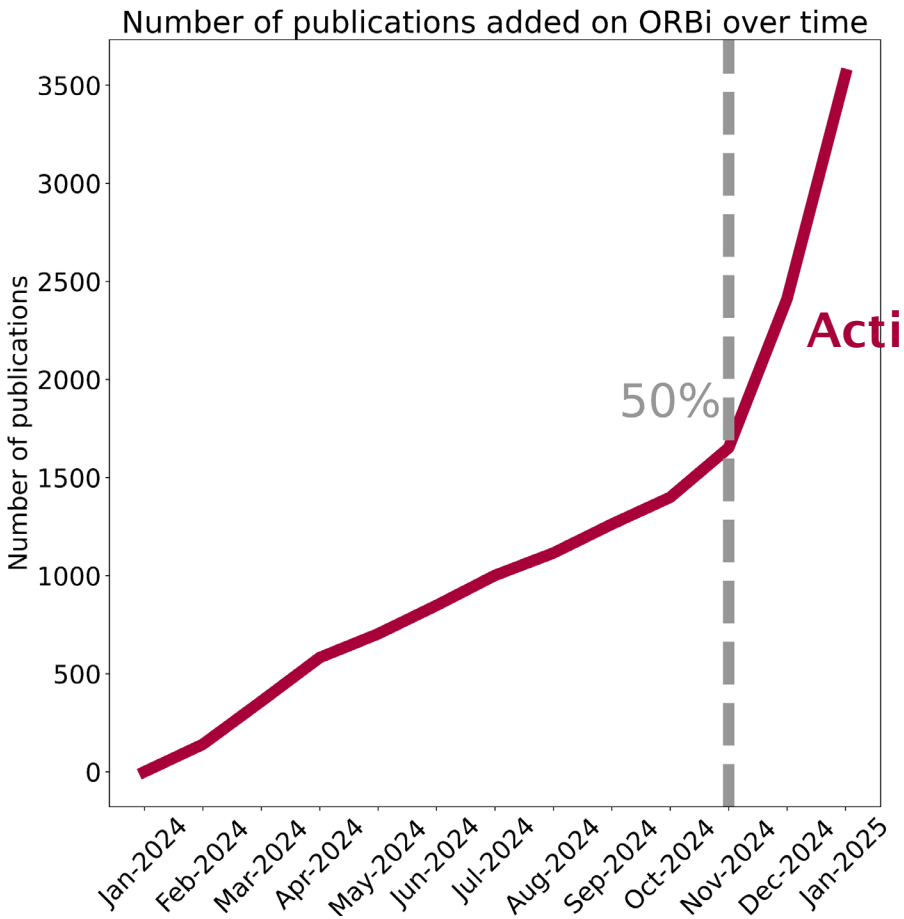


Another way: Green Open Access

Docu 45142 **p.3**

Article 8. - L'accès aux publications déposées dans une archive numérique institutionnelle est immédiatement libre à l'initiative du chercheur.

Dans le cas où l'éditeur l'exige par contrat, cet accès a lieu à l'expiration d'un délai courant à compter de la date de la première publication. Ce délai ne peut dépasser six mois pour une publication dans le domaine des sciences, des techniques et de la médecine humaine ou vétérinaire et douze mois dans celui des sciences humaines et sociales.

= embargo

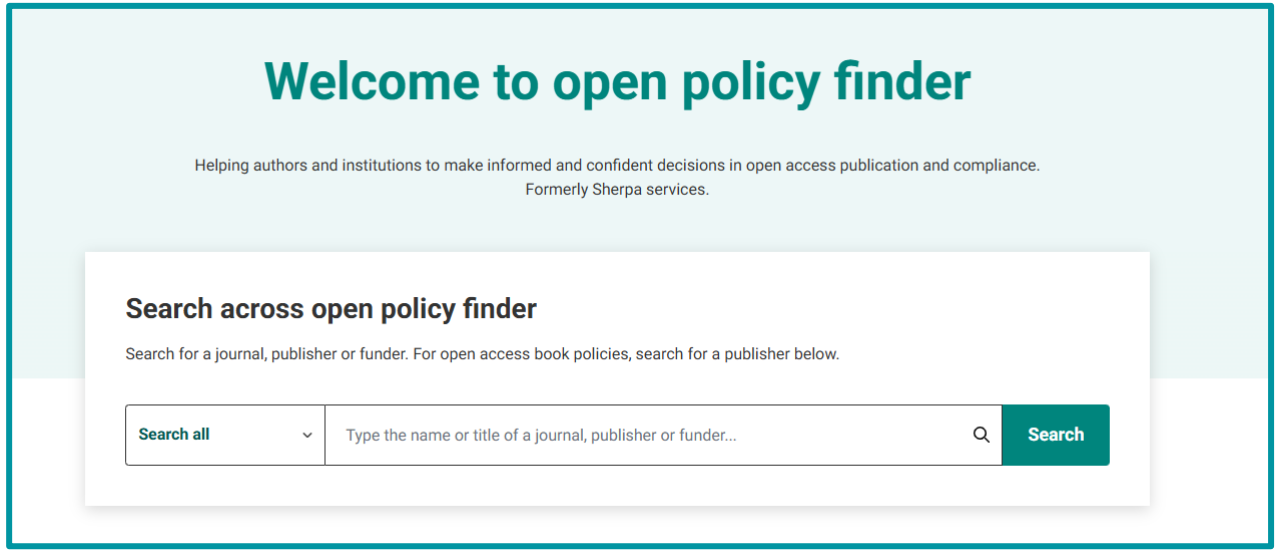
Lorsque une publication ne peut être mise en accès immédiatement libre en vertu de l'alinéa précédent, le chercheur est tenu de déposer le manuscrit dans l'archive numérique institutionnelle et peut en fournir l'accès en expédiant une copie à l'intéressé sur demande personnalisée.

Another way: Green Open Access

You can **ALWAYS** deposit the **accepted** version of your manuscript in Open Access (with an embargo if needed). You should still check the editor policy for the embargo period, but the open access decree protects the researchers (as long as they embargo of 6 or 12 months is respected, when there is one).

1. How to identify the editor/journal policy?

Open Policy Finder



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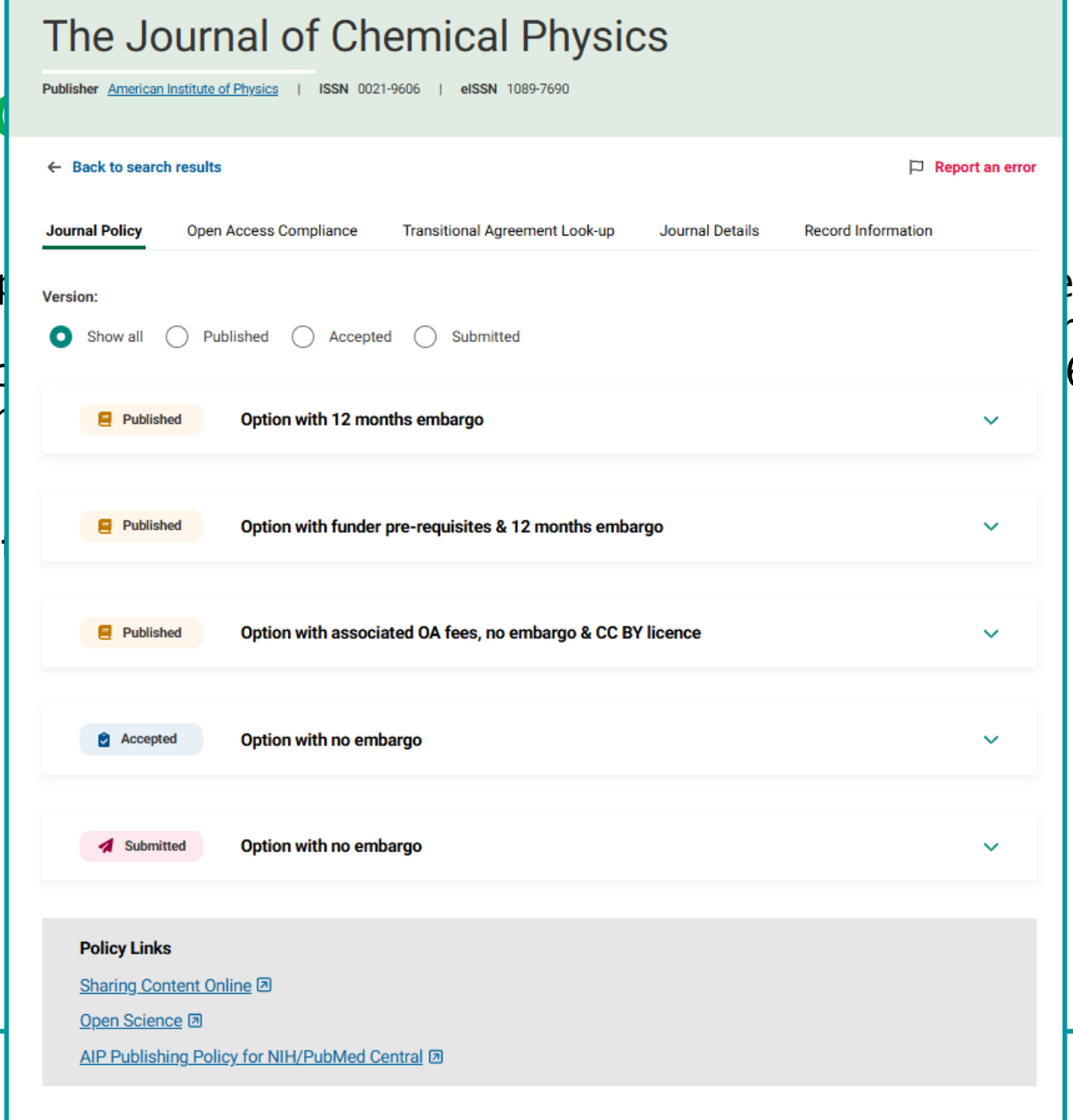

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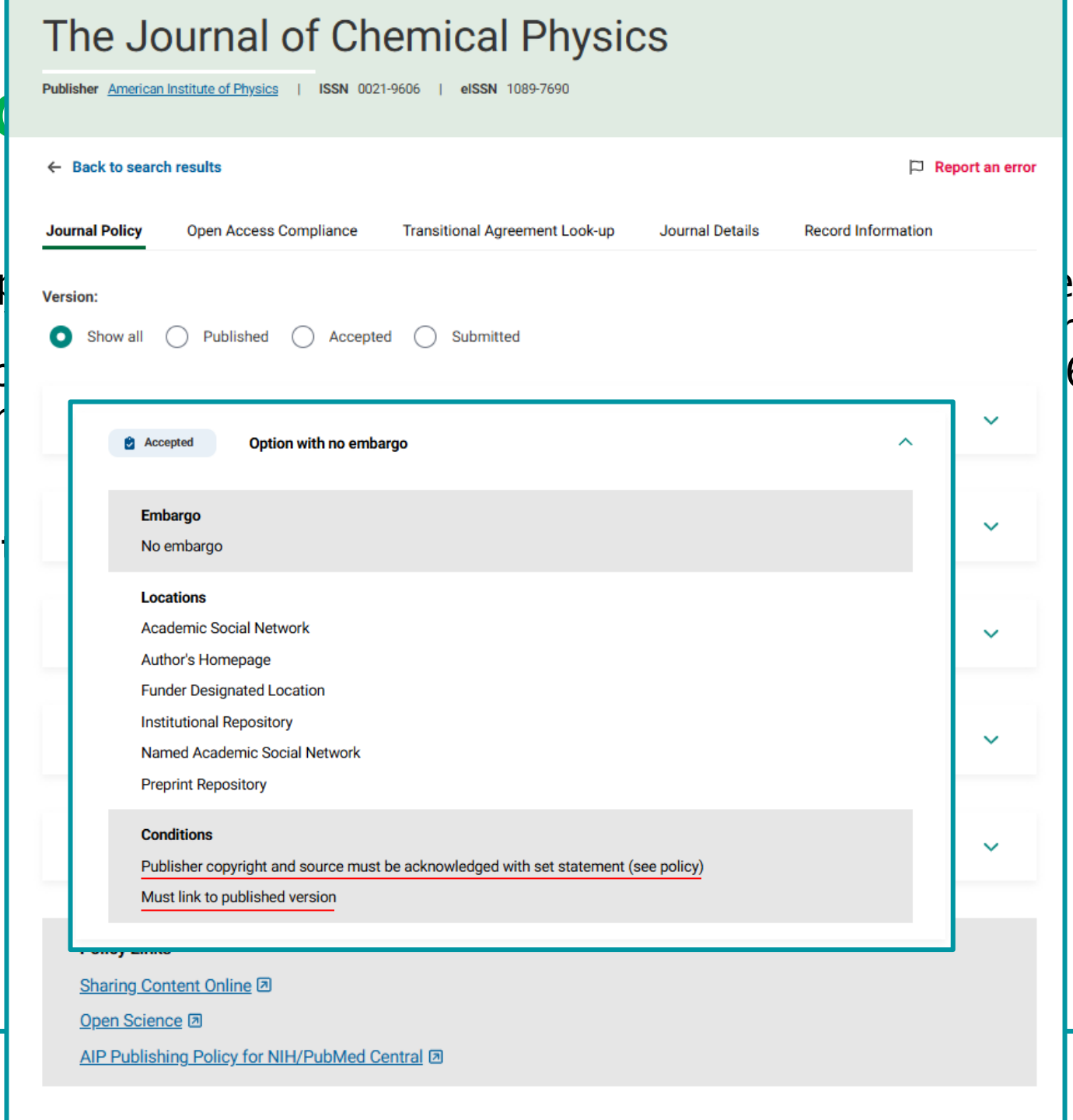

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2. What is the « accepted » version?

It's the final peer-reviewed version that was accepted by the editor (*the unformated document*).

3. Where to deposit?

On our institutional repository, ORBi

Another way: Green Open Access

3 types of documents on ORBi:

- **Postprint publisher**: final peer-reviewed, proof-read and formatted version of the manuscript (can generally be deposited “as is” **if published in gold or diamond open access**).
- **Postprint author**: accepted version of the manuscript (not formatted) that can be deposited on ORBi (**Green Open Access**) with the embargo related to the discipline.
- **Preprint author**: submitted version of the manuscript (generally relevant for open archives such as arXiv, chemarXiv, etc.).

ARTICLE (PÉRIODIQUES SCIENTIFIQUES)

Higher-order effects and validity of the point-dipole approximation for conjugated extended molecular emitters near plasmonic nanostructures.

Hantro, Mhamad ; MAES, Bjorn ; ROSOLEN, Gilles *et al.*

2025 • In *Journal of Chemical Physics, 162* (3)

Peer reviewed vérifié par ORBi

Permalien
https://hdl.handle.net/20.500.12907/51810

DOI
10.1063/5.0242123

PubMed
39812260

TÉLÉCHARGER

DOCUMENTS (1) ENVOYER VERS DÉTAILS STATISTIQUES BIBLIOGRAPHIE PUBLICATIONS SIMILAIRES

Documents

Texte intégral

Higher-order_effects_and_validity_of_the_point-dip.pdf
Postprint Auteur (905.05 kB)

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The Journal of Chemical Physics

Publisher American Institute of Physics | ISSN 0021-9606 | eISSN 1089-7690

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Published	Option with 12 months embargo
Published	Option with funder pre-requisites & 12 months embargo
Published	Option with associated OA fees, no embargo & CC BY licence
Accepted	Option with no embargo
Submitted	Option with no embargo

It's … accepte
doc…

ACCEPTED MANUSCRIPT

Higher-order effects and validity of the point-dipole approximation for conjugated extended molecular emitters near plasmonic nanostructures

Mhamad Hantro[a)], Bjorn Maes[b)], Gilles Rosolen[b)], Colin Van Dyck[a)]*
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Abstract: Rapid advancements in nanotechnology have allowed for the characterization of single molecules, by placing them in the vicinity of nanoplasmonic structures that are known to confine light to sub-molecular scales. In this study, we introduce a theoretical framework that captures higher-order effects, and we explore the limits of the standard description of a molecular emitter as a point-dipole. We particularly focus on the role played by the emitter chain length and the electron conjugation. Strong deviations are observed from the point-dipole approximation, which demonstrates that higher order effects

Mhamad Hantro, Bjorn Maes, Gilles Rosolen, Colin Van Dyck; Higher-order effects and validity of the point-dipole approximation for conjugated extended molecular emitters near plasmonic nanostructures. *J. Chem. Phys.* 21 January 2025; 162 (3): 034303. https://doi.org/10.1063/5.0242123

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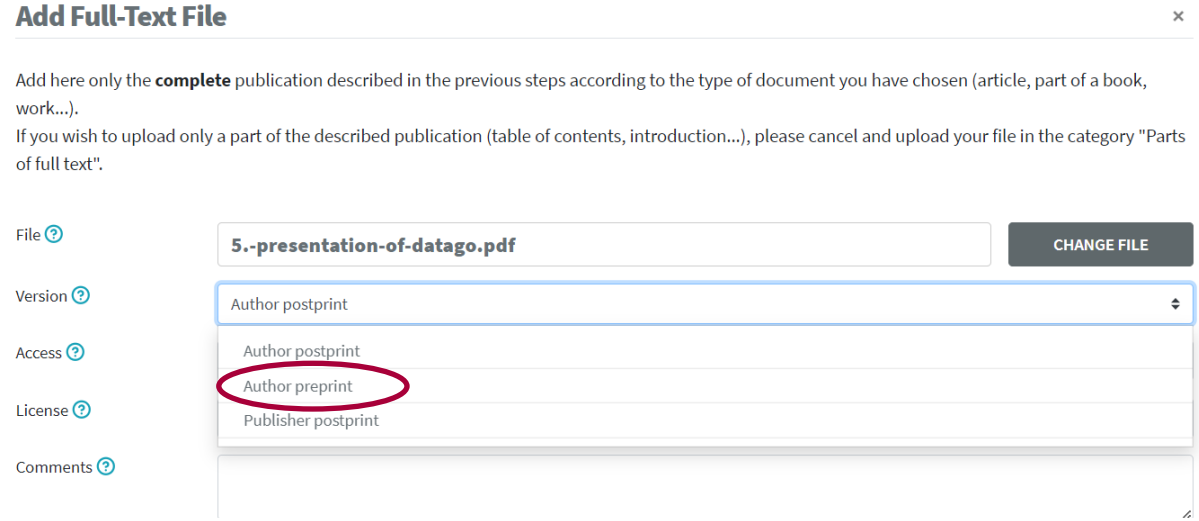

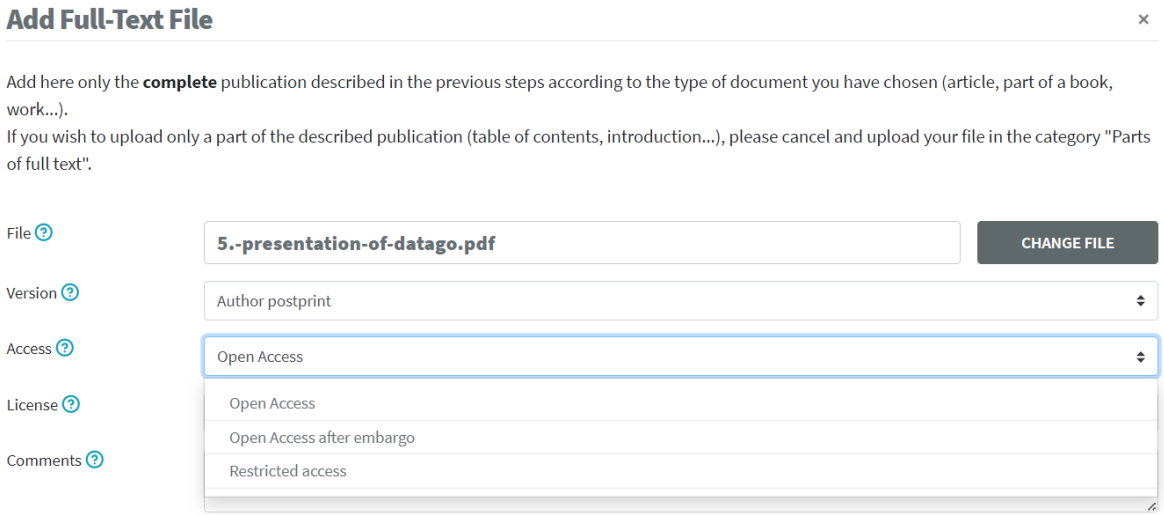

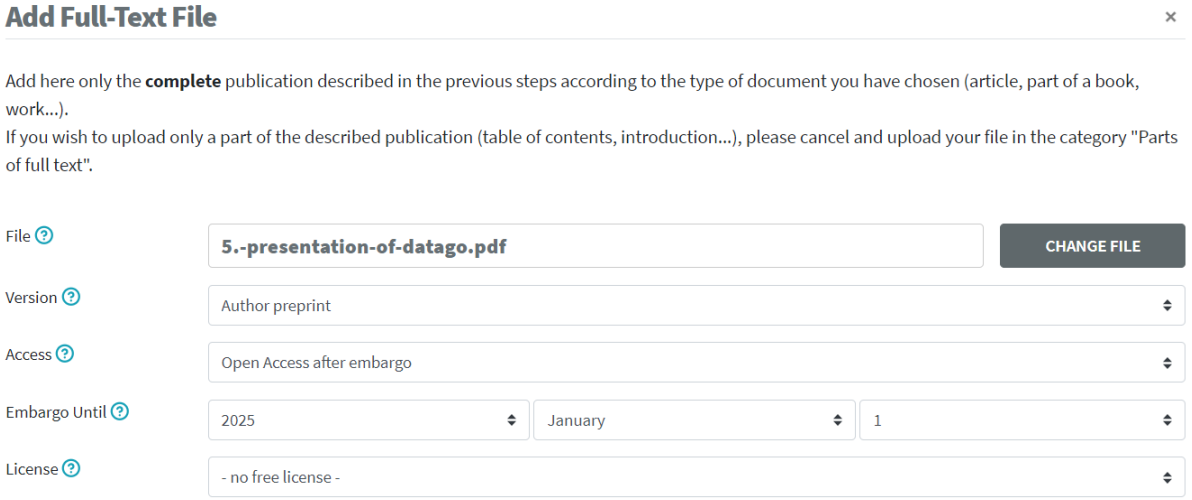

Remain restricted until embargo ends
then become open automatically!

Green Open Access @ UMONS

Choose a license:

- Often the editor (also available on Open Policy Finder) specifies under which Creative Commons license it can be shared.
- Otherwise, you need to decide (*outside the scope of this training session*).

Check our guide dedicated on how to choose a license: ORBi UMONS: How to choose a license?

Benefits of Open Access

- Improved visibility due to the worldwide ease of access.
  + content harvested by other platforms (Google Scholar, Pubmed, etc.).
- More impact through the improved visibility.
- Often, a higher citation rate.
- **More visibility for your career, your research unit and our University!**

https://www.yearofopen.org/what-is-open-access/

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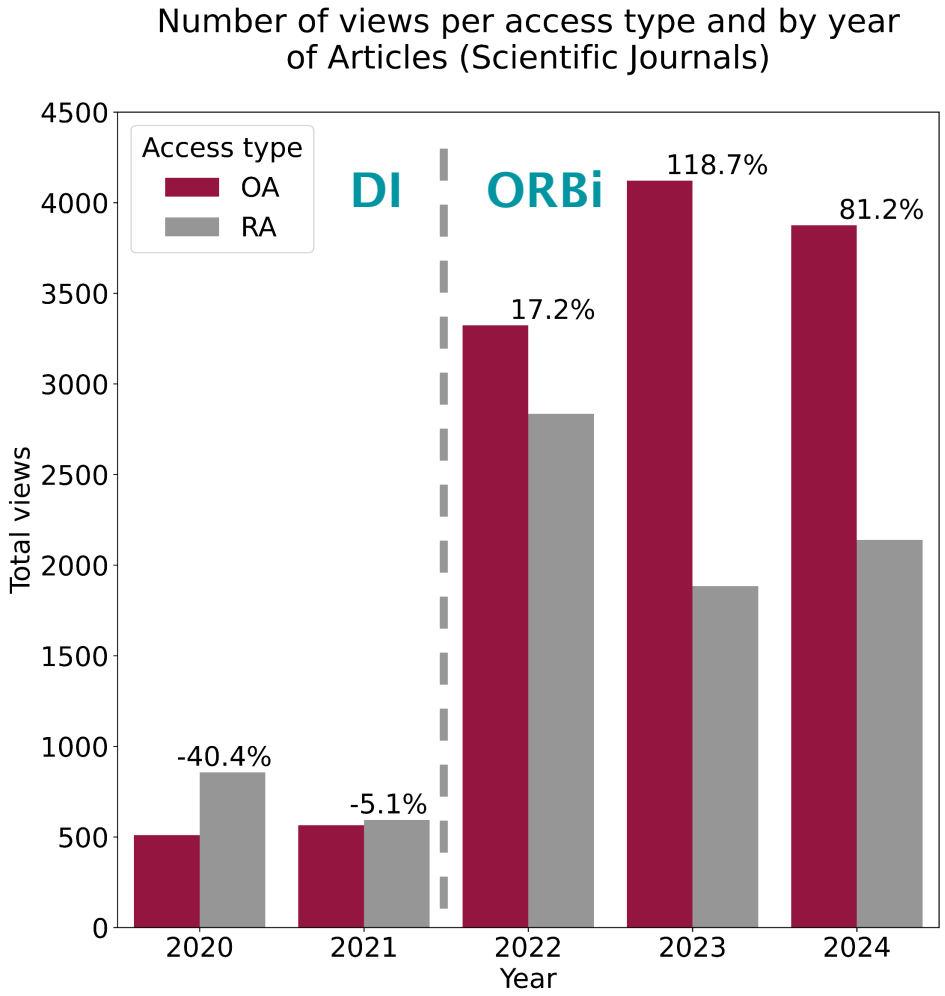

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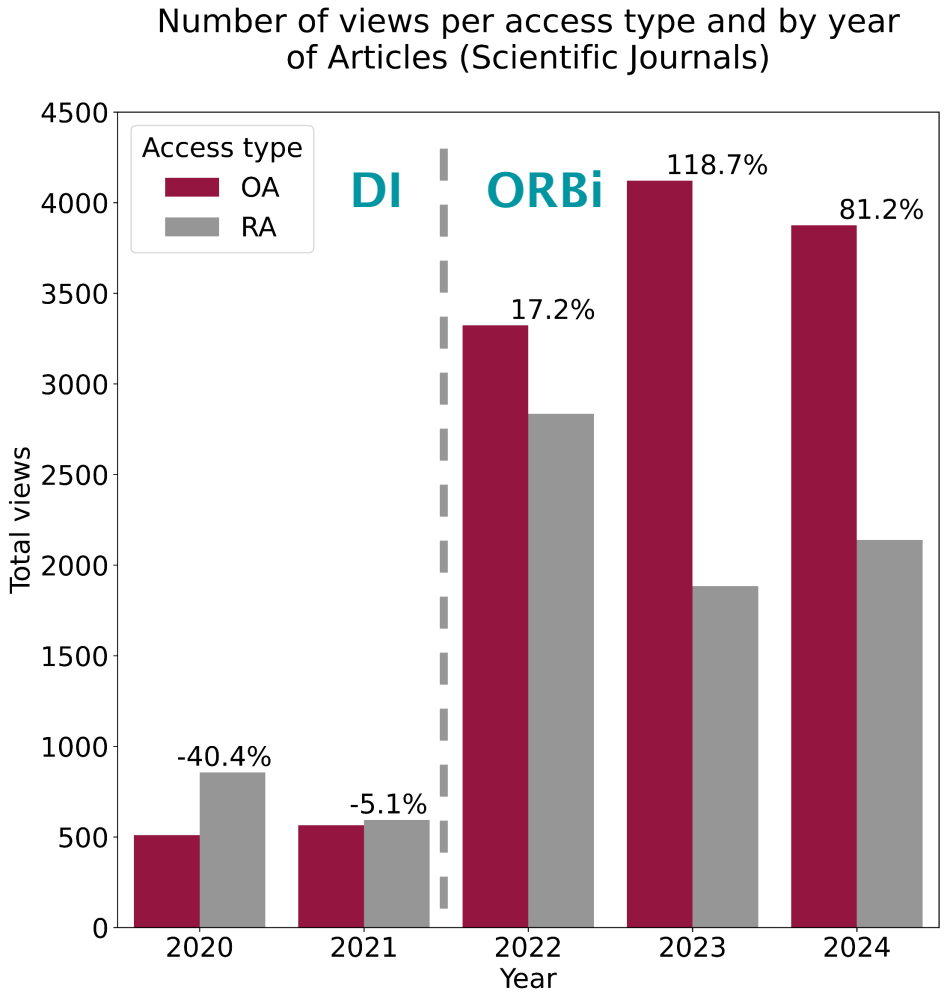

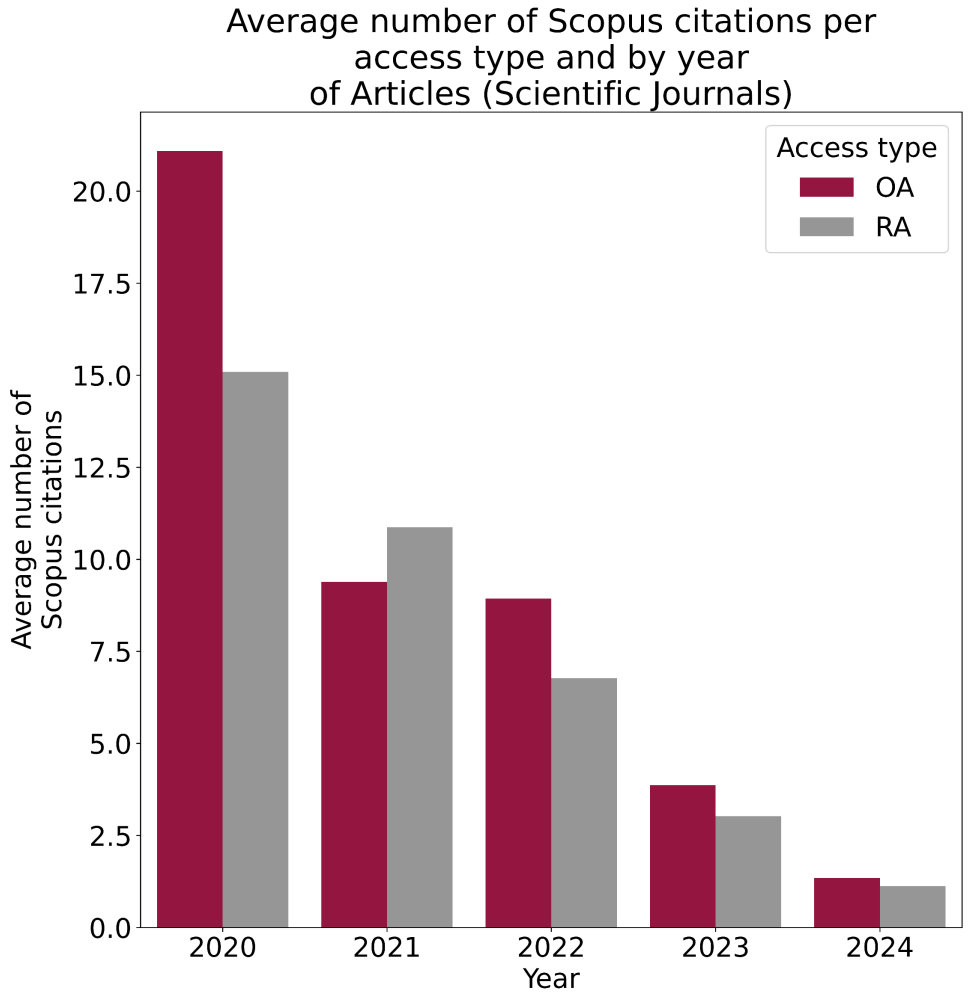

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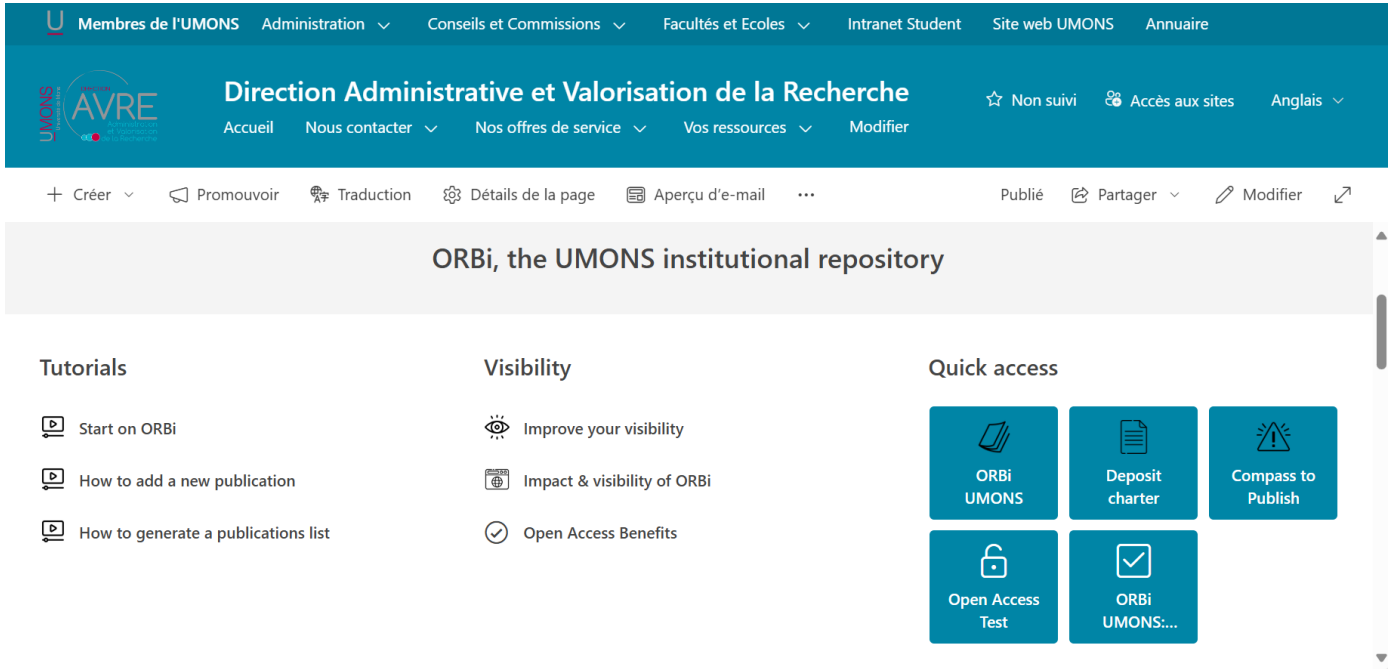
More information on our Intranet webpage dedicated to ORBi:

ORBi



16/04 – *ORBi: Amplifying Your Research Visibility and Impact* (EN)

Open Peer Review

Open Peer Review

Peer-review is the process of reviewing the content of a paper submitted to a journal.

The reviewers are anonymous, they rate the papers and provide some comments.

That's it.

→**Not transparent at all!**

→Conflict of interest or collaborative interests, biases, etc.

Open Peer Review

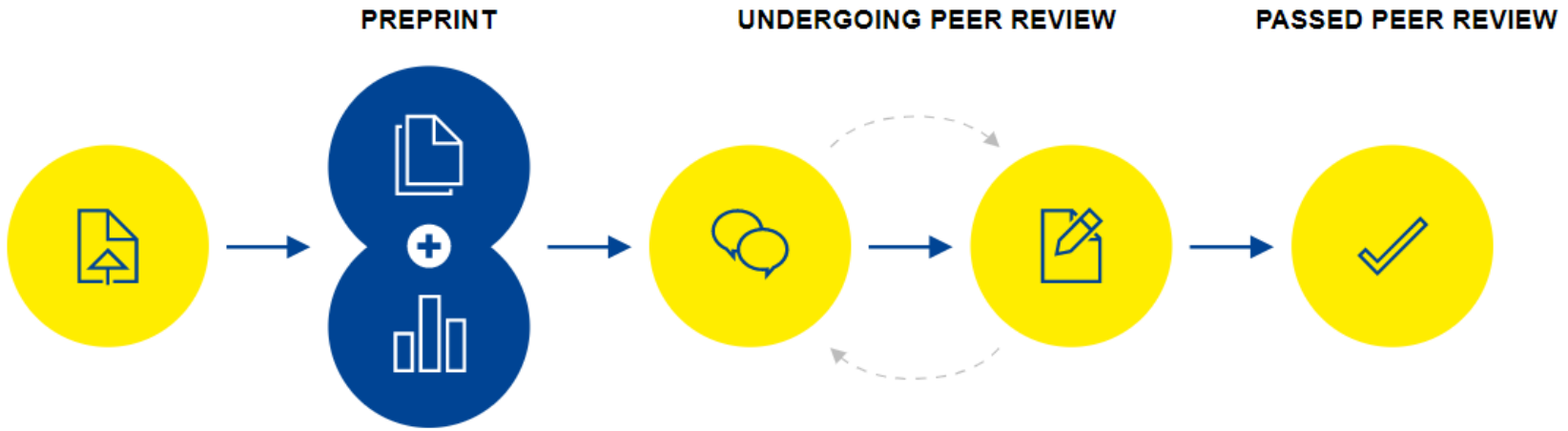
Open peer review aims at making the whole reviewing process **completely transparent**.

The reviewers are publicly identified, their review is available online and anyone can participate to the review.

This procedure is often present in Diamond Open Access journals.

→ Open Research Europe: https://open-research-europe.ec.europa.eu/

Open Peer Review



Article Submission

Submission is via a single-page submission system. The in-house editorial team carries out a comprehensive set of prepublication checks to ensure that all policies and ethical guidelines are adhered to.

Publication & Data Deposition

Once the article has passed the prepublication checks, the preprint version is published within 10 days, enabling immediate viewing and citation.

Open Peer Review & Article Revision

Expert reviewers are selected and invited, and their reviews and names are published alongside the article, together with the authors' responses and comments from registered users. Authors are encouraged to publish revised versions of their article. All versions of an article are linked and independently citable.

Send to Indexers & Repositories

Articles that pass peer review are sent to major indexing databases and repositories.

Transparency!

Open Peer Review

OPEN LETTER

REVISED **Open science in energy research**

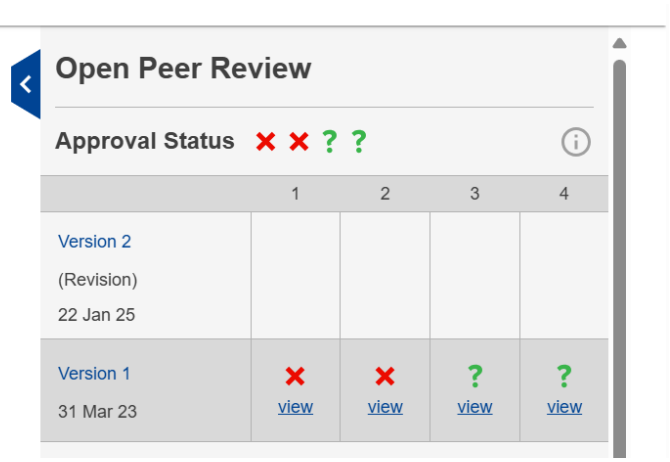
[version 2; peer review: 2 approved with reservations, 2 not approved]

Raquel Alonso Pedrero, Felipe Van de Sande Araujo

This article is included in Horizon 2020 gateway

This article is included in Research Ethics and Integrity collection

Article Authors Metrics



REVISED **Amendments from Version 1**

The paper has undergone significant revisions to provide a clearer background and a more focused discussion on open science in energy research. Based on the reviewers' feedback, we identified that the previous manuscript lacked coherence and a comprehensive storyline. To address this, we narrowed the scope of the paper, setting aside the ethical discussion to concentrate exclusively on open science. This shift is reflected in the updated title: **"Open Science in Energy Research."**

You will also notice substantial changes in the structure, designed to better guide readers through the arguments and discussions. Additionally, we have incorporated new and relevant references to ensure the essay remains current and well-supported.

See the detailed response from the author(s) to the review by Sacha Hodencq
See the detailed response from the author(s) to the review by Stephan Ferenz and Thomas Wolgast
See the detailed response from the author(s) to the review by Rosie Robison and Ami Crowther

Open Data

Open Data

Making research data and findings **openly** and **FAIRly** available to the global community (not only outputs, but also inputs, methods, etc.) → **mandatory in European funded projects**.

Same spirit as before:

- Avoid reinventing the wheel and fund the same research multiple times.
- Improved reproducibility.
- Improved scientific integrity.
- …

Of course, everything cannot be made openly available (data under patent, personal data, etc.)

As open as possible, as closed as necessary

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As open as possible, as ~~closed~~ protected as necessary

Open Data & FAIR principles

FAIR and Open data are more and more important, **even for publishing results in scientific journals**:

> Retraction of an article because access to the underlying data was not granted.

*"[...] Because all the authors were not granted access to the raw data and the **raw data could not be made available to a third-party auditor, we are unable to validate the primary data** sources underlying our article, "Cardiovascular Disease, Drug Therapy, and Mortality in Covid-19." We therefore **request that the article be retracted**. We apologize to the editors and to readers of the journal for the difficulties that this has caused.""*

How to make open data?

Apply the **FAIR principles**:

- **Findable**: upload your clean dataset on a trusted data repository with a unique identifier.
- **Accessible**: provide metadata explaining if there are restrictions for data access.
- **Interoperable**: use open formats as much as possible (CSV, text, etc.), convert data from a proprietary file format to an open format.
- **Reuse**: improve the reuse of the data by specifying under which conditions they can be reused and a thorough documentation to maximize the reproducibility.

Open Data: how to choose a data repository?

A trusted digital repository provides reliable **long-term access** to managed digital resources to its designated community, now and in the future!

It assigns a **unique and persistent identifier** (DOI, handle).

Content harvested by multiple platforms: increase of **visibility** and **impact.**

- Zenodo: http://zenodo.org
- SODHA: https://www.sodha.be/ (the federal Belgian data archive for social sciences and the digital humanities)
- … and many more: re3data.

Open Data: how to choose a data repository?

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re3data.org

Search Browse Suggest Resources Contact

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Metadata standards
Metrics
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Profiles
Provider types

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BioGRID

Biological General Repository for Interaction Datasets

Subject(s)	Life Sciences Biology
Repository type(s)	disciplinary
Provider type(s)	serviceProvider
Country	Canada United States United Kingdom

The Biological General Repository for Interaction Datasets (BioGRID) is a public database that archives and disseminates genetic and protein interaction data from model organisms and humans. BioGRID is an online interaction repository with data compiled through comprehensive curation efforts. All interaction data are freely provided through our search index and available via download in a wide variety of standardized formats.

The USA National Phenology Network

USA-NPN

Subject(s)	Life Sciences Biology Plant Sciences
Repository type(s)	disciplinary
Provider type(s)	

Open Data: how to choose the data?

What is needed to validate or reproduce your research?

You should preserve everything that allows to reproduce the results/conclusions:

- Inputs (answers from surveys*, measurements, etc.).
- Thorough documentation (how data were collected, processed, analyzed).
- Code/script for the analysis (generally, on suitable platform such as Github).
- Outputs (as much as possible in an “open” format).

Open Data: how to choose the data?

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- Outputs (as much as possible in an “open” format).

*Personal data require special attention: **you must ensure GDPR is respected!**

You need to obtain the consent by informing the participants how their data will be handled and implement data protection measures.

To put personal data in open data, you must either obtain the consent or anonymize the data.

RGPD: FAQ et recommandations

Open Data: how to choose the data?

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If you have questions about personal data, contact our Data Protection Officer
dpo@umons.ac.be

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Open Data: should I restrict the access?

In case you **cannot anonymize** the data, the **access must be restricted**.

However, the metadata can remain open if they do not contain sensitive information.

If there are legitimate reasons to publish the data. For example, in the case of a court decision. This rule restricts privacy rights in general.

Open Data: a word about licenses

Data without a license cannot be properly used.

There are different licenses that define what can and cannot be done (very similar to the Creative Commons licenses related to bibliographical data).

Typical licenses for open datasets:

- CC0 Public Domain Dedication
- Open Data Commons Attribution License (attribution)
- Open Data Commons Open Database License (attribution and share-alike)
- Open Licence Etalab

Need help?
Contact avre@umons.ac.be

In more details: SPDX License List | Software Package Data Exchange (SPDX)

Resources from the Data Ambassadors Network

- You may need help for managing your data or have questions about open data:
- The Data Ambassadors Network is there for you!
- It is a inter-university network with representatives in each university with the mission to help and guide you with data in general.
- **UMONS Data Ambassadors:**

VISEUR	Robert	Business and Economics	Robert.VISEUR@umons.ac.be
GALLAS	Mohamed-Anis	Architecture	Mohamed-Anis.GALLAS@umons.ac.be
VILLERS	Agnès	Medicine	Agnes.VILLERS@umons.ac.be
PATRIS	Stéphanie	Medicine	Stephanie.PATRIS@umons.ac.be
GROSJEAN	Philippe	Sciences	Philippe.GROSJEAN@umons.ac.be
DUPONT	Nicolas	Applied Sciences	Nicolas.DUPONT@umons.ac.be
MEYERS	Charlène	Languages	Charlene.MEYERS@umons.ac.be
RIVIERE LORPHEVRE	Edouard	Applied Sciences	Edouard.RIVIERELORPHEVRE@umons.ac.be
SIMOES LOUREIRO	Isabelle	Psychology	Isabelle.SIMOESLOUREIRO@umons.ac.be

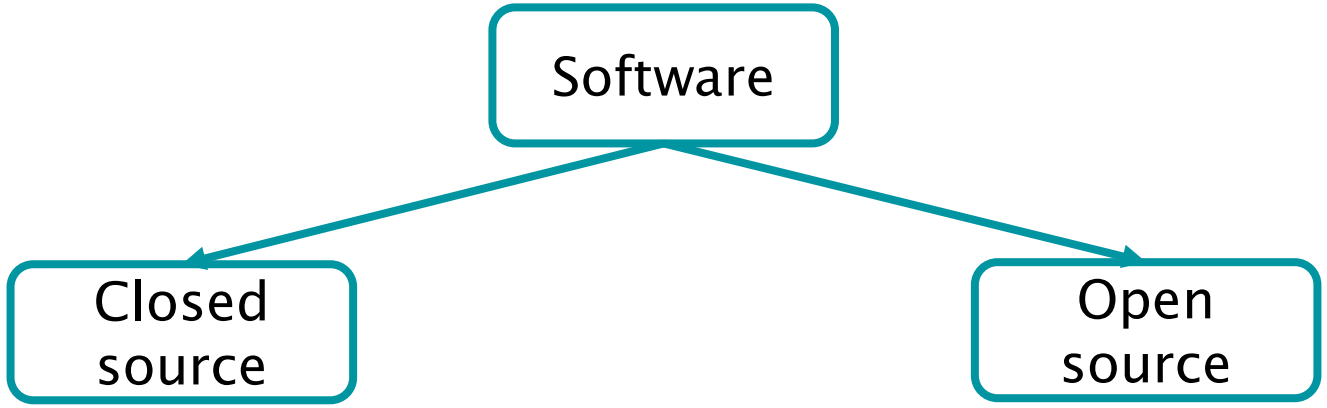
- + webinars (data anonymization, how to archive data, etc.)

Resources from the Data Ambassadors Network

Data Ambassador Communities - Peer-to-peer approach for a better research	21/11/2021	Data Ambassador Communities - Peer-to-peer approach for a better research-20211125_130429-Enregistrement de la réunion.mp4
Données sensibles et valorisables	22/04/2022	Données sensibles et valorisables - Webinaire DA FWB-20220422_140413-Enregistrement de la réunion.mp4
Open and FAIR Data - Testimonies	29/11/2022	Open and FAIR Data _ Testimonies-20221129_140517-Enregistrement de la réunion.mp4
Connaissez-vous le Dual Use ?	01/12/2022	Data Ambassadors - Connaissez-vous le Dual Use _ -20221201_123615-Enregistrement de la réunion.mp4
Open Software and Open Data - why and how	20/06/2023	FWB Data Ambassadors - Open Software and Open Data _ why and how _-20230620_123637-Enregistrement de la réunion.mp4
Réutiliser les données de réseaux sociaux pour la recherche	18/10/2023	Data Ambassadors - Réutiliser les données de réseaux sociaux pour la recherche-20231018_090512-Enregistrement de la réunion.mp4
Archivage des Données de Recherche - pourquoi, comment, et pour qui	29/11/2023	Archivage des Données de Recherche _ pourquoi, comment, et pour qui _-20231129_143540-Enregistrement de la réunion.mp4

Open Source

Open Source



- Also called « proprietary ».
- Cost (not always).
- Customer service.
- Often more stable.
- Strict license and user agreement policy.

- More freedom in copy/edit/sharing.
- More transparent.
- Free of charge.
- Not a proper customer service but a community.
- Maybe less user friendly.

Open Source: philosophy and principles

- **Free usage and redistribution**: liberty to use, distribute, share without monetary constraint.
- **Access to source code**: anyone can access, examine, modify the code → **transparency.**
- **Ability to modify and to customize**: innovation, evolution of the software.
- **Reduction of the cost**: you do not need to pay to use the software.
- **Encourage collaboration and improve efficiency*.**

*provided there is enough **documentation**/comments in the code!

Open Source: where to deposit my code?

There are multiple platforms:

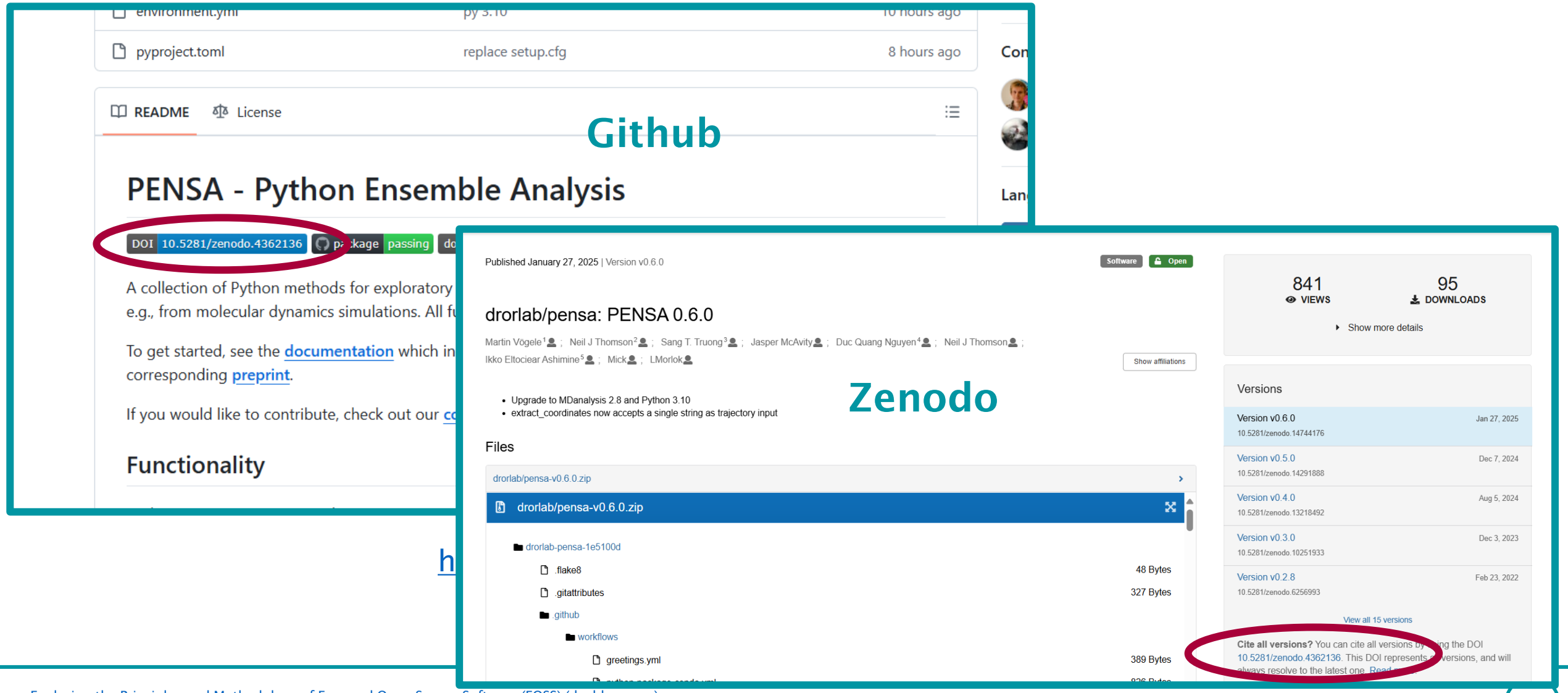
- GitHub
- GitLab
- Bitbucket

However, they do not offer a unique identifier like in a data repository and thus prevent people from properly citing your work.

Solution: add your code repository to a data repository like Zenodo!

https://youtu.be/A9FGAU9S9Ow?feature=shared

Open Source: where to deposit my code?



Open Source: where to deposit my code?

Depositing the code publicly does not mean it is open source!

You must **define a license** that clearly states **how** and **if** people can use the code.

If there are no attached license, people cannot (in principle) use your code, except if they contact you and your provide them an agreement.

Open Source: license

Copyright: related to intellectual property, grants exclusive rights to the authors.

Open source licenses can be categorized as "**permissive**" or "**copyleft**".

Permissive basically means "do what you want". It can be used in proprietary softwares and the source code may not be public.

Copyleft is the counterpart of copyright and ensures the software remains free and open source.

It requires that all modified and extended versions of the program also be free and released under the "*same terms and conditions*".

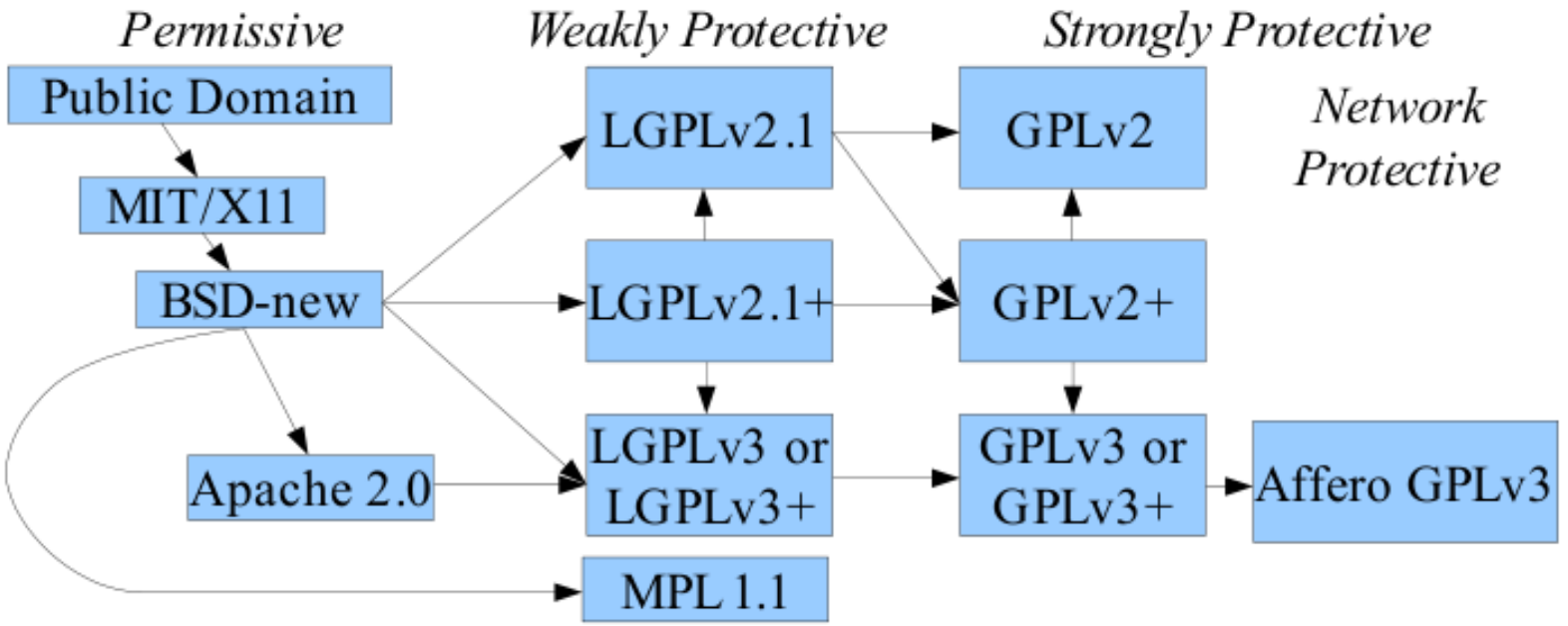
- *Strong copyleft*: redistribution of un/modified software and all associated components can only be done under the original license.
- *Standard copyleft*: redistribution of un/modified software is done under the initial license but new features and code may be under another license (even proprietary) (**can be a bit of a mess!**).

Exploring the Principles and Methodology of Free and Open Source Software (FOSS) (devblogs.xyz)
Difference Between Copyright and Copyleft in FOSS - GeeksforGeeks

Open Source: license

There are many licenses related to open source projects.

Here is a non-exhausitive list of compatibility:



Open Source: license

Given the complexity of choosing a license, if you are working on a software or piece of code and want to release it under proprietary terms or under an open source license

Feel free to reach out
Sandrine.BROGNAUX@umons.ac.be
Legal-avre@umons.ac.be

You can also fill in a document to help identifying the needs:

- Software disclosure (.docx)
- Software disclosure (.pdf, fillable)

Europe really wants science to open!

Changing the way researchers are evaluated

Hong Kong Principles:

Principle 1: Evaluate researchers on responsible research practices (**research integrity and ethical conduct.**

Principle 2: Value accurate and transparent reporting of all research, ***regardless of the results.***

Principle 3: Valuing open science practices (open research) – including the openness of methods, materials and dat.

Principle 4: valuing a wide range of research and studies, such as replication of key results, innovation, translation, synthesis and meta-analysis, ***not just traditional publication.***

Principle 5: Valuing other contributions to research and scientific activity, such as peer review of publications and projects, mentoring, outreach and knowledge exchange.

2022_07_19_rra_agreement_final.pdf (eua.eu)

AI and Open Science

AI and Open Science

Artificial intelligence (AI) require data (text, files, websites, etc.) for training.

« *Open Science* » is a great source for AI training.

However, there are challenges regarding proper citations, rights, etc.

Should I keep opening my work outputs?

In my opinion: **yes.**

Trustworthy and **high quality data** are mandatory to provide a **high quality model.**

Open Science is a way to ensure about the quality of data.

The current downside is that AI models may not properly cite the sources…

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Open Scienc

Most of you probably already used AI tools.

It would be hypocrite to refuse to provide data for a tool that we want to get the most out of it.

The current downside is that AI models may not properly cite the sources…

2022_07_19_rra_agreement_final.pdf (eua.eu)

Q&A
If I was not able to answer your question, feel free to reach out

Sebastien.HOYAS@umons.ac.be

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DIRECTION AVRE
Administration et Valorisation de la Recherche

Thank you for your attention

Credits to Céline Thillou
UMONS Université de Mons

Additional resources

- https://www.budapestopenaccessinitiative.org/read : Budapest Declaration on Open Access
- Some examples of OER: - http://www.podcasts.ox.ac.uk/open , www.oercommons.org, www.fr.khanacademy.org
- https://www.openaire.eu/ : European Commission Open Science Resources
- https://ec.europa.eu/digital-single-market/en/citizen-science : more info about Citizen Science
- https://eosc-portal.eu/belgium : Open Science portal of Belgium
- os-primers (openaire.eu)
- guides (openaire.eu)
- factsheets (openaire.eu)