

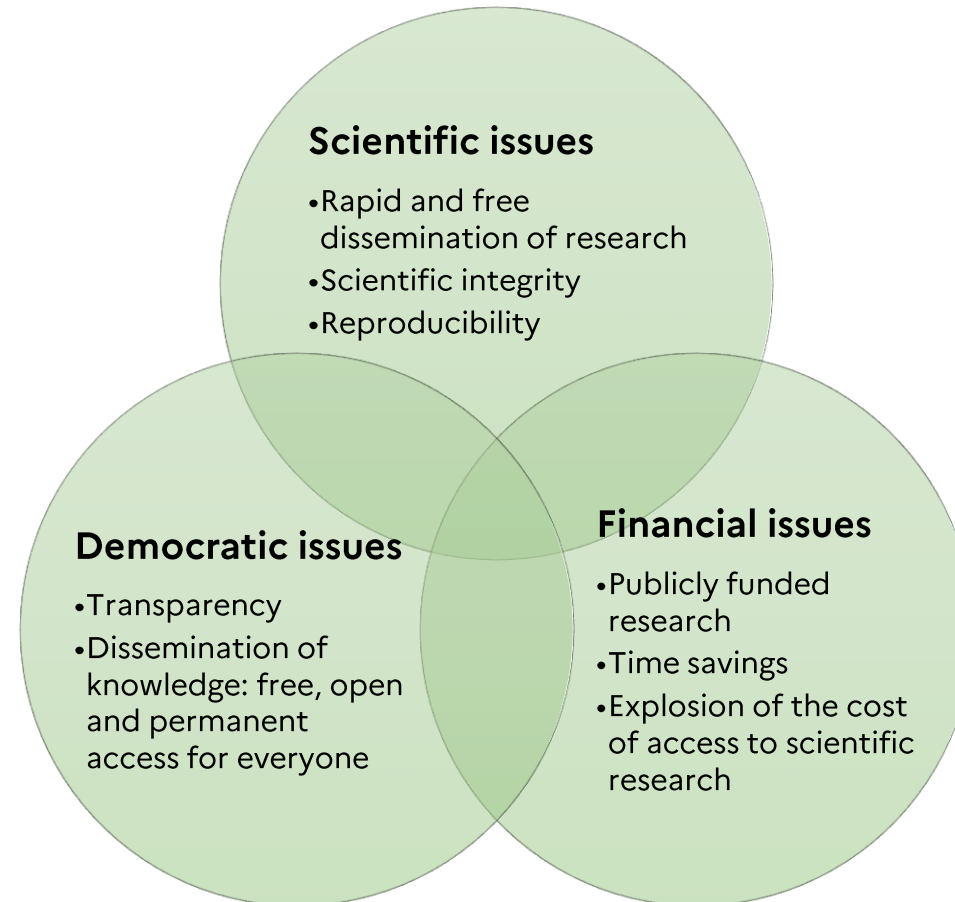
24/06/2022

# Let's introduce Open Science in your PHD :

## University Libraries are there for you !

# What is Open Science?

Free dissemination of the results, methods and products of scientific research.



# What is Open Science?



[1] Towards a global consensus on open science: report on UNESCO's global online consultation on open science. UNESCO, 2020

[2] FOSTER portal <https://www.fosteropenscience.eu/>, accessed in March 2021

[3] Science ouverte à l'Université de Genève: feuille de route pour un partage de connaissances scientifiques 2020-2023

- A wide variety of processes, impacting the entire research cycle
- New ways to...
  - Conduct research
  - Teach
  - Collaborate among researchers
  - Share knowledge
- Open, global, collaborative, creative research, closer to society...

# In practical terms... what can I do ? (examples)

## • Share your publications

- Free access to research results, especially scholarly publications
- Three main "routes" to open access



### GREEN ROUTE

- **Self-archiving** by the researcher himself
- *Loi pour une république numérique* (2016) : it's legal ! And an embargo period may apply
- in an open repository

HAL  
science ouverte

### GOLD ROUTE

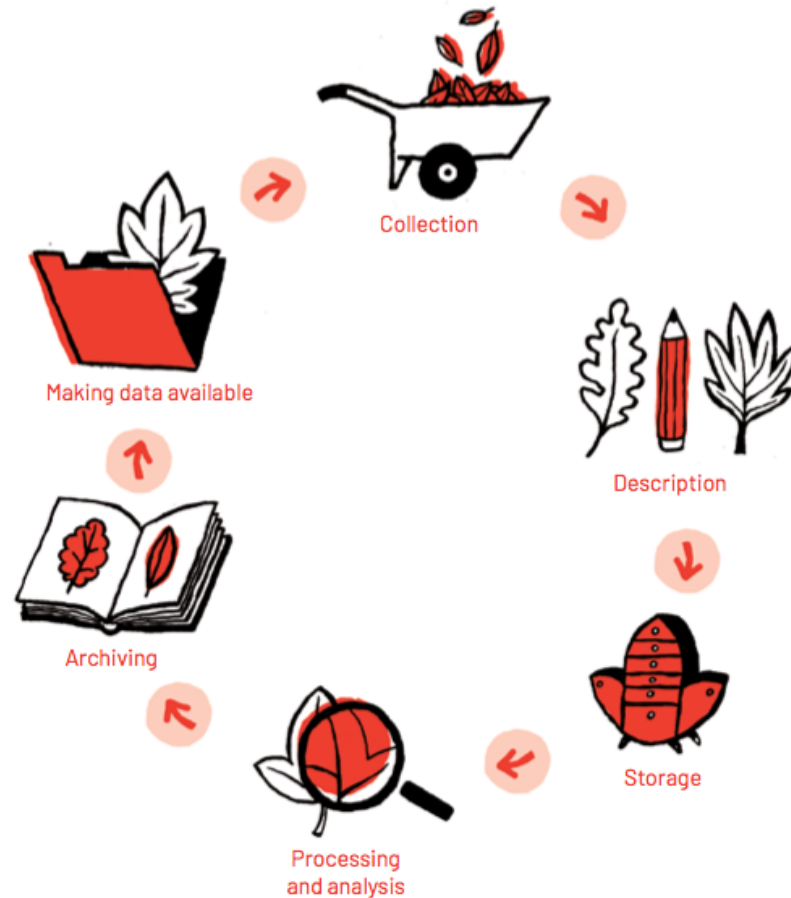
- **Publishing** in open access journals, sometimes with *Article processing charges*
- Free for the readers, not for the authors
- No embargo

### DIAMOND ROUTE

- **Publishing** in open access journals, funded by public organizations
- Free for the readers, free for the authors
- No embargo



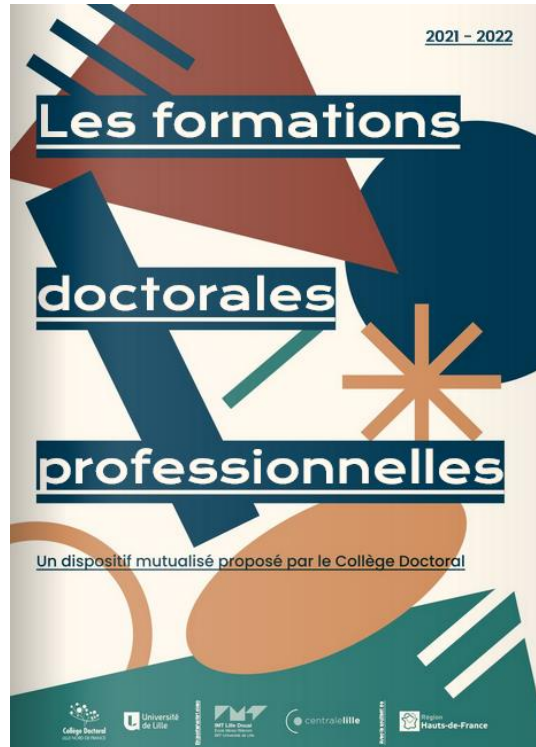
# In practical terms... what can I do ? (examples)



- Share your data

- Manage your research data throughout the data life cycle, in order to make it reusable by you and by others.
- Whenever possible, disseminate the Research data collected and produced during your PhD, in open data repositories, such as Zenodo or Recherche Data Gouv.

# The University of Lille Libraries are here to help !



- Several PhD trainings to learn how to...
  - Publish in Open Access
  - Manage your PhD data
  - Increase your researcher visibility
  - Understand bibliometrics
  - Use Zotero for bibliography
- Dates for 2022-2023 are yet to be settled => watch for ADUM and the college doctoral.
- [Catalogue for 2021-2022](#)

# The University of Lille Libraries are here to help !



*Ouvrir la recherche :  
place à la pratique !*

**la Fabrique  
de la science  
ouverte**

- Workshops to learn how Open Science is made :
  - ✓ Events during the year
  - ✓ Experts to answer your questions in direct with your scientific production.
  - ✓ Solutions and platforms for your disciplines.
  - ✓ Other social activities ...

**Stay tuned for news for 2023 !!**



# The University of Lille Libraries are here to help !

Open Archives  
(LilloOA or HAL) ?  
[lilloa@univ-lille.fr](mailto:lilloa@univ-lille.fr)

Depositing, disseminating  
(or printing) your thesis ?  
[diffusion-theses@univ-lille.fr](mailto:diffusion-theses@univ-lille.fr) ;  
[lilliad-theses@univ-lille.fr](mailto:lilliad-theses@univ-lille.fr)

Any question  
about ...



Structuring, sharing  
and opening up your  
data ?  
[scd-aap@univ-lille.fr](mailto:scd-aap@univ-lille.fr)

Publishing in Open Access  
with APC ?  
[apc-scd@univ-lille.fr](mailto:apc-scd@univ-lille.fr)

Any other subject ?  
[chercheurs-scd@univ-lille.fr](mailto:chercheurs-scd@univ-lille.fr)



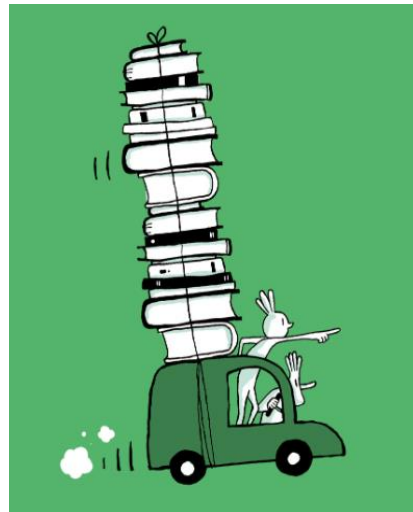
# Online resources



- [Lille University libraries | Open science](#)
- [Comité pour la science ouverte website](#)
- [Passport for Open science](#)



# What are the objectives of the Passport for Open Science project ?



To give PhD students an introductory vision summarizing open science (glossary, issues, mechanisms, benefits for the scientific community and more broadly for society);

To provide PhD students with the information required to put open science into practice:  
**Open access of scientific publications, data, open source.**

**Raise awareness of Open Science**

# What can PhD students find in the *Passport for Open Science* ?

A guide designed to accompany PhD students at **every step of their research career**, whatever their disciplinary field

## Planning an open approach to scientific work

- **Using freely accessible resources:**  
Examples of journal platforms, open archives, databases, data warehouses
- **Data Management Plan ;**  
Tools to directly manage Data
- **Working in a reproducible way: For yourself, for others**

## Disseminating research

- **Disseminating your publications in open access:** APC definition, Hybrid journals and predatory publishers
- **Making your thesis freely accessible :**  
Depositing in a open archive, exemples of repositories, explanation of publishing rights ...
- **Making research data open :** FAIR principles, choosing a data warehouse

## Preparing for after your thesis, join the movement

- **Deeply rooted public policies :**  
French National Plan for Open Science, Plan S, Horizon Europe etc.
- **Evaluating research differently :**  
open peer-review, creating a new standard for evaluation of researchers and research

Testimonials, practical examples, inserts with "good to know", external links to go further, glossary...

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Illustrations come from the *Passport for Open Science* and were made by 4minutes34



1



## Planning an open approach to scientific work

### Planning an open approach to scientific work

- **Using freely accessible resources:**  
Examples of journal platforms, open archives, databases, data warehouses
- **Data Management Plan ;**  
Tools to directly manage Data
- **Working in a reproducible way: For yourself, for others**

#### Where should you look for resources?



**Open access journal platforms:**  
Open access journals can have diverse business and editorial models.

▼ **OpenEdition Journals** offers 450 online publications in the humanities and social sciences.  
▼ **Persée** digitises and disseminates entire collections of journals retrospectively.



**Platforms for preprints or working papers:**

The availability of these unpublished articles means researchers can quickly discover the latest research approaches. Discover ▼ **arXiv**, an archive for preprints in mathematics, physics and astronomy.

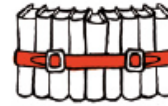


**Data warehouses:**

These may be multidisciplinary or specialised. Searches can be run for different types of data and they enable the deposit, conservation and sharing of research data. ▼ **FAIRsharing.org** lists available data warehouses.

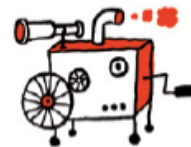


**Open archives:** These may be institutional or thematic, and scientific productions are deposited in the archives by researchers themselves for free consultation. Explore ▼ **HAL**, the multidisciplinary archive for French research.



**Databases for theses or academic works:**

These databases aggregate the digital thesis collections of universities and research centres. Visit ▼ **Dart-Europe** or ▼ **Open Access Thesis and Dissertation (OATD)**.



**Specialist search engines:**  
These aggregate open access content to make them easier to discover.

▼ **Core (core.ac.uk)** is a search engine specialising in open access academic publications (books, articles, theses, etc.).  
▼ **Unpaywall** can be installed as a browser extension and offers free access versions of all the articles available in its database.



Making data available



Collection



Description



Archiving



Processing  
and analysis



Storage



## Disseminating research

### Disseminating research

- **Disseminating your publications in open access:** APC definition, Hybrid journals and predatory publishers
- **Making your thesis freely accessible :** Depositing in a open archive, exemples of repositories, explanation of publishing rights ...
- **Making research data open :** FAIR principles, choosing a data warehouse

//////////////////// Watch out! //////////////////////

#### HYBRID JOURNALS

To increase their revenues, some publishers are retaining the traditional subscription access model while offering the paid option of publishing the article in open access. This amounts to charging an institution twice - once for access to the journal and once for publication of the article.

This controversial business model is often used by major commercial publishers. **It is not advisable to pay these additional costs** especially because you can distribute your article via an open archive.

#### PREDATORY PUBLISHERS: BEWARE OF APPEARANCES

The development of digital technology has led to the emergence of publishers with dubious practices who contact you to promise your work will be rapidly published. These publishers do not guarantee editorial quality and an effective peer review process but they may charge a fee for publication. As well as the financial costs, your scientific credibility will also be damaged. It is sometimes difficult to spot a predatory journal but certain tools can help you to do so. There are also predatory conferences organised in a similar fashion.

▼**Think. Check. Submit.:** This website gives access to a set of checklists to help you assess the reliability of the journal in which you plan to publish your work.







## Disseminating research

### Disseminating research

- **Disseminating your publications in open access:** APC definition, Hybrid journals and predatory publishers
- **Making your thesis freely accessible :** Depositing in a open archive, exemples of repositories, explanation of publishing rights ...
- **Making research data open :** FAIR principles, choosing a data warehouse

### The stages of depositing and disseminating

1. You defend your thesis.



2. You make all requested corrections and have your thesis approved.



DISSEMINATION IN OPEN ACCESS



CONFIDENTIAL THESIS



DISSEMINATION RESTRICTED TO THE UNIVERSITY COMMUNITY



3. You submit the final version of your thesis and sign the dissemination contract.

4. The university library takes care of processing and disseminating your thesis. You can also deposit your thesis yourself in an open archive.





3

Preparing for  
after your  
thesis, join  
the movement

## Preparing for after your thesis, join the movement

- **Deeply rooted public policies :** French National Plan for Open Science, Plan S, Horizon Europe etc.
- **Evaluating research differently :** open peer-review, creating a new standard for evaluation of researchers and research

## Deeply rooted public policies

Open science arose in the 2000s thanks to an initiative led by committed researchers and is now a firmly rooted component of public policies.



### France commits to open science!

#### 2016, French Law for a Digital Republic

This law provides a legal framework for the dissemination in open access of work published in a journal and defines the principle that administrative data should be open by default.

#### 2018, 2021, First, then Second National Plan for Open Science

This Plan covers a broader field, defining a programme of actions organised around four objectives: generalise open access to publications; structure, share and open research data; open and promote source code produced by research; transform practices to make open science the default principle. The Plan is designed to dovetail with European and international dynamics. It provides for the organisation of training courses to disseminate best practices and encourages institutions to adopt open science policies.

Find out if your institution already has an open science policy/charter like Sorbonne University, the University Toulouse - Jean Jaurès and the CNRS!

#### The French National Research Agency (ANR)

The ANR now stipulates that funding will only be allocated if the principles of open science are respected including full and immediate access to publications (articles) resulting from calls for projects launched from January 1<sup>st</sup> 2021 onwards. A data management plan is also required.

### And at the European level?

#### Horizon Europe

This funding programme starts on January 1<sup>st</sup> 2021 and consolidates the open science policy introduced under the Horizon 2020 programme. It includes the obligation to disseminate open access publications and strongly encourages the dissemination of data according to FAIR principles and an associated data management plan.

#### The Plan S

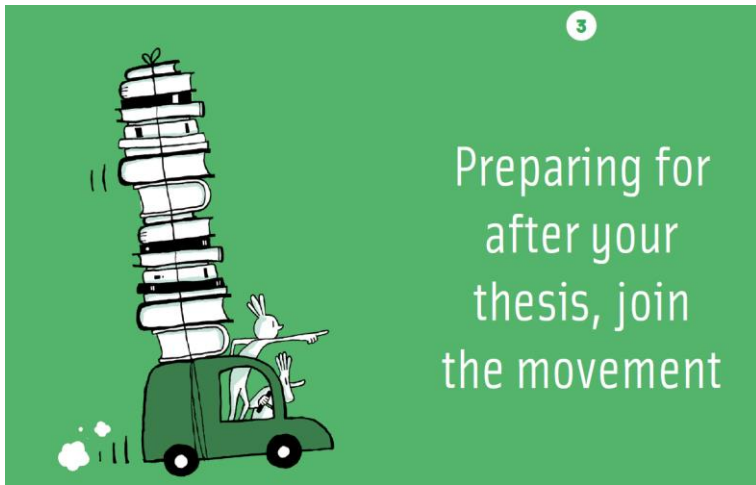
The 'Plan S' is a product of the cOAlition S which brings together research funding agencies committed to the development of open science. Its guiding principle is the free and immediate dissemination of publications funded by these agencies in journals, on open access platforms or in open archives. It will come into effect as of January 2021.

#### HRS4R

The HR Excellence in Research (HRS4R) label is awarded by the European Commission to institutions that have signed the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers and is a condition for obtaining European funding. The Charter for Researchers contains a section on "Ethics and good professional practices" which includes open science practices.

Has your institution obtained the HRS4R label or is it currently applying for one? If so, is there a section on open science? Find out!





3

Preparing for  
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- **Deeply rooted public policies :** French National Plan for Open Science, Plan S, Horizon Europe etc.
- **Evaluating research differently :** open peer-review, creating a new standard for evaluation of researchers and research

## Evaluating research differently

Open science represents a profound change in science and research which means it is currently questioning evaluation practices.

### Reinventing peer review

**Peer review is a prerequisite for any publication and a guarantee of the reliability of scientific results.** The process is usually organised by the journal or the publisher who submits the manuscript to other researchers in the same field as the author and who are not known to the author. However, this system is currently having difficulties particularly because reviewers may be competitors of the author. Conversely, some reviewers sometimes work on research themes which are too far removed from the article needing review. Generally speaking, peer review is not an infallible solution – since the 2000s there has been an increase in the publication of fraudulent or questionable articles because of data manipulation or plagiarism (Grieneisen & Zhang, 2012; Fang, Steen & Casadevall, 2013).

Open science has brought about **the emergence of Open Peer Review practices** with two main methods: the names of reviewers are made public and/or the review is carried out on a platform that enables all users to comment on the article. This practice has been made easier by the existence of pre-publication platforms like **arXiv** and **bioRxiv** which journals can use to collect comments.

#### Example

The **Peer Community in** platform organises the peer review of pre-publications deposited in an **open archive** which can lead to the obtention of a certificate of validation. Journals can thus publish articles freely without having to ask for reviewers.

In certain disciplines such as biology-health, the pre-registration of hypotheses and protocols (registered reports) in registers or journals has led to practices changing. Peer review is carried out in two stages which reduces the effect of publication bias (tendency to publish only positive results) and spotlights the research process.

### The evaluation of researchers with regard to open science

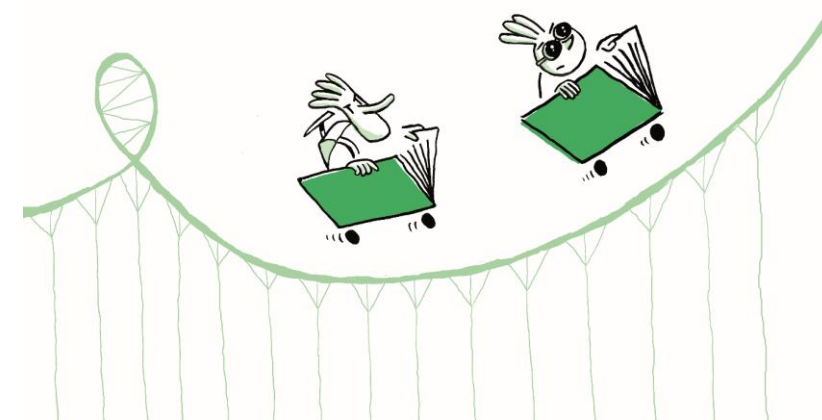
The desire to modify the evaluation process is particularly based on the Declaration of San Francisco (DORA) of 2013 and its first recommendation – the use of metrics based on journals, such as impact factor, should be avoided in evaluating researchers.

The new standards for the evaluation of researchers constructed according to the principles of open science must:

- encourage the unhindered dissemination of scientific production,
- take all aspects of research activity into account.

#### Example

The new CNRS roadmap provides for results themselves to be evaluated rather than publications. The data, codes of any software developed and pre-publications must be provided to the reviewers and the productions must be accessible in HAL when possible.



# Testimonials, practical examples, inserts with "good to know", glossary, external links to go further ...

## In the field

Minh-Châu N., PhD student in phonetics,  
Sorbonne Nouvelle Paris 3 University

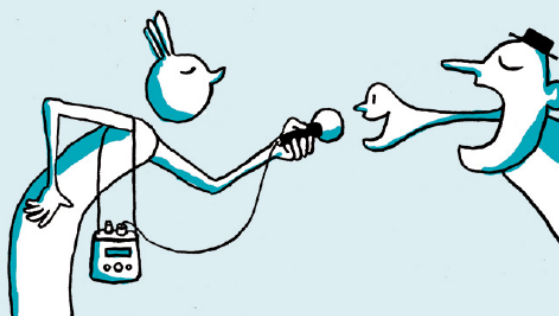
I am a phonetician. I study the sounds of languages, particularly little-studied Vietnamese dialects.

During my master's degree, I made field visits to the province of Phú Thọ to collect and record data from the little-documented dialect of Kim Thượng Mường, namely phonological and lexical contents, stories, dialogues and songs.

The article has been cited and downloaded but will gradually be replaced by new work. However the primary data is of unlimited value.

With two other researchers, I published an article which is available on HAL. The datasets have been deposited online in the CNRS Pangloss rare language sound collection.

I have continued working on my PhD in open science mode. As well as phonetic study, part of my work consists of preparing all the data recorded for long-term conservation in Pangloss. I am happy to contribute in this way to the preservation of my home country's languages!



## Glossary

### APC (article processing charges)

Charges for publishing immediately in open access which may be billed to the author (or his or her institution). See Open access publications.

### Article: preprint or author's version

The version of an article sent to a journal by the authors prior to the peer review process.

### Article: Accepted author manuscript

The version of an article including revisions resulting from the peer review process but without the publisher's final layout.

### Article: version of record

The version of an article with the editor's final layout as published in the journal.

### Data Management Plan (DMP)

An ongoing plan written at the start of a research project which sets out how the data will be managed covering its collection, documentation, and storage, as well as managing sensitive data, conditions for opening or sharing data, etc.

### Data warehouse

These may be multidisciplinary or thematic in one disciplinary field. In them, datasets are deposited, documented, and disseminated. A warehouse provides better archiving and wider access to data than a laboratory server or other local solutions.

### Distribution license

The license defines the conditions for distribution and reuse of any scientific content (example: Creative Commons).

### Embargo

Period during which a scientific production cannot be disseminated in open access. In the case of state-funded scientific publications, the French Law for a Digital Republic limits the embargo period after which the written work can be openly disseminated regardless of contracts with publishers (see the French law for a Digital Republic). Authors of theses may define an embargo period during which the thesis is only available within the academic community.

### FAIR (principles)

The aim of the FAIR principles is to make data findable, accessible, interoperable and reusable.

### French Law for a Digital Republic

This 2016 law provides a legal framework for depositing certain versions of journal articles in open access repositories if at least half of the funding of the research in question came from the public sector.

By putting research data in the category of public data, this law creates a legal obligation for such data to be freely disseminated.

## Example

The **Peer Community** platform organises the peer review of pre-publications deposited in an open archive which can lead to the obtention of a certificate of validation. Journals can thus publish articles freely without having to ask for reviewers.

## WORTH KNOWING

Would you like to deposit a publication in an open archive or distribute data with a license which allows its reuse? You should talk about this with your co-authors.

## Act now

**When you can**, submit your publications to open access journals.

**Deposit** your publications in an open archive:

- Keep the latest version approved by peers but not yet formatted by the publisher.
- Ask your co-authors for approval.
- Deposit the latest version approved by the peer reviewers in an open archive.

**Take part** in discussions within your disciplinary community about pre-publications deposited in open archives.

**Document and share** research data and/or the source code you developed:

- Store data using a perennial system or format in compliance with your team or institution's policy.
- Document the data with metadata so that they are reusable.
- Deposit the datasets associated with your publications in an online repository.
- Deposit your codes in a dedicated perennial open archive like **Software Heritage**.

**Follow** the evolutions of open science and get involved!

# Multiple tools and good practices that can be directly implemented





# Evolution of the project

*New objectifs for better adapting to your needs*

Need to deepen certain issues

Diversify awareness-raising materials

Continue to address to a  
multidisciplinary audience

Creation and dissemination of  
**2 new thematic guides**  
**16 pages**

Creation and dissemination of  
**5 short videos**  
**< 3 min**



Dissemination of new guides in French version on September 2022 !!  
(English version will be also disseminated in a next step of the project)

Available in French, English and subtitles in  
both languages !





# Thematic guides

## « *Science ouverte – Code et logiciels* »



### Format

- Content accessible to a multidisciplinary audience: **accessible to all PhD students having contact with code and software and not only computer science students**

### Content

- What are software and code? Why open them? How to open them? What to do after ?
- Concepts covered: source code, version control, archiving, documentation, concept and definition of license choices, referencing, copyright, testimonials, etc.

### Progress

- First version in revision before layout.
- Outside proofreaders



# Thematic guides

« *Science ouverte – Entrez dans le débat* »



## Format

- Presentation questions about Open Science with explanations and arguments,  
⇒ **to promote the conversation between PhD students and their professional network**
- Testimonials and key figures to spread the message to raise awareness of Open Science.

## Content

- Summary of questions raised through a large collection within professional networks.
- Questions on all aspects of open science
- General issues for a multidisciplinary public

## Progress

- First version in revision before layout.
- Outside proofreaders

# Thank you for your attention !

## Lille University libraries | Open science



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