Opening Doors to Open Science: A Welcome Kit Designed for Sharing

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WHY A WELCOME KIT?

Researchers face increasing Open Science requirements

Information is available but can be overwhelming, scattered, and difficult to navigate.

Newcomers often struggle with a simple question: "Where should I start?"

A COLLABORATIVE WORK



- Developed through the ULiège and UMONS collaboration (ORBi)
- Within the framework of LIBER Europe, the Association of European Research Libraries

THE OPEN SCIENCE WELCOME KIT

SHORT · VISUAL · PRACTICAL

- 6 concise factsheets
- in french and english
- Action-oriented

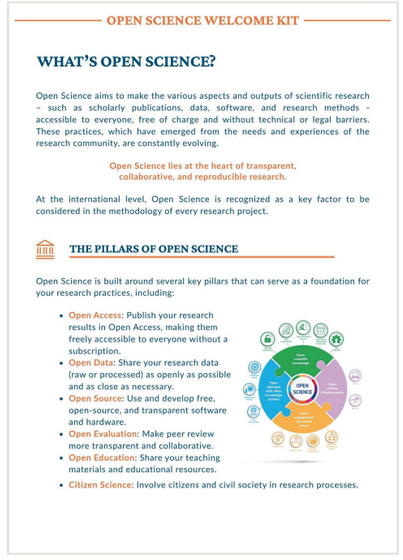
REUSABLE BY DESIGN

- Modular and easy to adapt
- CC BY-SA licence
- Documentation for adaptation

EASY TO ADOPT

Integrates easily into existing channels :

- Onboarding activities
- Doctoral training programmes
- Open Science workshops
- Institutional websites
- Welcome packs for new researchers


OPEN SCIENCE WELCOME KIT

WHAT'S OPEN SCIENCE?

Open Science aims to make the various aspects and outputs of scientific research – such as scholarly publications, data, software, and research methods – accessible to everyone, free of charge and without technical or legal barriers. These practices, which have emerged from the needs and experiences of the research community, are constantly evolving.

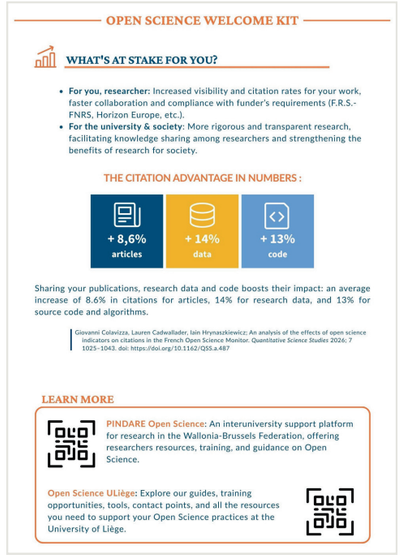
Open Science lies at the heart of transparent, collaborative, and reproducible research.

At the international level, Open Science is recognized as a key factor to be considered in the methodology of every research project.

THE PILLARS OF OPEN SCIENCE

Open Science is built around several key pillars that can serve as a foundation for your research practices, including:

- **Open Access:** Publish your research results in Open Access, making them freely accessible to everyone without a subscription.
- **Open Data:** Share your research data (raw or processed) as openly as possible and as close as necessary.
- **Open Source:** Use and develop free, open-source, and transparent software and hardware.
- **Open Evaluation:** Make peer review more transparent and collaborative.
- **Open Education:** Share your teaching materials and educational resources.
- **Citizen Science:** Involve citizens and civil society in research processes.


OPEN SCIENCE WELCOME KIT

WHAT'S AT STAKE FOR YOU?

- **For you, researcher:** Increased visibility and citation rates for your work, faster collaboration and compliance with funder's requirements (F.R.S.-FNRS, Horizon Europe, etc.).
- **For the university & society:** More rigorous and transparent research, facilitating knowledge sharing among researchers and strengthening the benefits of research for society.

THE CITATION ADVANTAGE IN NUMBERS :

+ 8,6% articles | + 14% data | + 13% code

Sharing your publications, research data and code boosts their impact: an average increase of 8.6% in citations for articles, 14% for research data, and 13% for source code and algorithms.

Giovanni Colavizza, Lauren Cadwallader, Iain Hrynaszkiewicz; An analysis of the effects of open science indicators on citations in the French Open Science Monitor. *Quantitative Science Studies* 2026; 7 1025–1043. doi: https://doi.org/10.1162/QSS.a.487

LEARN MORE

PINDARE Open Science: An interuniversity support platform for research in the Wallonia-Brussels Federation, offering researchers resources, training, and guidance on Open Science.

Open Science ULiège: Explore our guides, training opportunities, tools, contact points, and all the resources you need to support your Open Science practices at the University of Liège.

- Provides essential Open Science information
- Guides researchers to relevant resources and further guidance
- Connects researchers with available support services


OPEN SCIENCE WELCOME KIT

OPEN ACCESS

Open Access refers to the **free and immediate** online availability of scholarly publications, allowing anyone to read, download, copy, distribute and use research outputs without financial or technical barriers (*BOAI Declaration 2002*).

Open Access is built on several core values:

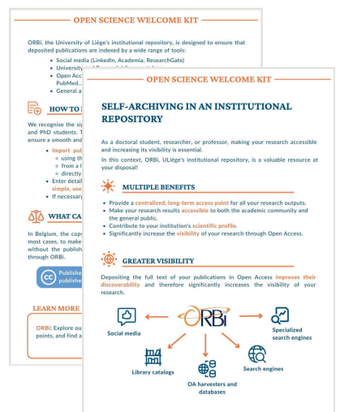
- Transparency
- Collaboration within the scientific community and equitable access to scientific information
- Democratization of knowledge, viewed as a public good, and resistance to its appropriation by a few commercial stakeholders
- Integrity that requires publicly funded research to be made accessible to the public

THE BENEFITS OF OPEN ACCESS

Increased impact | Faster dissemination | Greater visibility | Access for everyone

HOW TO MAKE YOUR RESEARCH OPEN ACCESS?

- Self-archiving, also known as the Green route or Green Open Access, consists of authors depositing a copy of their publications in an institutional or subject-based open repository. This model provides free access to scholarly works, at **no cost to either authors or readers.**
- Open Access publishing is carried out directly by the publisher. Several models exist, depending on how publication costs are covered:


OPEN SCIENCE WELCOME KIT

SELF-ARCHIVING IN AN INSTITUTIONAL REPOSITORY

As a doctoral student, researcher, or professor, making your research accessible and increasing its visibility is essential.
In this context, ORBI, ULiège's institutional repository, is a valuable resource at your disposal!

MULTIPLE BENEFITS

- Provide a centralized, long-term access point for all your research outputs.
- Make your research results accessible to both the academic community and the general public.
- Contribute to your institution's scientific profile.
- Significantly increase the visibility of your research through Open Access.

GREATER VISIBILITY

Depositing the full text of your publications in Open Access improves their discoverability and therefore significantly increases the visibility of your research.

ORBI

Social media | Specialized search engines | Library catalogs | Search engines | OA harvesters and databases


OPEN SCIENCE WELCOME KIT

COMPLY WITH THE FAIR PRINCIPLES

Findable | Accessible | Interoperable | Reusable

OPEN SCIENCE WELCOME KIT

OPEN DATA

Open Data refers to making data openly accessible to everyone so that they can be freely accessed, used, reused, and shared, in accordance with the terms of an open licence.

BENEFITS OF OPEN DATA

Efficiency | Visibility | Impact | Reproducibility | OPEN | Transparency

START WITH RESEARCH DATA MANAGEMENT

Although data sharing is recommended, it must take into account any relevant scientific, ethical, and legal constraints. It is therefore essential to consider Open Data as part of the data management planning process before a research project begins.

A Data Management Plan (DMP) helps identify the good practices that should be implemented to manage data responsibly throughout the research project.

WHY DEVELOP A DMP?

- Consider data management from the very beginning of the research project.
- Identify the actions required to ensure data quality, documentation, and traceability.
- Prepare data for sharing and reuse whenever possible.
- Anticipate legal, ethical, and regulatory requirements, including personal data protection and funders' requirements.
- Plan for the long-term preservation and valorization of research data.


OPEN SCIENCE WELCOME KIT

OPEN SOURCE

Sharing analysis scripts (Python, R, MATLAB) and research software as Open Source is a fundamental pillar of **scientific reproducibility**. By making your code openly available, you enable other researchers to understand, verify, and build upon your results. This increases the visibility and impact of your work, while also leading to more citations.

OPEN SOURCE PRINCIPLES

Making your code "Open Source" does not simply mean uploading a file to the internet. It also means ensuring that other researchers can read, run, test, and improve it.

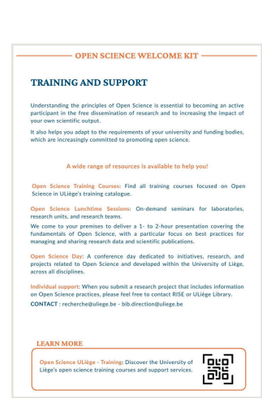
- **Reproducibility:** Enable your peers to replicate your figures, calculations and analyses exactly, using your raw data.
- **Long-term preservation:** Deposit your code in infrastructures designed for long-term preservation, rather than storing it solely on a USB drive or personal website.
- **Citation:** Obtain a persistent and unique identifier, such as a DOI, for your software so that other researchers can formally cite it, just as they would like a conventional research publication.

CHECKLIST FOR SHARING YOUR CODE

To share your code properly and securely, follow these five key steps:

Clean and document your code: To ensure that your code can be understood and reused by others, document it thoroughly and remove any sensitive information.

- Add a README.md file explaining what the code does, how to install it and how to run it.
- Remove any sensitive data, passwords or hard-coded API (Application Programming Interface) keys.
- Include copyright notices or licence information in the header of any files you have written yourself. For reused code, make sure to preserve the original licence.


OPEN SCIENCE WELCOME KIT

TRAINING AND SUPPORT

Understanding the principles of Open Science is essential to becoming an active participant in the free dissemination of research and to increasing the impact of your own scientific output.

It also helps you adapt to the requirements of your university and funding bodies, which are increasingly committed to promoting open science.

A wide range of resources is available to help you!

Open Science Training Courses: Find all training courses focused on Open Science in ULiège's training catalogue.

Open Science Lunchtime Sessions: On-demand seminars for laboratories, research units, and research teams.
We come to your premises to deliver a 1- to 2-hour presentation covering the fundamentals of Open Science, with a particular focus on best practices for managing and sharing research data and scientific publications.

Open Science Day: A conference day dedicated to initiatives, research, and projects related to Open Science and developed within the University of Liège, across all disciplines.

Individual support: When you submit a research project that includes information on Open Science practices, please feel free to contact RISE or ULiège Library.
CONTACT : recherche@uliege.be - bib.direction@uliege.be

LEARN MORE

Open Science ULiège - Training: Discover the University of Liège's open science training courses and support services.

EXPECTED BENEFITS

For Researchers

- Easier onboarding
- Clearer understanding of key Open Science concepts
- Faster access to resources and support services
- Reduced information overload through curated guidance

For Institutions

- Easier adoption of Open Science practices
- Better visibility of Open Science support services and training opportunities
- Stronger Open Science culture

For Libraries and Research Support Services

- Time savings through shared and reusable materials
- Opportunities for inter-institutional collaboration
- More efficient use of staff expertise

ACCESS THE OPEN SCIENCE WELCOME KIT

Editable version available on Zenodo. DOI: 10.5261/zenodo.23398583