

# Open Science at Université Paris-Saclay

Single document - 2022

**université**  
**PARIS-SACLAY**



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# Open Science at Université Paris-Saclay

**Université Paris-Saclay supports the development of Open Science in the world of academic research on an international level. Its contribution to this development is an important part of its strategy, motivated by high expectations.**

This document is intended to evolve over time. Primarily, it sets out the University's expectations arising from the opening up of science. It then lists the various projects and services undertaken by the University in this field, explaining for each one how it contributes to the University's strategy, detailing its specifications, the planned timetable and the services and people involved. This implementation of open science covers the scientific scope in all its variety and is based on work and reflections specific to the different research fields.

So, this document should enable the reader to be informed at any time of how the University is progressing towards its goal of mainstreaming open science by following a regularly updated roadmap, while keeping track of completed projects and the path already taken.

The evolution of this document will be discussed regularly by the University's Open Science Steering Committee, and by the Open Science specialists of the Graduate Schools and Institute. At regular intervals, it will be submitted to the University's bodies, CoDiReV 1 and the Research Commission.

1. Université Paris-Saclay Research and Development Executive Committee

*“The university expects the most widespread possible access to all scientific productions and methods of academic research, articles, conference proceedings, monographs, codes and data sets, a more efficient functioning of this academic research and increased appeal and influence of its teams.”*

# 1. University Expectations

The University expects the most widespread possible access to all scientific productions and methods of academic research, articles, conference proceedings, monographs, codes and data sets, a more efficient functioning of this academic research and increased appeal and influence of its teams. Once the priorities linked to the development of research and intellectual protection have been taken into account, opening up must lead to:

- **A more collaborative functioning** of this research: the ability of various teams to continue exploring the path opened up by one of them will lead, not to intensified competition between these teams sharing their data, but rather, beyond a healthy competitive spirit, to an increased capacity to collaborate in more global and more ambitious projects. The format of the call for proposals reinforces this incentive for collaboration. This will result in greater visibility for all teams (not just those at the university), and increased appeal and influence (in the context of collaborative projects) for some of them.
- **Improved functioning** of this research, where published results can be verified and reproduced, allowing everyone to pursue research initiated by others on a more solid basis.
- **An increased ability to include results and data obtained independently by various teams in the same meta-analysis**, using Artificial Intelligence technologies, opening up exciting prospects to detect “weak signals” with greater sensitivity. This implies that the sharing of information relates not only to experiments that have validated theoretical hypotheses, but also all those that have disproved the hypothesis they were testing, even the experiments with disappointing results, which are all too often not currently published.
- **An ability of its own teams to define their future research projects more solidly**, based on more complete information and avoiding dead ends that have already been explored.
- **The development of important research projects** requiring the contribution of non-academic players who are not research professionals (participatory projects).

Furthermore, the University expects the opening up of information to all citizens to increase the possibilities for research partnerships with the business world, particularly with SMEs which, because of the cost of access to information, are not sufficiently informed of the activities of its teams.

Finally, it expects to be able to play a more direct role in societal debates, which must be fuelled as transparently as possible by information that is recognised as reliable and unbiased. This is an essential element in the fight against the spread of false information. In this respect, the University's Open Science strategy must work for its strategy for the management of scientific and technical information and its circulation within society.

The development of Open Science depends on an overall movement of the many institutions that make up the world of academic research, and it is critical that each of them takes proactive initiatives within a coherent, overall framework while respecting the great diversity of these institutions, disciplines and research themes. Université Paris-Saclay's action is consistent with the National Plan for Open Science <sup>2</sup>.

Many articles offer indicators to measure progress in the deployment of Open Science. In particular, a national barometer has been set up <sup>3</sup>. Université Paris-Saclay is developing a specific barometer on its scope, according to a methodology shared with other universities and inspired by the national barometer <sup>4</sup>. In a more qualitative way, the University will continue to rely on the methodology proposed by LERU <sup>5</sup>, ranking the actions according to the 8 pillars of the European strategy <sup>6</sup>.

Université Paris-Saclay is also particularly attentive to the consistency of its strategy with that of its partners, in particular national research organisations.

One of the ambitions of the National Plan is that, for all researchers in the academic world, opening up information, results, as well as data sets, methods and protocols, becomes "normal practice". Achieving this objective is essential for mainstreaming open science, and includes raising awareness, training and appropriate support for researchers and academic staff <sup>7</sup>. This also requires a significant change of staff evaluation, following DORA <sup>8</sup> recommendations and the Leiden Manifesto <sup>9</sup>: at present, specific contributions to the opening up of science are, at best, ignored, and it is still all too common to find evaluations based on the number of articles published and the reputation of the journals in which they were published, rather than on their real impact in terms of progress of knowledge. This medium- to long-term ambition is based on formal decisions by the University, but it relies even more on the ability of the appropriate University departments such as the Board of Libraries, Information and Open Science (DiBISO) to organise themselves in order to maintain close contact with all the University's research and research support units and teams, through the Graduate Schools and the Institute, and linking with the faculty institutions, member-associated universities and partner research organisations.

With regard more specifically to publications in journals, Université Paris-Saclay would like the articles for which it appears in the signature to present new results in an argued manner, validated by peers and selected for publication in journals with an explicit editorial line at the

2. <https://www.ouvrirlascience.fr/deuxieme-plan-national-pour-la-science-ouverte/> After a first plan published in June 2018, the second plan, published in July 2021, is entitled "Mainstreaming Open Science, 2021-2024".

3. <https://barometredelascienceouverte.esr.gouv.fr>

4. <https://www.universite-paris-saclay.fr/le-barometre-de-la-science-ouverte-de-luniversite-paris-saclay>

5. <https://www.leru.org/publications/implementing-open-science>

6. [https://ec.europa.eu/info/research-and-innovation/strategy/strategy-2020-2024/our-digital-future/open-science\\_en](https://ec.europa.eu/info/research-and-innovation/strategy/strategy-2020-2024/our-digital-future/open-science_en) : Open data and EOSC; Next generation metrics ; Mutual learning exercise; Future of Scholarly publishing ; Rewards; Research integrity and reproducibility; Education and skills, Citizen Science

7. In this document, the term "researcher" will be used for everyone involved in scientific researchs

8. <https://sfidora.org/> San-Francisco Declaration On Research Assessment (2012)

9. <http://www.leidenmanifesto.org/> Leiden Manifesto For Research Metrics (2014)

end of an editorial work recognised as significant. Whether these journals are open access or not, it wants all these articles to be uploaded to the HAL open archive, so they are freely accessible.

Université Paris-Saclay encourages various initiatives in favour of open access and bibliodiversity<sup>10</sup>, through financial support and the active participation of its members in these initiatives. Some of the systems supported facilitate open access to scientific information (DOAJ, DOAB, OpenCitations etc.), while others explore alternative modes of publication, including the development of pre-prints, subject to open evaluation (PCI, Sci-Post etc.)<sup>11</sup>. The University is also aware of the fact that, although important, some scientific productions are not of interest to current journals. This unusual situation requires the development of a specific publication system, closely linked to data sets, on the one hand to avoid developing theoretical models which have already been disputed by observation and on the other hand, to avoid a team going down a dead end that has already been explored by another team.

All research data is important, and it must be stored appropriately, whether it's working data, shared between a limited number of researchers, or more stable data corresponding to a completed research project. In this second case, Université Paris-Saclay wants the data resulting from its teams' research, an important element of its heritage, to be (within the limits of intellectual property and personal data protection) freely and easily accessible. Good data management requires that, for each research project, a Data Management Plan (DMP) is produced at the start of the project and updated throughout the project to define the nature of the data to be stored, the conditions for its management and opening, the quality monitoring methods, its volume, its duration of use before possible archiving, as well as the roles and responsibilities of the project's participants with regard to the data. Université Paris-Saclay must also ensure that each data set is accompanied, as soon as it is produced, by the metadata that will allow this data set to be identified as relevant by a search engine linked to the EOSC<sup>12</sup> and, if necessary, to read, decode and process this data automatically to extract the required information. This is summarised in the acronym FAIR<sup>13</sup>. Finally, the infrastructure ensuring storage must guarantee both data security and its availability at all times.

As a partner of the EOSC-Association<sup>14</sup>, Université Paris-Saclay will contribute to defining and validating the standardisation of these metadata, adapted to each discipline or research theme, but also allowing interdisciplinary research. It will be based on the testing carried out as part of the national Recherche Data Gouv project<sup>15</sup>, in particular on the "Data Workshops" set up on various sites in collaboration with universities and organisations.

10. <https://jussieucall.org/>

11. Details of the initiatives currently supported can be found on the "support for the development of open science" page of the university's website.

12. European Open Science Cloud: FAIR data website <https://www.ouvrirlascience.fr/portail-web-de-leosc/>

13. Easy to find, Accessible, Interoperable, Reusable (FAIR)

14. <https://www.eosc.eu/>

15. <https://www.ouvrirlascience.fr/recherche-data-gouv-plateforme-nationale-federee-des-donnees-de-la-recherche/>

## 2. Organisation

### a. Deputy Vice-President for Open Science

The Deputy Vice-President for Open Science, reporting to the Vice-President for Research, works closely with researcher communities, as well as with experts from the Board of Libraries, Information and Open Science (DiBISO), in particular those responsible for research services. He is also involved in setting up UPSaclay IT MésoCentre, as far as it will allow the storage and opening of part of the data. Finally, he interacts with the Vice-President of Arts, Culture, Science and Society on the development of the Science-Society link.

On a national and international level, this deputy VP represents UPSaclay in the Network of Open Science Specialists of France Universités, UDICE, LERU, CESAER<sup>16</sup> and the EOSC Association. He interacts with national research organisations, in particular via their representatives in CoDiReV.

He is naturally accountable to the Research Commission and the Academic Council of UPSaclay, but also to CoDiReV as far as the efforts of the faculties, faculty institutions, partner universities and national research organisations in the field of Open Science must remain totally coherent.

### b. Steering Committee

The UPSaclay Open Science Steering Committee is led by the Open Science Deputy Vice-President and the Director of the DiBISO. This committee includes 10 volunteer researchers from various fields and 10 experts in scientific and technical documentation, representing Université Paris-Saclay as best as possible, including Evry and Versailles-Saint Quentin universities. It includes a member of the Research Commission. Its meetings are widely open to interested parties. The role of this Steering Committee is to advise the Deputy Vice-President, to make proposals, to consider proposed projects and their prioritisation. It monitors ongoing projects in the field.

### c. Correspondents

Each Graduate School and Institute has a correspondent in charge of presenting the opinion of its Graduate School and Institute on Open Science issues. Twice a year (and as often as necessary), the Steering Committee meetings mentioned above are extended to the Open Science correspondents of the Graduate School and Institute in order to ensure that the University's action is appropriate for each field of research.

<sup>16</sup>. France Universités: organisation of university presidents/UDICE: association of ten major French research universities/LERU: League of European Research Universities/CESAER: Association of European Schools for Advanced Engineering Education and Research



### 3. Implementation of projects and services

This action plan presents the actions and services already offered or currently being deployed within Université Paris-Saclay, as well as those planned for the medium term. These initiatives are presented according to eight priority objectives for open science, [derived from the European Commission's eight ambitions](#) for open science.

Projects are also carried out in line with the objectives of [the second national open science plan, the CNRS open science roadmap, and the League of European Research Universities open science roadmap](#) (LERU). Correspondence with these three reference documents is therefore mentioned for each of the eight objectives. Open science objectives are also in line with the respective open science strategies of partner organisations, faculty institutions and member-associated universities whose roadmaps can be consulted in the appendix to this document.

# Objective n° 1

*Make open access the rule for all University scientific publications*

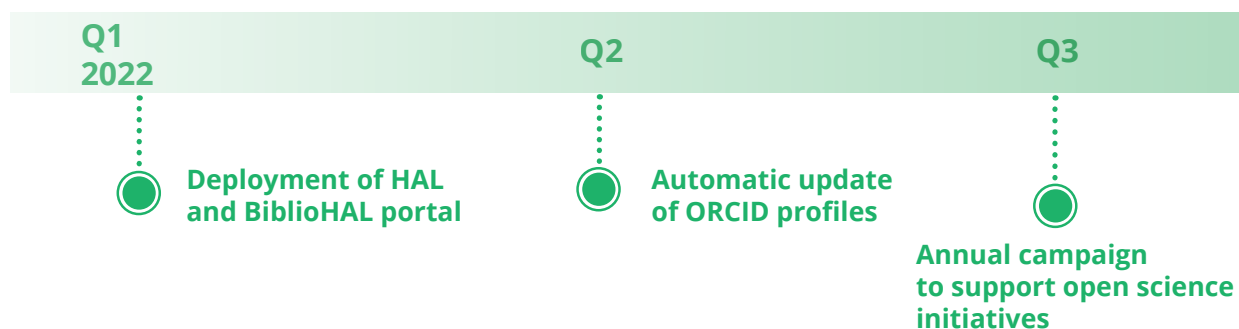
## ■ Université Paris-Saclay Context

Uploading publications in an open archive promotes the free dissemination of knowledge and enhances the University's scientific production. Several HAL portals and collections already exist within Université Paris-Saclay's research scope.

Université Paris-Saclay's HAL portal brings together these initiatives and enhances the publications produced within the University, while taking into account the tools and workflows already deployed in the National Research Organisations, member-associated universities and faculty institutions. An app to help upload to the HAL portal (« BiblioHAL »), based on an interconnection with ORCID, is deployed for all those in the research scope. Work on the quality of the data linked to the researchers' ID distinguishes this initiative from similar national tools set up, such as Dissemin. Eventually, each research unit will be able to be supported by a specialist for uploading publications and the management of their collections in HAL.

## Provisional timetable objective n° 1

- Support in using BiblioHAL
- Raising awareness of laboratories of APC expenses
- Raising researchers' awareness of uploading to HAL and ORCID
- Support of alternative open access publication methods



The ORCID ID <sup>17</sup> is used in an open science context in order to allow an author to be reliably linked to their publications. It also allows researchers' work to be more visible in bibliographic databases. Numerous services based on interconnection with ORCID (open archives, publishers, research funders etc.) have made ORCID essential in an international research environment. In this context, the use of ORCID is encouraged within the University through targeted awareness-raising actions and promoted through digital services interconnected with ORCID. Université Paris-Saclay is a founding member of the [ORCID France](#) consortium created in October 2019. It is [an elected member of its Executive Committee](#).

The development of editorial models in line with the principles of open access and the consolidation of visibility on article processing charges (APC) are also part of this objective of opening up publications. As the vast majority of article processing charges are incurred within research units, it is essential that managers and researchers are made aware of this expenditure. A national survey is completed annually.

17. Open Researcher and Contributor ID, <https://orcid.org>

→ Support signing contracts  
with publishers within APC/BPCs

→ Identify and consolidate APC  
expenses at university level

→ Management of the moderation of  
the HAL UPSaclay portal

Q4

From 2023



**Expansion of  
BiblioLabs and  
BiblioHAL sources**

## ■ Objective operators

Library and documentation network

Management and open science specialists of the [Graduate schools and Institute](#)

## ■ Objective monitoring

- Evolution of the rate of open access publications ([open science barometer](#), Annual Performance Plan indicator)
- Evolution of article processing charges paid within the University (Annual Performance Plan indicator)
- Measurement of the rate of use of ORCID among the University's researchers (UPSaclay indicator, to be developed)

## ■ Reference documents

| LERU   | Open Science National Plan   | French National Centre for Scientific Research  |
|--|--|---|
| <b>Pillar I</b><br>The future of scholarly communication<br><b>Point 7</b> | <b>Approach I</b><br>Mainstream open access to scientific publications | <b>Approach 1</b><br>Publications<br><b>Approach 5</b><br>Rebuilding scientific and technical information for open science<br><b>Action 1</b><br><b>Approach 6</b><br>Training and skills |

## ■ Actions

| In planning stage   | In progress  | Completed  |
|---|--|--|
| <ul style="list-style-type: none"> <li>• Expand the sources and functionalities of BiblioHAL and BiblioLabs</li> <li>• Implement ORCID in ADUM</li> </ul> | <ul style="list-style-type: none"> <li>• Financially support ethical open science initiatives <sup>18</sup></li> <li>• Deploy the BiblioHAL uploading help application</li> <li>• Automatic update of researchers' ORCID profiles by the University</li> </ul> | <ul style="list-style-type: none"> <li>• Implementation of the connection to BiblioHAL via ORCID (June 2021)</li> <li>• Producing videos on the HAL and BiblioHAL portal (Autumn 2021)</li> <li>• Deploy the UPSaclay <a href="#">HAL portal</a> with a laboratory, Graduate School and Université Paris-Saclay outlook (December 2021)</li> </ul> |

<sup>18</sup>. Details of the initiatives currently supported can be found on the "[support for the development of open science](#)" page of the university's website

## ■ Services

| In planning stage   | Being implemented  | Operational service   |
|---|--|---|
| <ul style="list-style-type: none"> <li>• Management of the moderation of the HAL UPSaclay portal</li> <li>• Offer support in signing contracts with publishers in the context of APCs and BPCs</li> </ul> | <ul style="list-style-type: none"> <li>• Support researchers in the use of BiblioHAL</li> <li>• Raising researchers' and laboratory managers' awareness of APC expenses</li> <li>• Raising researchers' awareness of the use of ORCID</li> <li>• Support for alternative modes of publication (e-books, journals or overlay journals) in open access</li> <li>• Identify and consolidate APC expenses at university level</li> </ul> | <ul style="list-style-type: none"> <li>• Awareness-raising and support for researchers in uploading on HAL</li> </ul> |

## Objective n°2

### *Promote the FAIR principles and opening of research data produced within Université Paris-Saclay*

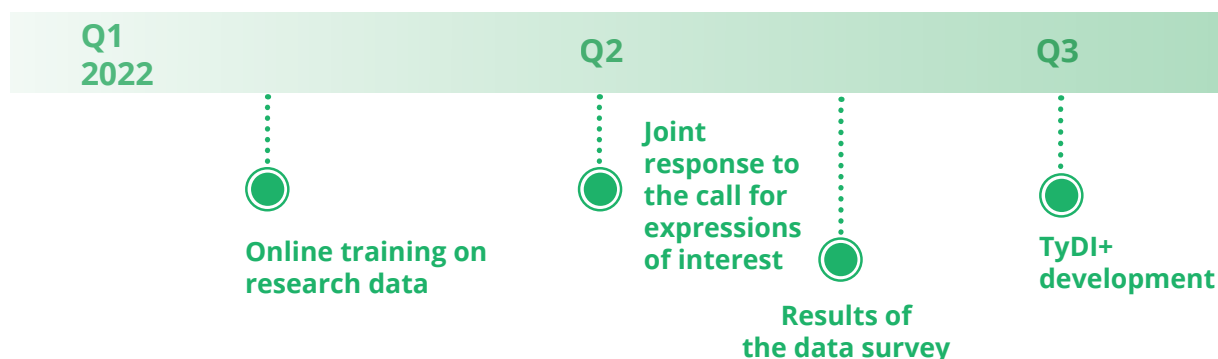
#### ■ Université Paris-Saclay Context

The FAIR principles (easy to find, accessible, interoperable and reusable) are a set of good practices guiding the structuring and opening of data, with the aim of making it easier to reuse. Using the FAIR principles and the allocation of data set distribution licences promotes sharing and free circulation of the university's scientific knowledge nationally and internationally and increases the reproducibility of research. Making data "FAIR" and drafting a Data Management Plan (DMP) as part of a research project are also increasingly required conditions for funding in the context of national or international calls for proposals.

Making data "FAIR" is made possible by technical solutions and by the development of appropriate skills within the university community. The implementation of a data center at Université Paris-Saclay providing the scientific communities with calculation, conservation and sharing possibilities, connected to a competence centre for research data, will make it possible to meet this double objective in the medium term. At the same time, Université Paris-Saclay is closely monitoring the national initiative "recherche data gouv" aimed at creating a federated national platform for research data and the associated support services. It is a

#### Provisional timetable objective n° 2

- Support researchers in drafting a DMP
- Systematisation of support for DMP H-Europe or ANR projects
- Raising awareness of FAIR principles among researchers and PhD students
- "Looking for data": Support for research and reuse of data sets



candidate for the Ministry's call for expressions of interest "data workshops", the result of which will be known in spring 2022. The development of awareness-raising sessions on FAIR principles and the drafting of DMPs is therefore expected to become mainstream within Université Paris-Saclay, while taking into account the specific features of each community and each discipline. These communities must also have the means to re-use the data sets produced by others. With time, the actions put in place should make it possible to train all PhD students in the management of research data and to make them aware as soon as possible of the future of their data after their thesis.

Researchers and PhD students will be made aware of and supported in the drafting of data papers, i.e. in the drafting of scientific articles whose aim is to describe data and the conditions in which they are produced. The time spent collecting, structuring and sharing data will therefore be highlighted by a scientific publication.

A survey on the management and distribution of research data within the university is currently being analysed and will provide elements of understanding to promote effective deployment of these new services.

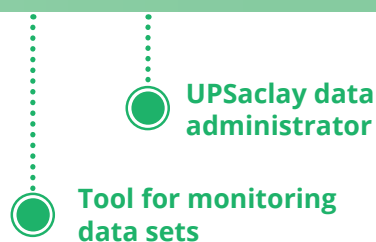
→ Help in drafting data papers

→ Advice on opening data - thesis path

→ Support for the opening of source codes and algorithms

Q4

From 2023



## ■ Objective operators

Library and documentation network  
Possible resource persons in the units  
Data center technicians and engineers  
Maison du doctorat

## ■ Objective monitoring

- Evolution of the number of data sets produced in open access (UPSaclay indicator, to be created)
- Evolution of the number of data papers published (UPSaclay indicator, to be created)

## ■ Reference documents

| LERU  | PNSO  | CNRS   |
|---|---|--|
| Pillar 2: FAIR data<br>Point 10<br>Point 14 | Approach 2<br>Structure, share and open research data<br>Point 4<br>Point 6<br><br>Approach 4<br>Transform practices to make open science the default principle | Approach 2<br>Research data<br>Action 1<br><br>Approach 6<br>Training and skills<br>Action 2 |

## ■ Actions

| In planning stage   | In progress   | Completed  |
|---|---|--|
| <ul style="list-style-type: none"> <li>• Develop a tool for monitoring the uploading of data sets produced within the University in conjunction with Recherche Data Gouv</li> <li>• Write a joint response to the call for expressions of interest "data workshops"</li> <li>• Appoint a data administrator at Université Paris-Saclay</li> </ul> | <ul style="list-style-type: none"> <li>• Survey on research data at Université Paris-Saclay</li> <li>• Self-training on research data for PhD students</li> <li>• "TyDI+" development (Inrae, DiBISO): a text mining tool for building verified vocabularies</li> </ul> | <ul style="list-style-type: none"> <li>• Dynamic tracking of data sets made available in the framework of European projects via BiblioLabs (2019)</li> </ul> |



## ■ Services

| In planning stage   | Being implemented  | Operational service |
|---|--|---------------------|
| <ul style="list-style-type: none"><li>• Support the search and reuse of data sets ("Looking for data" service)</li><li>• Support the opening of source codes and algorithms</li><li>• Advise PhD students on data during the thesis path and encourage opening</li><li>• Raise awareness and support in writing data papers</li></ul> | <ul style="list-style-type: none"><li>• Support researchers in drafting a DMP</li><li>• Raise awareness of FAIR principles among researchers and PhD students</li><li>• Systematise support for drafting DMPs in the context of applications to ANR or European research calls for proposals</li></ul> |                     |

# Objective n°3

## *Contribute to the EOSC*

### ■ Université Paris-Saclay Context

L'EOSC (European Open Science Cloud) is a set of European scientific data storage infrastructures. The aim is to interconnect these infrastructures by converging their standards and technical norms, in order to develop a “web of FAIR Data”.

EOSC was designed at the instigation of the European Commission and operates in particular through calls for proposals, financed by the Horizon Europe programme. Its governance is divided between the European Commission, the European Member States and the EOSC Association, where users and providers of data and services are represented.

Université Paris-Saclay has been a member of the EOSC association since its creation in July 2020 and is involved in an EOSC working group (Task Force). The university's future data center will seek to take into account EOSC standards from the start in order to contribute to its deployment and to take advantage of the opportunities offered by this future data cloud.

### ■ Objective operators

Library and documentation network  
Data center technicians and engineers

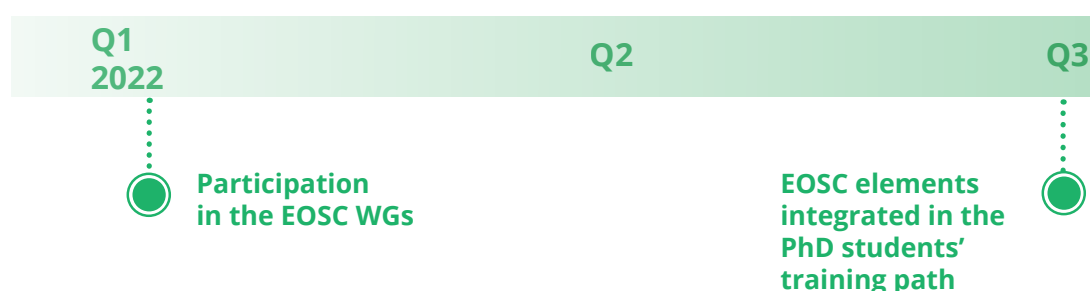
### ■ Objective monitoring

- Services of the future data center integrating the EOSC portal (UPSaclay indicator, to be created)

### Provisional timetable objective n° 3

→ Identify the EOSC calls for proposals

→ Raising awareness among researchers of the existence and opportunities linked to the EOSC



## ■ Reference documents

| LERU  | Open Science National Plan  | CFrench National Centre for Scientific Research                  |
|---|---|--|
| <b>Pillar 3</b> : The European Open Science Cloud (EOSC)<br><b>Point 19</b> | <b>Approach 4</b> : Transform practices to make open science the default principle. Participate at European and international level in the open science landscape<br><b>Point 5</b><br><b>Point 6</b> | <b>Approach 7</b> : International positioning<br><b>Action 1</b> |

## ■ Actions

| In planning stage  | In progress   | Completed |
|--|---|-----------|
| <ul style="list-style-type: none"> <li>• Ensure the interconnection of the data center services with the EOSC</li> <li>• Integrate elements on the EOSC in the PhD students' training path on research data</li> </ul> | <ul style="list-style-type: none"> <li>• Participate in EOSC working groups</li> <li>• Monitor EOSC deployment, as a full member of the EOSC Association</li> </ul> |           |

## ■ Services

| In planning stage  | Being implemented   | Operational service |
|--|---|---------------------|
| <ul style="list-style-type: none"> <li>• Identify relevant services on the <i>EOSC portal</i> and help researchers acquire them</li> </ul> | <ul style="list-style-type: none"> <li>• Make researchers aware of the existence and opportunities of the EOSC</li> <li>• Identify the EOSC call for proposals on which Université Paris-Saclay could position itself and support candidates</li> </ul> |                     |

Q4

From 2023

→ Identify relevant services on the EOSC portal and help in their acquisition



**EOSC-Data center interconnection**

## Objective n°4

### *Develop the necessary skills for open science*

#### ■ Université Paris-Saclay Context

Master the necessary technical skills to share research results and methods and be aware that the challenges of open access are two key points for the development of open science practices in scientific communities.

Within Université Paris-Saclay, each research unit will eventually be able to rely on a “research specialist”, a support staff whose task is to support the research unit in open science practices in coordination with any resource persons in the unit.

The deployment of infrastructures linked to open science, such as the HAL portal or the mid- sized computing centre, will be accompanied by information sessions and/or training for the target audience, in particular content producers (publications, data, algorithms etc.).

#### Provisional timetable objective n° 4

→ Support researchers in drafting a DMP

→ Raise awareness of the FAIR principles

→ One-stop shop for open science

→ Raising awareness among researchers of uploading to HAL and to the use of ORCID

→ "Looking for data": Support for research and reuse of data sets

Q1  
2022

Q2

Q3



Deployment of one scientific and technical information specialist per laboratory



Online training on research data

The training schemes considered will be an integral part of these projects. The actions and projects mentioned here are therefore partly based on the main training actions listed for the other objectives.

→ Support for the opening of source codes and algorithms

Q4

From 2023

Open access week 2022

## ■ Objective operators

Library and documentation network  
Maison du doctorat

## ■ Objective monitoring

- Number of researchers and PhD students who have received at least one training course on open science (UPSaclay indicator, to be developed)
- Number of users of the one-stop shop (UPSaclay indicator, to be developed)

## ■ Reference documents

| LERU   | Open Science National Plan  | French National Centre for Scientific Research  |
|--|---|---|
| <b>Pillar 4</b> : Education and skills<br><b>Point 20</b><br><b>Point 21</b> | <b>Approach 4</b><br>Transform practices to make open science the default principle | <b>Approach 6</b><br>Training and skills<br><b>Action 1</b><br><b>Action 2</b><br><b>Action 4</b> |

## ■ Actions

| In planning stage  | In progress  | Completed  |
|--|--|--|
| <ul style="list-style-type: none"> <li>• Deploy the network of research specialists covering all research units to support researchers in the various aspects of OS</li> </ul> | <ul style="list-style-type: none"> <li>• Training in the effective management of research data for PhD students</li> </ul> | <ul style="list-style-type: none"> <li>• Organisation of events and information sessions during Open Access Week (<b>November 2021</b>)</li> </ul> |

## ■ Services

| In planning stage   | Being implemented  | Operational service   |
|---|--|---|
| <ul style="list-style-type: none"> <li>• Support the search and reuse of data sets</li> <li>• “Looking for data” Service</li> <li>• Support the opening of source codes and algorithms</li> </ul> | <ul style="list-style-type: none"> <li>• Support researchers in drafting a DMP</li> <li>• Awareness-raising sessions for researchers and PhD students on the FAIR principles</li> <li>• Raising researchers’ awareness of the use of ORCID</li> <li>• Awareness-raising and support for researchers in uploading on HAL</li> </ul> | <ul style="list-style-type: none"> <li>• Organise a one-stop shop to answer researchers’ questions about open science infrastructures and practices:</li> </ul> <p><a href="mailto:science.ouverte@universite-paris-saclay.fr">science.ouverte@universite-paris-saclay.fr</a></p> <p><a href="mailto:donnees-recherche@universite-paris-saclay.fr">donnees-recherche@universite-paris-saclay.fr</a></p> |

## Objective n°5

### *Reward and encourage open science practices within the University*

#### ■ Université Paris-Saclay Context

The university is considering how to better integrate open science practices (opening up publications, data, etc.) into the evaluation of researchers, in line with international declarations such as DORA or the Leiden Manifesto. While taking into account open science practices in the evaluation of researchers is an important incentive factor, other forms of incentives can also be explored.

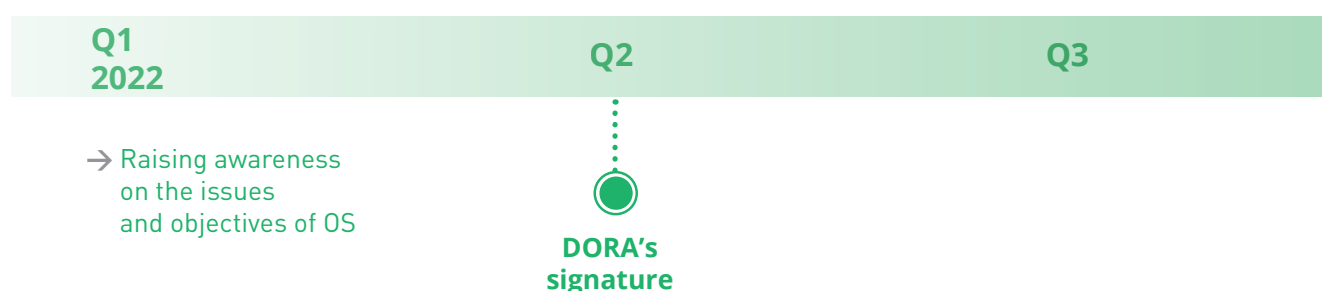
Good understanding of the collective and individual benefits of open access, in particular in terms of visibility of results, may also remain an important source of motivation within the scientific community.

Finally, specific actions, rewarding ethical open science dynamics from a researcher, research unit or a community, will be set up. In particular, opening the HAL portal of Université Paris-Saclay will allow for the first time in 2022 to organise a “HALathon” specifically rewarding uploading on the new portal.

#### ■ Objective operators

Graduate Schools' open science specialists Library and documentation network

#### Provisional timetable objective n° 5





## ■ Reference documents

| LERU  | Open Science National Plan   | French National Centre for Scientific Research |
|---|--|--|
| <b>Pillar 5</b> : Rewards and incentives<br><b>Point 26</b> | <b>Approach 2</b> : structure, share and open research data<br><b>Approach 3</b> : open and promote source codes produced by research - <b>Point 7</b><br><b>Approach 4</b> : transform practices to make open science the default principle - <b>Point 12</b> | Undisclosed                                    |

## ■ Actions

| In planning stage  | In progress  | Completed   |
|--|--|---|
| <ul style="list-style-type: none"> <li>• Université Paris-Saclay HALathon Prize</li> </ul> | <ul style="list-style-type: none"> <li>• Signature of the San Francisco Declaration on Research Assessment (DORA)</li> </ul> | <ul style="list-style-type: none"> <li>• HALathon Prize <b>(each year)</b></li> </ul> |

## ■ Services

| En projet  | En cours de mise en œuvre | Service opérationnel |
|--|---------------------------|----------------------|
| <ul style="list-style-type: none"> <li>• Raise researchers' awareness of open science objectives</li> <li>• Give recommendations on open science practices to be highlighted in evaluation and recruitment processes</li> <li>• Raise awareness among researchers involved in evaluation or recruitment processes</li> </ul> |                           |                      |

Q4

From 2023



**HALathon  
Prize UPSaclay**

- Recommendations on open science practices to be highlighted in the evaluation
- Raising awareness among researchers involved in valuation recruitment processes

## Objective n°6

*Encourage the use of new metrics in the analysis of the University's scientific output*

### ■ Université Paris-Saclay Context

At Université Paris-Saclay, monitoring the university's scientific output and associated indicators is carried out in particular via [BiblioLabs](#), an application allowing the incorporation, comparison and analysis of bibliographic and bibliometric data. The technical choices regarding its evolution will partly develop in the form of taking better account of open science indicators in its interface.

More thought needs to be given to ensure that bibliometric reports, provided in particular by BiblioLabs, include more open science indicators (rate of open access publications, rate of uploads to open archives, average cost of an open access publication etc.), in line with international initiatives on the subject (DORA, Leiden Manifesto etc.).

In the medium term, the diversification of BiblioLabs' data sources (already supplied by HAL) in particular open data sources, the sharing of its open access source code and the opening of its governance to other institutions will also contribute to the University's transparency and open science objectives.

### Provisional timetable objective n° 6

→ Automatic improvement of ORCID CVs with publications

Q1  
2022

Q2

Q3



Consideration  
on the use  
of new metrics

Furthermore, the methodology of [Université Paris-Saclay's open science barometer](#) will be consolidated and kept up to date in line with developments in the national open science barometer. This barometer will be one of the key indicators of the University's open science policy.

In order to encourage a more qualitative evaluation, the University's researchers will be encouraged to give access to their publications directly from their CV, published on platforms linked to the open science ecosystem (HAL, ORCID etc.)

All the indicators produced in this context will make it possible to supply and monitor the implementation of the university's open science strategy, but also to contribute to the evaluation of research.

→ Raising awareness of bibliometrics among PhD students

→ Integration of new OS indicators into internal bibliometric reports

Q4

From 2023



**Integration of new open sources to BiblioLabs**



**Development of new OS indicators in BiblioLabs**

## ■ Objective operators

Library and documentation network  
Maison du doctorat

## ■ Objective monitoring

- Number of PhD students/researchers trained in bibliometric databases (UPSaclay indicator, to be developed)

## ■ Reference documents

| LERU   | PNSO   | CNRS   |
|--|--|--|
| <b>Pillar 6</b><br>Next-generation metrics<br><br><b>Point 31</b><br><b>Point 32</b><br><b>Point 33</b><br><b>Point 34</b> | <b>Approach 4</b><br>Transform practices to make open science the default principle<br><br><b>Point 10</b> | <b>Approach 4</b><br>Individual evaluation of researchers and open science<br><br><b>Approach 5</b><br>Rebuilding scientific and technical information for open science<br><br><b>Action 2</b> |

## ■ Actions

| In planning stage   | In progress  | Completed   |
|---|--|---|
| <ul style="list-style-type: none"> <li>• Consider the use of new metrics, in line with international initiatives</li> </ul> | <ul style="list-style-type: none"> <li>• Integrate ArXiv and OpenCitations as open sources in BiblioLabs</li> <li>• Develop open science indicators in BiblioLabs</li> </ul> | <ul style="list-style-type: none"> <li>• Deploy an open science barometer and update it regularly (<b>latest update Nov. 2021</b>)</li> </ul> |

## ■ Services

| In planning stage   | Being implemented   | Operational service  |
|---|---|--|
| <ul style="list-style-type: none"> <li>• Systematically include open science indicators in internal bibliometric reports</li> </ul> | <ul style="list-style-type: none"> <li>• Automatically improve CVs on the ORCID profiles of the university's researchers</li> <li>• Raise awareness among PhD students and researchers about bibliometrics and the use of the main bibliographic databases</li> </ul> | <ul style="list-style-type: none"> <li>• Monitoring on BiblioLabs of the open access rate of publications and data sets related to European funded projects (2019)</li> <li>• Suivi sur Bibliolabs de la part de publications en accès-ouvert relativement au nombre de papier publiés (2019)</li> </ul> |

## Objective n°7

### *Take part in promoting research integrity through open science*

#### ■ Université Paris-Saclay Context

Open science is closely linked to the requirement of research integrity through its issues of transparency, reproducibility and openness. This seventh objective reinforces the actions carried out by [POLÉTHIS](#) - Council for Research Ethics and Research integrity of Université Paris-Saclay - and [the University's network of scientific integrity specialists](#). Furthermore, Université Paris-Saclay is a signatory of the [National Charter of Ethics for Research Professions](#), which lists the criteria for a rigorous and honest scientific approach.

Actions on open science are an opportunity to raise awareness among scientific communities of the transparency and integrity issues inherent in open science practices. In addition to targeted actions on the theme of scientific integrity, the challenges of research integrity are also made explicit and included in training courses on open science practices, such as opening up data.

#### ■ Objective operators

Library and documentation network Graduate schools  
Maison du doctorat  
POLETHIS  
Network of research integrity specialists

#### Provisional timetable objective n° 7

→ Include elements of research integrity into OS-related training

Q1  
2022

Q2

Q3



Build up documentary resources on

## ■ Objective monitoring

- Number of researchers and PhD students made aware of these issues through information sessions or training (UPSaclay indicator, to be developed)

## ■ Reference documents

| LERU                                      | Open Science National Plan | French National Centre for Scientific Research |
|---|----------------------------|--|
| Pillar 7 : Research integrity<br>Point 36 | Undisclosed                | Approach 6 Training and skills<br>Action 3     |

## ■ Actions

| In planning stage  | In progress  | Completed  |
|--|--|--|
| <ul style="list-style-type: none"> <li>• Organise a conference on the issues of research integrity and open science</li> </ul> | <ul style="list-style-type: none"> <li>• Build up documentary resources on scientific integrity</li> </ul> | <ul style="list-style-type: none"> <li>• Conduct a comparative study on anti-plagiarism software (September 2021)</li> </ul> |

## ■ Services

| In planning stage  | Being implemented | Operational service |
|--|-------------------|---------------------|
| <ul style="list-style-type: none"> <li>• Include elements of research integrity in the implemented training</li> </ul> |                   |                     |

→ Follow up on article retractions

Q4

From 2023

Organise an annual conference on OS-related research integrity issues



## Objective n°8

### *Encourage citizen science in University research projects*

#### ■ Université Paris-Saclay Context

Citizen sciences are defined by [the Charter of Citizen science and Research in France](#) as “forms of scientific knowledge output in which civil society players participate, together with researchers, individually or collectively, in an active and intentional way.” They can take different forms, ranging from citizens' participation in data collection and analysis, to co-solving problems with professional groups.

These projects contribute to affirming the university's role in the dissemination of scientific knowledge and encourage interaction with the region. They remain research projects with an intact scientific ambition, whose specific nature nevertheless implies a particular mediation with the participating public.

Within Université Paris-Saclay, these issues are linked to the broader issues raised by various participants, in particular the Vice Presidency of Art, Culture, Science and Society, the [Diagonale Paris-Saclay](#) and the DiBISO, and, beyond open science, allow the University to intervene in social debates involving science and scientific research.

#### Provisional timetable objective n° 8

→ Make available  
the crowdsourcing tools  
included in the digital library

Q1  
2022

Q2

Q3



Researchers from the University are already invested in various research projects including a citizen science approach, such as the [Vigie-Ciel](#) or [Vigie-nature \(Bird Lab\)](#) projects. Building on these existing initiatives, it could be interesting, in conjunction with the Vice Presidency of Art, Culture and Society, on one hand to consolidate the overall vision of these various projects in order to better promote them and, on the other hand, to encourage and better support new participatory approaches within the University. This support could include the identification of funding opportunities upstream of the projects, and then the possibility of offering methodological support and technical solutions during the project.

→ Monitor citizen science calls for proposals

→ Methodological support for citizen science projects

Q4

From 2023



Creation of a platform listing citizen science projects

## ■ Objective operators

Library and documentation network La Diagonale Paris-Saclay

Researchers leading ANR/European projects with a citizen science dimension

## ■ Objective monitoring

- Number of citizen science projects conducted within Université Paris-Saclay  
(To be developed)

## ■ Reference documents

| LERU  | Open Science National Plan   | French National Centre for Scientific Research |
|---|--|--|
| Pillar 8<br>Citizen science<br><br>Point 37<br>Point 38 | Approach 4<br>Transform practices to make open science the default principle | Undisclosed                                    |

## ■ Actions

| In planning stage  | In progress | Completed  |
|--|-------------|--|
| <ul style="list-style-type: none"> <li>• Create a platform listing and promoting the various citizen science projects within the University</li> </ul> |             | <ul style="list-style-type: none"> <li>• Production of a <a href="#">video on citizen sciences</a> for the 2021 Science Festival (September 2021)</li> </ul> |

## ■ Services

| In planning stage  | Being implemented | Operational service |
|--|-------------------|---------------------|
| <ul style="list-style-type: none"><li>• Monitor citizen science calls for proposals</li><li>• Make available to the scientific community the crowdsourcing tools included in the digital library (Omeka S)</li><li>• Offer a methodological support service for researchers wanting to instigate a citizen science project</li></ul> |                   |                     |

## Appendix 1 – Reference documents used

### « Open Science and its role in universities: a roadmap for cultural change », LERU, Mai 2018

#### The future of scholarly communication

5. Have institutional mandates to support the move to full Open Access, whose implementation can be monitored regularly.
6. Deliver a roadmap for how they, or specific groupings, can develop agreed plans for the future of scholarly publishing in their institution.
7. Advocate the use of author identifier systems such as ORCID across their institution.
8. Consider supporting new forms of scholarly publishing from third parties dedicated to Open Access approaches.
9. Where appropriate, establish new mechanisms for scholarly publishing based on the good practice identified in this paper.

#### FAIR data

10. Adopt or update an institutional policy on research data management - ideally modelled on the template produced by [LEARN-](#), embracing the FAIR principles and based on an 'as open as possible, as closed as necessary' philosophy, and establish a dedicated committee on research data management to monitor the implementation and uptake of such a policy.
11. Design and establish services for data stewardship, provide researchers with suitable infrastructures, and identify funding and resources to archive and to publish data.
12. Create a catalogue of where researchers have published data (or stored if not available for any reason) as is currently done with publications, and consider how to use this information in any research assessment or evaluation (cf. recommendations on rewards).
13. Provide free access to metadata in order to facilitate the discovery of data for which access must be restricted because of privacy, security, or confidentiality issues, making sure such metadata fulfil the FAIR principles, and establishing a grade of accessibility to those [restricted research data](#).
14. Establish training sessions on research data management at all levels, starting from students (cf. recommendations on education and skills).
15. Work together with any local, national or international activities, using for instance Research [Data Alliance national groups](#) or the [Digital Curation Centre's Data Management Planning Tool](#).

#### The European Open Science Cloud (EOSC)

16. Ensure institutional access to the requisite infrastructure, such as a locally managed data repository where research data is available for sharing and reuse, or that they ensure researchers understand where third-party storage solutions are available, which can themselves be part of the EOSC.
17. Provide a search and discovery service, enabling users to find what research data is available and where it is located, as it is key to the wider use of such resources and, therefore, of the vision embodied in the EOSC.
18. Move to sign the EOSC Declaration over time, as a statement of commitment at a local level, as LERU has done as an international network.
19. Develop their research data management offering so that it is aligned with the principles of engagement with the EOSC, once the latter are agreed and available, and in the expectation that the EOSC develops a more customer-centric approach to stakeholder outreach, which would facilitate engagement with researchers, academic support staff and service providers at universities in the development of its services.

#### Education and skills

20. Integrate Open Science concepts, thinking, and its practical applications in educational and skills development programmes, analysing and mapping their needs for Open Science skills training, taking into account the different Open Science dimensions and the varying needs of different audiences, different disciplines, etc.
21. Encourage, incentivise, support and recognise staff and students with regard to Open Science skills development.
22. Determine how to resource Open Science skills training in a sustainable manner.

**23.** Monitor the take-up and impact of Open Science skills training to determine progress towards its cultural integration in the institution.

**24.** Explore innovative mechanisms and tools to provide Open Science skills training, and engage with others outside the university to exchange good practice.

### **Recognition and rewards**

**25.** Endeavour to integrate Open Science dimensions in their HR and career frameworks as an explicit element in recruitment, performance evaluation and career advancement policies, so that research and teaching staff are appropriately recognised and rewarded for practicing Open Science.

**26.** Develop institutional policies for recognising and rewarding Open Science practice anchored in broad-based support; communicate them clearly and transparently, make them easy to find and access, and provide proper guidance or training to those who are involved in staff recruitment, appraisal and promotion in the university.

**27.** Develop individual HR criteria for recognising and rewarding Open Science in job descriptions, performance appraisals and promotion criteria, for all or most research and teaching staff, which take into account their multiple responsibilities, in terms of research output, process, impact, teaching and supervision, leadership, service to the university, public engagement, professional experience, as well as considering collaborative and team accomplishments in addition to individual accomplishments when appropriate.

**28.** Embed Open Science principles in the institutional research assessment system, shifting away from an excessive reliance on publication-based journal impact factors and citation cultures and recognising Open Science approaches such as OA publishing, data/code/reagent sharing, recognising pre-prints, etc.

**29.** Offer appropriate support, professional development and training opportunities for Open Science, aligned with employees' different needs depending on discipline, career progression, seniority and goals, including moving outside the university (cf. recommendations on education and skills).

**30.** Periodically monitor, reflect on and update their Open Science rewards system so it remains fresh and fit-for-purpose.

### **Next-generation metrics**

**31.** Develop a bibliometrics policy grounded in the principles of the Leiden Manifesto, with the aim of changing the culture in the academic community about research assessment.

**32.** Embed the new forms of research evaluation in its internal processes for promotion/reward and research evaluation.

**33.** Construct, via appropriate internal bodies, guidance for research administrators and academics on good and bad practice in the use of traditional bibliometrics and in the development of new metrics, and that they work with the scientific community in this endeavour.

**34.** Provide training to junior researchers, particularly early-stage doctoral researchers, enabling them to embrace the change of culture and practice which the responsible use of metrics brings (cf. recommendations on education and skills).

### **Research integrity**

**35.** Promote and develop awareness amongst the research community of how Open Science can ensure the highest standards of research.

**36.** Have a research integrity code which embraces the principles of open science or that they abide by the European Code for Research Integrity (ALLEA Code), in which, next to general principles of reliability, honesty, respect and accountability, good research practice includes inter alia:

**a.** Research institutions rewarding open and reproducible practices in hiring and promotion of researchers (cf. recommendations on recognition and rewards);

**b.** Authors ensuring that their work is made available to colleagues in a timely, open, transparent, and accurate manner, unless otherwise agreed;

**c.** Making research data as open as possible, as closed as necessary, in line with the FAIR principles for research data management;

**d.** Partners in research collaborations agreeing at the outset on the goals of the research and on the process for communicating their research as transparently and openly as possible;

**e.** Researchers adhering to the same criteria whether they publish in a subscription journal, an open access journal or in any other alternative publication form.

### Citizen science

- 37. Recognise citizen science as an evolving set of research methods, as well as its societal and educational benefits.
- 38. Consider creating, where viable, a single point of contact for citizen science within the institution.
- 39. Raise awareness amongst researchers of criteria for successful citizen science and ensure compliance with ethical, legal and privacy regulations.
- 40. Develop ways of assessing citizen science contributions and adapt research evaluation and **reputation systems accordingly**.
- 41. Ensure that proposals to granting bodies for citizen science projects include long-term commitment for infrastructures and data repositories.

### [Second National Plan for Open Science, MESRI, July 2018](#)

#### Approach 1: mainstream open access to publications

- 1. **Mainstream the obligation for open access publication** of articles and books resulting from research financed by publicly funded calls for proposals.
- 2. **Support economic models of open access publishing** without publication fees for authors (“diamond” model).
- 3. **Promote multilingualism** and the circulation of scientific knowledge through the translation of publications by French researchers.

#### Approach 2: structure, share and open research data

- 4. **Implement the obligation to disseminate** publicly funded research data.
- 5. **Create Recherche Data Gouv**, the federated national platform for research data.
- 6. **Promote the adoption of a data policy** across the entire research data cycle, making it easy to find, accessible, interoperable and reusable (FAIR).

#### Approach 3: open and promote source codes produced by research

- 7. **Promote and support the distribution under an open licence of source codes** from publicly funded research. Create a free software award for research that recognises exemplary teams and projects in the field.
- 8. Highlight source code output in higher education, research and innovation
- 9. Define and promote a **free software policy**

#### Approach 4: transform practices to make open science the default principle

- 10. **Develop and highlight open science skills** throughout the careers of students and research staff
  - Recognise open science in evaluations
    - a. Develop the open science barometer as a tool for monitoring, observing and measuring the impact of open science
    - b. Reduce the influence of the journal impact factor, starting by removing all references to this indicator and the H-index in the text of calls for proposals and application forms.
    - c. Promote the use of narrative CVs to reduce the influence of quantitative evaluation in favour of qualitative evaluation, and experiment with an openness profile on ORCID.
- 11. **Highlight open science and the diversity of scientific output in the evaluation** of researchers and academic staff, projects and research institutions
- 12. **Triple the budget for open science**, using the National Fund for Open Science and the Future Investment Programme

Create an **open science thesis prize**, and offer thematic booklets from the Passport for Open Science.

#### Participate at European and international level in the open science landscape

- 1. **Ensure that sovereign solutions** exist to allow higher education and research players to retain control over open science services for publications, data, source codes, videos and free educational resources etc.
- 2. Participate in the **governance** of metadata and unique ID **standards** for research subjects and players (Crossref, Datacite, ORCID, ROR, etc.) and in the governance of open science services (Directory of Open Access Journals, Directory of Open Access Books, OPERAS, etc)
- 3. Promote the creation of an open citation ecosystem as an alternative to proprietary environments by supporting the **Initiative for Open Citations** and the **OpenAlex** project led by OurResearch.

4. Create the function of **National Open Science Coordinator** and a network of national open science coordinators, the **Council of National Open Science Coordination** (CoNOSC).
5. Continue structuring the French community to contribute to the EOSC: promote EOSC membership of French research organisations and institutions, motivate the community of French EOSC players, organise an annual EOSC-France event.
6. Actively promote the inclusion of French open science services in the **EOSC catalogue of services**.
7. Include commitments to open science in the **Open Government Partnership** (OGP).

### CNRS Open Science Roadmap, November 2019

#### **1. Publications**

Action 1: lead a policy of support and development of the HAL open archive in conjunction with a policy of encouraging the uploading of scientific publications there.

Action 2: recommend the use of preprint servers, hosting manuscripts submitted to journals, in order to offer quick, open access distribution solutions via not-for-profit platforms.

#### **2. Research data**

Action 1: develop a culture of data management/sharing among all those involved in the data life cycle: researchers, engineers, IT engineers, archivists, librarians etc.

Action 2: develop data publication (data papers), joint publication/data uploading and support researchers in using data management tools.

#### **3. Text and data mining and analysis**

Action 1: support and develop infrastructures for content analysis

Action 2: legislative framework: support, translate and inform

#### **4. Individual evaluation of researchers and open science**

#### **5. Rebuilding scientific and technical information for open science**

Action 1: develop researchers' commitment to ORCID

Action 2: work on new bibliometric indicators

#### **6. Training and skills**

Action 1: develop the skills and expertise needed for open access publishing.

Action 2: develop skills in research data management.

Action 3: develop "scientific" skills for the conduct of open research, including skills in research integrity, ethics and law.

Action 4: develop support skills in laboratories for the analysis and mining of results.

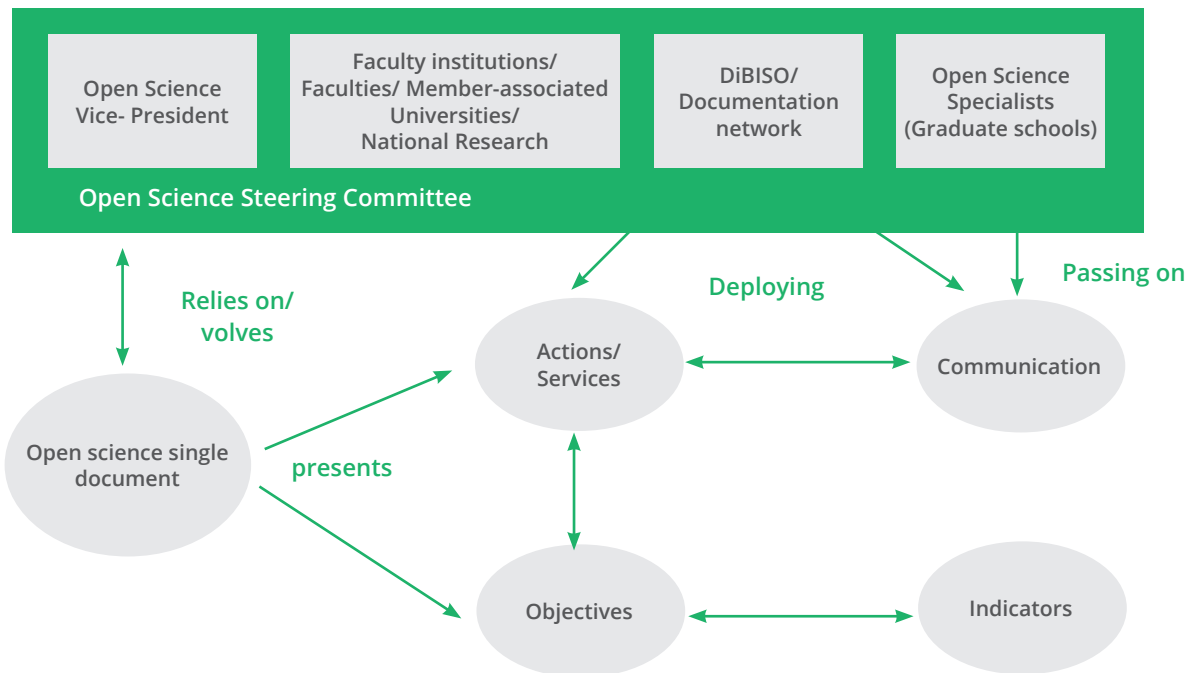
#### **7. International positioning**

Action 1: align CNRS positions with the European and international Open Science framework on data. Be part of the implementation of the EOSC and the data services that are being set up is a major challenge for the CNRS.

Action 2: support initiatives that work to define the elements of making data FAIR.

Action 3: communicate with our European and international partners on open access scientific publication strategies.

## Appendix 2 – Organisation of Open Science at Université Paris-Saclay





## Appendix 3 – Composition of the Open Science Steering Committee

| Coordinators   |
|--|
| Etienne Augé (Deputy Vice-President Open Science)      |
| Julien Sempéré (DiBISO Director)                       |
| Experts  |
| Maud Soverini (UEVE)                                   |
| Claire Lebreton (UVSQ)                                 |
| Annie Le Blanc (CEA)                                   |
| Eva Legras (AgroParisTech)                             |
| Véronique Prêtre (CentraleSupélec)                     |
| Amandine Saly-Giocanti (DiBISO)                        |
| Cédric Mercier (DiBISO)                                |
| Researchers and academic staff                         |
| Nicolas Gigant (Medicinal chemistry, BioCIS)           |
| Pierre Guibentif (MSH)                                 |
| Florent Le Bot (History, IDHES)                        |
| Joël Merker (Institut de mathématique d'Orsay)         |
| Ken Olaussen (Bio/Medicine, Institut Gustave Roussy)   |
| Pascal Pernot (Institute of Physical Chemistry, Orsay) |
| Frédéric Schmidt (Earth Sciences, GEOPS)               |
| PhD Students   |
| Sébastien Piluso (Medicine, MIRCEN)                    |
| Rebecca Zucchini (IT, LISN)                            |
| Membre de la commission recherche                      |
| Hélène Katz  |

## Appendix 4 – List of open science specialists of the Graduate Schools

| Graduate School Name                       | Open Science Specialist |                |
|--|-------------------------|----------------|
| Law  | Florian                 | Poulet         |
| Economics - Management                     | Christine               | Boizot-Szantai |
| Humanities - Heritage Sciences             | François                | Robinet        |
| Sociology and Political Science            | François                | Théron         |
| Chemistry                                  | Jean-Yves               | Salpin         |
| Computer Sciences                          | Claire                  | Nedellec       |
|  | Claire                  | Nedellec       |
| Geosciences, Climate, Environment, Planets | Frédéric                | Schmidt        |
| Mathematics                                | Joël                    | Merker         |
| Physics                                    | Kees                    | van der Beck   |
|  | Tiina                   | Suomijarvi     |
|  | Alain                   | Abergel        |
| Engineering and Systems Sciences           | Bernard                 | Bartenlian     |
|  | Sylvain                 | Chevallier     |
| Biosphera                                  | Rafael                  | Munoz-Tamayo   |
| Life Sciences and Health                   | Pierre                  | Capy           |
| Health and Drug Sciences                   | Nicolas                 | Gigant         |
| Public Health                              | Bénédicte               | Stengel        |
| Sport, Movement & Human Factors            | Claire                  | Junius-Thomas  |
| Education, Training and Teaching           | Gilles                  | Uhlrich        |
| Research and Higher Education Professions  | Christine               | Duvaux-Ponter  |
| Institute for the Sciences of Light        | Aymeric                 | Delteil        |

## Appendix 5 – Open Science Roadmaps of faculty institutions and partner organisations

### **INRAE Open Science Policy:**

[https://www.inrae.fr/sites/default/files/pdf/Politique\\_INRAE\\_Science\\_Ouverte.pdf](https://www.inrae.fr/sites/default/files/pdf/Politique_INRAE_Science_Ouverte.pdf)

### **Open Science at AgroParis Tech, institutional policies:**

Open Science: <https://seafile.agroparistech.fr/d/ce7bcd29fb484b79ae23/>

Research data: <https://seafile.agroparistech.fr/d/aafc52a7701d4607b1ff/>

### **CEA charter for open science:**

<https://www.cea.fr/chercheurs/Documents/information-scientifique/Charte-science-ouverte-CEA.pdf>

## NOTES

[illegible]

[illegible]



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