Open ⬥❋❋ Science

Methodological Guide to Open Science for Project Applicants

Open Science is the open accessibility of scientific information, including Open Access publishing, Open Data, Open Source, Open Peer Review and other forms of Open Science.

According to the Open Access and Open Science Strategy (2023-2030) of Mendel University, the Open Science Centre has been established to provide methodological support for open science and to support scientists during their project applications. The Centre offers consultation on the Data Management Plan and on meeting the Open Science requirements in project applications.

Project applications need to address the description of research data management and also complete and regularly update the Data Management Plan. It is always important for the applicant to check the Open Science requirements set out in the specific project guidelines, as the requirements of the providers may vary.

Most frequent grant providers and their calls for projects: GAČR, TAČR, Horizon Europe, OP JAK.
- **OP JAK**: Within the framework of OP JAK projects, a handbook of open science practices was published
- **TAČR:** All important information on Open Access and research data can be found in the handbook: Research Data and Open Access to Outputs/Results. The terms and conditions of Open Science are in the individual calls documentation for the announced projects.
- **GAČR:** Information can be found in the documentation of the individual project calls.
- **Horizon Europe:** HE Programme Guide, Open Science (p. 40).

Information on Open Access to Science and Research Results at MENDELU

1. **Information about Open Access Science at MENDELU:**

   The University is involved in national open access initiatives: the Open Access Initiative of the Association of Libraries of Czech Universities and manages The Open repository of research and development results of the Mendel University in Brno, which is designed for publishing Open Access results. In addition, the university's **Open Access and Open Science Strategy (2023-2030)** focuses on promoting Open Access, Open Science and research data.

2. **If there is a requirement, that some results are Open Access:**

   you state in the project proposals how the open access principles are implemented in the given project. In some projects, it is not enough to publish in Open Access, but it is also necessary to publish the publication results in a repository, which enables long-term archiving of research and development results and enables open access to these results. These are e.g. Horizon Europe projects, OP JAK, etc.

Example of possible texts to use:

A) **Results will be published in an open journal** (Gold Open Access)
- *Open Access journals are in [DOAJ](#).*

B) **Auto-archiving of results in an open, trusted repository** (Green Open Access), either in the Open [repository](#) of research and development results of the Mendel University in Brno or in the trusted <mark>XY</mark> repository
- *You can choose suitable repository in [Open DOAR](#).*

A+B) **Results will be published in an open journal** (Gold Open Access) **and also auto-archived in an open, trusted repository** (Green Open Access), either in the Open [repository](#) of research and development results of the Mendel University in Brno or in the trusted <mark>XY</mark> repository

! Note: before publication, it is always necessary to check the **Open Access requirements of the publisher and of the journal** (eg. If it is possible to archive the result in the repository) and <u>Creative Commons licenses</u>. Requirements and licenses: https://v2.sherpa.ac.uk/romeo/ or on the journal´s webpage. It is important to check if the chosen journal and repository meet the requirements of the project calls!

3. **If there are Open Access requirements in the projects, Article Processing Charges can be planned as part of the eligible costs of the project.**

! Note on publication outputs: For example, for TAČR grant documentation: Applicants are obliged to ensure open access to the types of outputs/results (marked with an asterisk (*)) and related research data in the given call.

Description of the research data management in the project proposals

A brief description of research data management is required in project proposals, in some cases also the first version of the Data Management Plan.

The applicant can expect to answer following types of questions in the proposal:

which data will be created, processed, or collected:
Note: always add according to your research.

" The project will generate <mark>*XY*</mark> data in <mark>*ZX*</mark> format using the <mark>*YZ method.*</mark> "

<mark>*"AB*</mark> *samples will be collected in the project, their collection will take place...* <mark>*(please add)"*</mark>

"The project will include, ==for example, questionnaire surveys== focused on ==(add), the informed consent== ==of the respondents will be ensured…"==

If you are going to work in a project with already existing data:

"The project will use data from the ==XY database… (fill in + link)== for the purpose of ==YZ."==

"The project will use ==XY data== from the previous research/project ==YZ (fill in the name + link)."==

what methods and principles of their management will be used with regard to the FAIR principles (findability, accessibility, interoperability, and reusability):

Note: always add according to your research.

1.) Data storage during research:

"The research data will be stored on ==XY/e.g. shared disk of the workplace/e.g. OneDrive (O365),== which is backed up regularly."

Data storage at MENDELU: Information about data storages that are being worked with during research: https://uvis.mendelu.cz/en/storage-for-research-data.

In some projects, costs of data storage (capacity increase) can be included in the project budget.

2.) Data documentation, data description, metadata:

"The research data will be described, using: ==fill in the option of how you describe the data: e.g. a== ==laboratory journal/text file README/etc.== The data will be described according to the practices of the workplace: ==e.g. the date of measurement, method, measurement parameters, instrument, etc. will== ==be described (Note: according to your research)."==

! If there will be **sensitive data or personal information** in the project, it must be protected. Describe, how you will protect this data, e.g. whether it will be anonymized, who will have access to it, etc.

how the data will be shared and published; and in what way will the data be stored during the implementation of the project and preserved after the end of the project:

1.) Will you openly share research data?

Check the requirements for sharing research data in project calls (e.g.: TAČR: p.5-6 HERE.). If your research is subject to an exception to the Obligation to Make Data Available, please describe it.

"The research data related to ==XY== cannot be open because an exception ==XY== applies to them."

"The research data will be published in a repository ==(choose which one you want to== ==use, see https://uvis.mendelu.cz/en/data-repositories),== such as ==Zenodo== or in a ==national data repository== from CESNET or the ==domain-specific repository XY.== The data will be assigned a persistent DOI identifier ==(note: check if DOI is assigned via== ==the repository)== and described with basic metadata."

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„The underlying data of the article will be stored in the XY *repository, a link to the stored data will be provided in the text of the published article."*

Information, where to find **data repositories**: https://uvis.mendelu.cz/en/data-repositories

Data Management Plan, DMP - If it is a requirement in the project

Data Management Plan (DMP): a document describing what data and how they will be created during the research, the document includes information on the availability and use of this data. The data management plan is regularly updated during research to reflect the actual work with the data.
For the reusability of research data, it is important to use FAIR principles so that the data is: **F**indable, **A**ccessible, **I**nteroperable, and **R**eusable.

Information about Data Management Plan: https://uvis.mendelu.cz/en/data-management-plan
Open Science centre offers DMP consultations: open-science@mendelu.cz

DMP templates:
There are several templates for DMP, check the project terms and which template to use:
- Horizon Europe – in English (TEMPLATE – enter Data Management Plan)
- NTK - HE template in Czech
- TAČR - DMP template

Always check the requirements of the given project call:

- **GAČR** - a brief description of the research data management of the project proposal; DMP with interim and final reports
- **TAČR** - brief description of the research data management of the project proposal; DMP with interim and final reports (LINK)
- **Horizon Europe** - DMP within 6 months from the start of the project (LINK)
- **OP JAK** – brief description of the research data management in the project proposal; DMP with interim and final reports (LINK)

Information: https://uvis.mendelu.cz/en/projects-and-open-science

Online tool for drafting your DMP – Data Stewardship Wizard

Data Stewardship Wizard is an online tool for creating a Data Management Plan, it is free and in English language. The tool includes guiding questions that help to intuitively complete the DMP. The tool allows you to compare how FAIR is your data **LINK**.
Access for researchers: Researchers allow you to create a Data Management Plan for free after registration.

Data Steward's position in the project
In some projects, a Data Steward can be assigned to manage the research data in the project team. We recommend planning for this position as data management is time consuming.

The data steward in the project should ideally have been selected from the project team to be knowledgeable about the research data used within the project and the field.

Data Steward position at the University
Methodological support for research data management at the University is provided by the University's Data Steward, who is a part of the Open Science Centre. As a methodologist, the Data Steward offers consultation for completing and updating Data Management Plans, choosing adequate storage options, for selecting data repositories for your final research data, etc. The university Data Steward works closely with the Data Stewards of individual departments or research teams. Contact for your questions: sona.kehmova@mendelu.cz

Information on Open Science at the University:

- **The Open Access and Open Science Strategy (2023-2030)** has been approved at the University, which focuses on the promotion of Open Access, Open Science and research data: https://doi.mendelu.cz/pdfs/doi/9900/02/9300.pdf.
- The University has a support department **Open Science Centre:** https://uvis.mendelu.cz/en/osc-about-us
- **Storage options at MENDELU:** Storage options for research data used during research projects: https://uvis.mendelu.cz/en/storage-for-research-data
- Information on where to find **data repositories:** https://uvis.mendelu.cz/en/data-repositories
- **FAIR data:** https://uvis.mendelu.cz/en/research-data
- General recommendations for metadata description of research outputs and research data: https://repozitar.techlib.cz/record/1600?ln=en.

If you have any questions, please contact the Open Science Centre: open-science@mendelu.cz