About Research Data Management (RDM) at Mecila

Research Data Management (RDM) is about making the data that you create and work with safe and accessible for you – and if possible – for the scientific community.

Mecila strives to support you in managing, securing, storing, and sustainably providing access to research data following recognized standards and highest ethical demands in accordance with the developments in this highly dynamic field. Mecila is aware of the disciplinary and regionally specific concerns and requirements.

The Mecila subproject of the University of Cologne is responsible for the infrastructure and support for Mecila's RDM. Mecila provides information on how to structure workflows and find solutions regarding the management of your research data.

WHY SHOULD YOU MANAGE RESEARCH DATA?

RDM keeps your data safe. It minimizes the risk of data loss or of unauthorised access.

RDM increases your research efficiency by improving data quality and by guaranteeing longer–term data access. As part of RDM, you define the conditions of data access and use. Not all research data can (or should) be published. If published, your data can be cited which increases the impact of your research.

WHAT DO YOU NEED TO DO, HOW TO GET STARTED?

1) Register with and use Mecila's RDM infrastructure

All members of Mecila have access to its RDM infrastructure. Before you begin your fellowship, you will obtain a registration form. A short questionnaire will clarify your RDM requirements. Please return these forms by email to our data manager Milagros Pacco (milagros.pacco@uni–koeln.de). While working at Mecila, save your data securely on our cloud.

2) Obtain a minimal understanding of RDM and how it works technically.

RDM accompanies your research project through all stages. The data life cycle summarises the various stages of RDM (see graph). Each stage requires specific considerations that define the necessary activities to preserve, guarantee continuous use, and potentially give access to the data during the project and after its completion.

Mecila will inform about the standards and possibilities of its RDM at the outset and during your research project.

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3) Write your Data Management Plan (DMP)

A DMP is key to good data management. It should be created early in the research process. It contains the framework for handling your research data during and after the research project. Ethical considerations concerning sensitive data are a fundamental part of the DMP. As a "living"

document, you will continuously update your DMP to reflect the dynamism of your research project.

Mecila provides a DMP template that includes the most relevant aspects of RDM. You can adapt it to the specificity of your project if needed.

4) Organise and process your data

It is important to choose stable data formats, naming conventions, and a logical folder structure to organise your data. These choices will facilitate the way you safe, sort, and use and reuse data in the short, medium, and long term.

Mecila informs about appropriate file formats.

5) Document and create metadata for your data

Data documentation clearly describes and details the content, context, and structure of your data. It is essential to help you and other researchers to understand your data. Information about the conditions and processes that are involved in the creation, collection, and processing of your data can also be useful additional information.

Metadata are "data about data". They are a highly structured form of data documentation. They facilitate the cataloguing of data and its searchability. Good and complete metadata can be uploaded into data repositories. Data repositories are data libraries or archives that collect, manage, and store meta data (and sometimes research data) for analysis, documentation, and sharing.

Metadata explain, for example, the purpose, origin, time, location, creator(s), terms of use, and access conditions of research data. We recommend to continuously create the necessary metadata throughout your research project.

Documentation and Metadata are also important for doing your research data FAIR *(Findable, Accessible, Interoperable, Reusable).* Making your data Fair helps you and/or other researchers with access rights to easily find, understand, process, and (re)use your data in the short, medium, and long term.

Mecila can provide information on metadata schemas and help you to find an appropriate schema in order to make your data FAIR.

6) Archive (and publish) your meta data (and research data)

To ensure long-term access, readability, and usability of research data, metadata and research data should be deposit in a trustworthy repository. Publishing the metadata makes the descriptive information of your data findable. In a separate step, you can decide whether, where and under which circumstances you provide access to your research data.

Mecila provides a checklist with selection criteria to help you find an appropriate and trustworthy repository for your metadata and research data.

HOW CAN YOU CONTACT MECILA?

If you have questions or would like to find out more about RDM and our support, please feel free to contact our Data Manager, Milagros Pacco, via milagros.pacco@uni-koeln.de at any time.