AGENDA

1. Key aspects in DMP(s)
2. Policies
DFG, EU, Open Data, FAIR
3. Tools
& Discipline-specific support
4. Tips
Do’s & Don’ts
5. Q & A
1. Key aspects in DMP(s)
• Research Data Management (RDM)
• Data Management Planning (the process of DMP)
• Data Management Plan (DMP as a written product)
  • DMP DMP’s (standalone document, typically 1-… pages long)
  • Non-DMP DMP’s (text section in a grant proposal)
  • internal documents such as a checklist, RDM concept etc.
• Data Management Policy
  • may refer to policies by funders, disciplines, institutions…
  • may refer to policies of a joint collaborative project
Checklist for the appropriate handling of research data in connection with DFG projects

This [questionnaire](https://www.dfg.de/antragstellung/forschungsdaten/) will help you plan and describe the handling of research data in connection with your project.

[https://www.dfg.de/antragstellung/forschungsdaten/](https://www.dfg.de/antragstellung/forschungsdaten/) (GER)

[https://www.dfg.de/en/research_funding/principles_dfg_funding/research_data/](https://www.dfg.de/en/research_funding/principles_dfg_funding/research_data/) (EN)
Practical Guide to the International Alignment of Research Data Management (2021)


also at doi.org/10.5281/zenodo.4915861
1. **Data description** (+collection or re-use of existing data)
2. **Documentation** and data **quality**
3. **Storage** and backup during the research process (+collaboration)
4. **Legal and ethical** requirements
5. **Data sharing** and long-term **preservation**
6. **Responsibilities** and **resources**

0. Summary/Concept

Our advice is to add:

project story/general RDM concept/project organization = short text, written by yourself!

providing reviewers the “bigger picture”

1. Data description (+collection or re-use of existing data)
2. Documentation and data quality
3. Storage and backup during the research process (+collaboration)
4. Legal and ethical requirements
5. Data sharing and long-term preservation
6. Responsibilities and resources

"How do we work together and what does that mean for our data management?"

**Type 1: Knowledge Exchange**

**Type 2: Interfaces**

**Type 3: Common Research Pool**

*Intensity of collaboration (increasing demands for the RDM)*
2. Policies
DFG, EU, Open Data, FAIR
POLICIES | EU projects

European Commission

(pre-) proposal → project start → mid project → end of project

- **(pre-) proposal**
  - Text sections on RDM + on open science practices
- **project start**
  - Initial DMP
- **mid project**
  - Updated DMP or internal checklist
- **end of project**
  - Dataset DOI
  - Final DMP
Policies | DFG projects

(pre-) proposal

text section on RDM

(in case of consortial projects, often a somewhat longer text)
Often an issue and a source of common misunderstandings: The question of data sharing

**Note:**

Data sharing ≠ Open Data

Licenses, embargo, access control etc.

**Note:**

RDM ≠ Data Sharing

Source: https://twitter.com/T_Fiolet/status/1112346452381089793
To whom can possible be shared?

- Oneself
- Consortium
- Community

increasing demands on the RDM
EU: “as open as possible as closed as necessary”
- Open Access is required (OA = standard)
- exceptions possible, but no general opt-out anymore
- degree of openness is relevant to evaluation
- depends on the disciplines (and reviewers, of course)

How to fulfill:
- publish data in “trusted repository”
- ensure open access with CC BY or CC 0 license
- “as soon as possible”
- at least some research outputs
POLICIES | What can possibly be shared (more than just „raw data“)

- Research Data
- Documentation
- Other research outputs (e.g. software, algorithms, protocols, labbooks, models, workflows, …)
- Common assets for research & innovation (e.g. knowledge bases, methodologies, frameworks, ontologies, …)
• new codex on Good Research Practice (2019)
• “Where possible and reasonable, this includes making the research data, materials and information on which the results are based, as well as the methods and software used, available and fully explaining the work processes (…)”
• “in recognised archives and repositories in accordance with the FAIR principles (Findable, Accessible, Interoperable, Reusable).” (in guideline 13)
• „Research data are handled in accordance with the requirements of the relevant subject area.” (in guideline 7), “documentation as comprehensible as is necessary and appropriate in the subject area concerned“ (in guideline 12)
**FINDABLE**
Can someone else find the data?

**METADATA & DOI**
(Digital Object Identifier)
Link your dataset with publications and vice versa

**INTEROPERABLE**
Can someone else operate with the data (other software etc.)?

**METADATA** (use/define suitable metadata standards)
**FILE FORMATS** (use interoperable file formats)
**DOCUMENTATION** (e.g. code sheet)

**ACCESSIBLE**
Can someone else access the data?

**REPOSITORIES**
(institutional, general, disciplinary)
- you may get recommendations e.g. in subject-specific policies

**REUSABLE**
Can someone else understand the data and is allowed to use it?

**DOCUMENTATION** (e.g. scripts)
**LICENSE**
- you may use License selector to select appropriate license
3. Tools
& Discipline-specific support
Discipline specific tools provide more than just a simple questionnaire in which you have to find your own answers to questions!

- they provide a mapped out path through data management
- can be adapted to YOUR specific project
- gives concrete instructions, assistance and comprehensive user manuals
- DMP can be saved & shared online with other research partners
# Discipline-Specific Tools

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<thead>
<tr>
<th>DISCIPLINE</th>
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List of subject-specific guidelines by DFG e.g.:
- Humanities and Social Sciences
- Life Sciences
- Natural Sciences

https://www.dfg.de/en/research_funding/principles_dfg_funding/research_data/recommendations/index.html

DFG Codex Portal
- new as of 2021
- includes subject-specific comments

wissenschaftliche-integritaet.de/en/code/

NFDI consortia
- may offer helpdesks
- may have specific RDM guidelines, concepts, examples, …
4. Tips

Do’s & Don’ts
DON’T EVEN START
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Don’t see the DMP as **ANNOYING** deliverable
- Enhancing efficiency for you (re-using existing data)
- Increasing the quality of research (re-use & development)
- Increasing the efficiency of research (preventing duplication of work)
- Understanding the data (later)
- Promoting your work (paper + data gets more interest)
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Don’t put yourself UNDER PRESSURE
(an 80% DMP is better than 0%)
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AVOID REDUNDANCIES & EMPTY PHRASES
(e.g. "The data will be sent after community standards.")
In this project we are expected to collect **different types of data** such as logs, survey data and others.

In this project we will use different data types of approximately 50 GB. The raw data includes text files, personal and non-personal data, and statistical data in `.docx`, `.txt`, and `.csv` formats.
Project-related data is stored on a shared space. The employees are responsible for the backup.

The research data is stored centrally on servers of the TUD in a uniform structure and naming convention that is still comprehensible after the end of the project. The TUD provides a secure and fail-safe IT infrastructure for the mentioned services and ensures data backup of the data on TUD servers. After publications or project completion, the research data is archived and is kept for at least 10 years.
(no convincing information on documentation or something like:) We will use appropriate metadata standards and document our data following established procedures. This ensures the greatest possible subsequent use in further research contexts.

The data structure/metadata of … will be created according to Standard X, which will be extended by … To ensure reproducibility (and possibly further re-use), we will document … and will archive/publish codesheets, sourcecode of software/scripts and … along with the data.
All project-related data will be published in “Open Access“ along with the publications of the project results on the project website.

The ... data ... will be published in the Zenodo repository under CC-BY license. Because of ..., the ... data will be restricted with an embargo of .../ will not be published. All published datasets receive a DOI and will be linked with corresponding publications (and conversely).
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ASK KEY QUESTIONS: What kind of data will be produced? Who will use them? Your group? Other partners? Will we publish data (which data)?
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ASK KEY QUESTIONS: What kind of data will be produced? Who will use them? Your group? Other partners? Will we publish data (which data)?

BE REALISTIC: Find a balance between doing too much and too little. Use help. (e.g. discipline-specific guidance, examples, service staff)
"It's not about planning all the details, but about communicating the whole idea and honestly assessing the effort involved."
5. Q & A

We appreciate your input, your questions and comments!
Thanks for your attention!

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Links & Material
LINKS

DMP sample answers
• HU Berlin

Sample DMPs
• Zenodo
• DMPTool

DMP support in Dresden
• tu-dresden.de/kontaktstelle-forschungsdaten/unser-service/datenmanagementplan-fuer-foerdermittelantraege
## Discipline-Specific and General Tools

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*not publicly available yet