

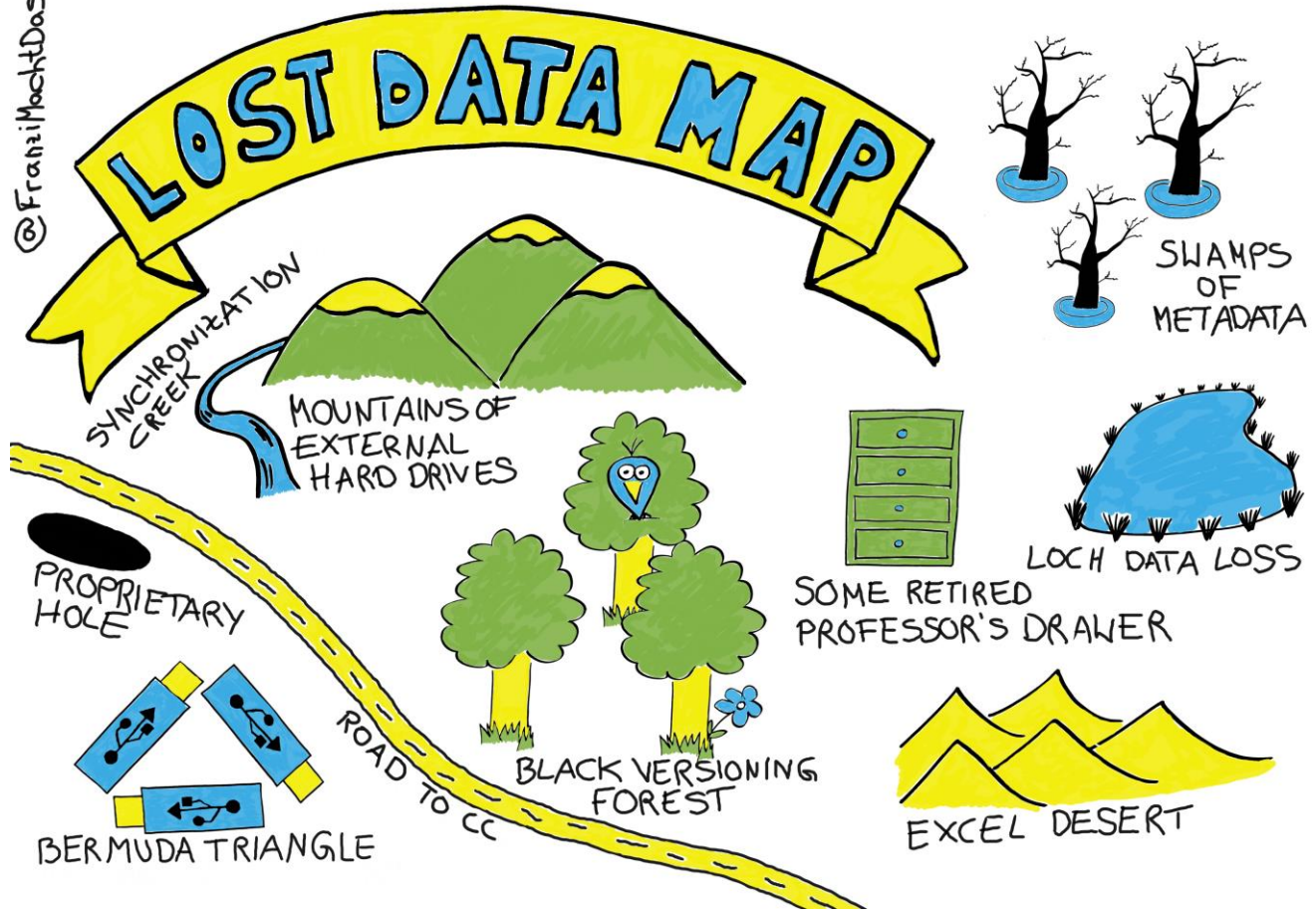
Introduction into research data management

RMU Post Doc Weeks 2023

Dr. Jörg Steinkamp (JGU), Hüseyin Uzun (GUF), Dr. Anne Vieten (JGU), and Jürgen Windeck (TUDa)



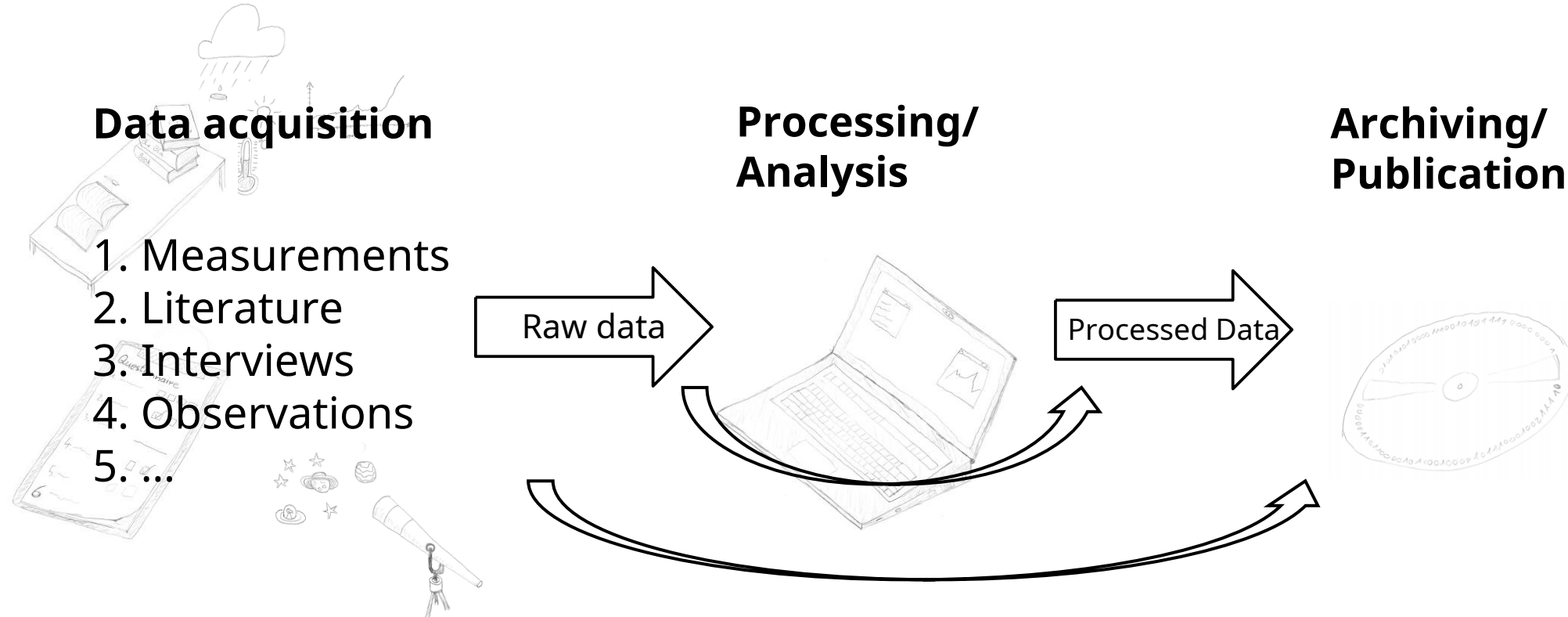
@FranziMachtDas



Research data, a definition

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Technische Universität Darmstadt
Eine strategische Allianz

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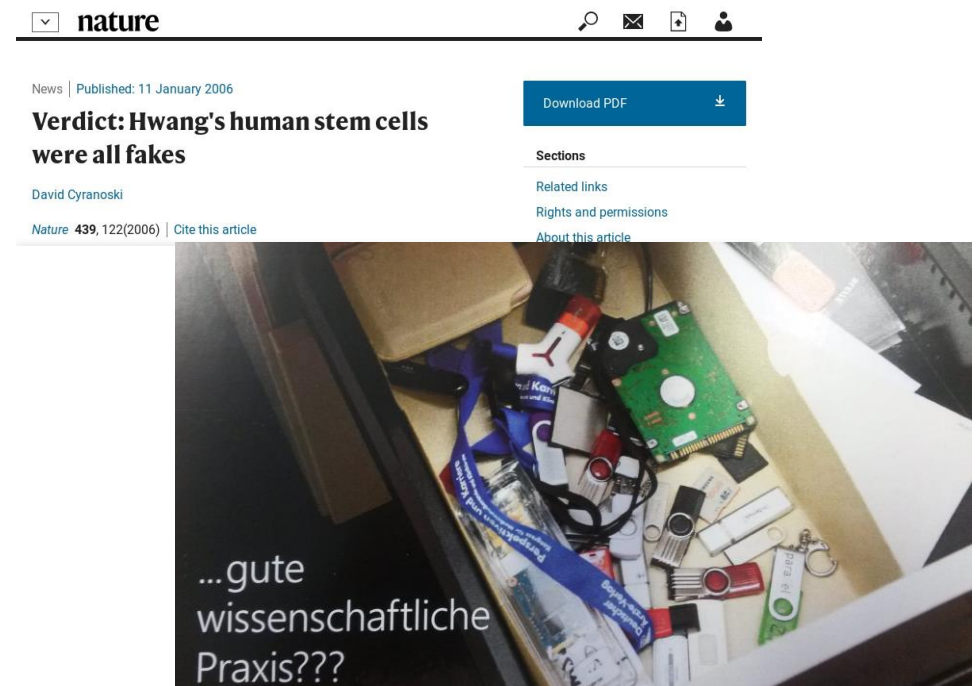


Why RDM is important for you?

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- Prevention of data loss
- Reproducibility, verifiability and transparency of research results
- Reduction of scientific errors
- Faster retrieval of data and information
- Long-term availability and reusability of research data
- Better scientific reputation



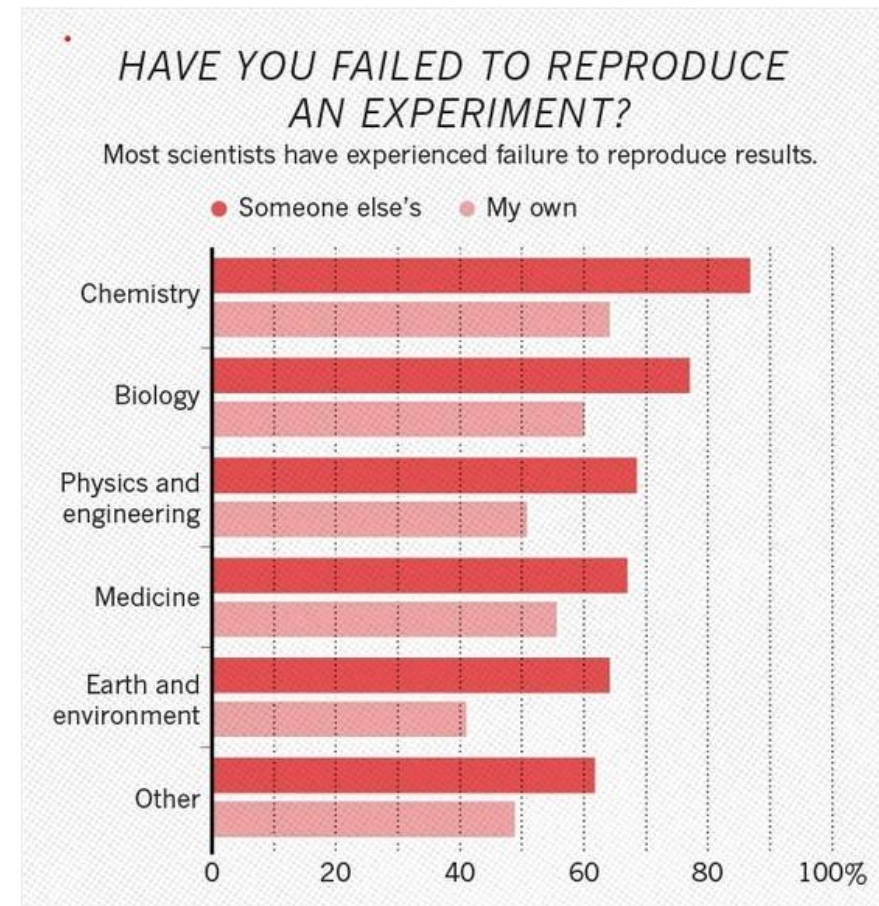
Reproducibility of research results

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...often fails



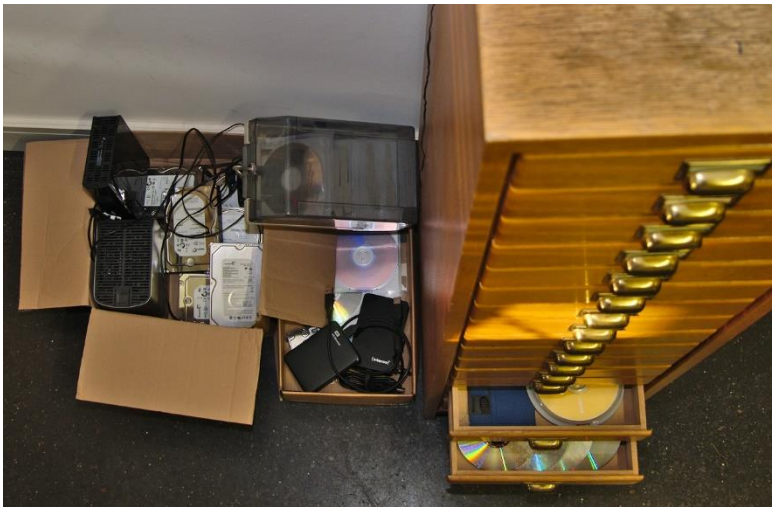
Baker, M.; Nature; May 25th 2016

Remember: Only a genius can handle Chaos ...

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... but what happens if the genius leaves?



Additional reasons for RDM

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Requirements of third party funders and science organisations:

- DFG: Good Scientific Practice
 - Alliance of German Science Organisations: Principles for the Handling of Research Data
 - Horizont Europa: Open Science in Horizon Europe
 - BMBF: Aktionsplan Forschungsdaten – BMBF
-

Your research data should be fair!

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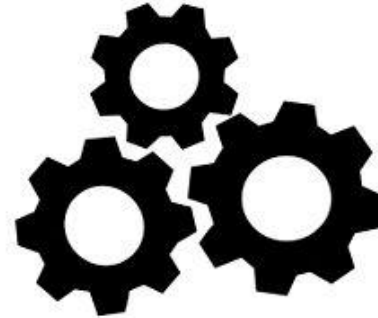
F
indable



A
ccessible



I
nteroperable



R
eusable



Quelle: https://commons.wikimedia.org/wiki/File:FAIR_data_principles.jpg
Autor: [SangyaPundir](#) Titel: "FAIR Guiding principles for data resources" (17.11.2016)

CC Lizenz: Attribution-ShareAlike 4.0 International (CC BY-SA 4.0)

FAIR Data

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Short Keyword – High Impact!

How to make data findable and accessible?



- Describe research datasets with **metadata**
- Metadata is indexed in a searchable directory or repository
- Publication of research data, if applicable
- Provide research data (metadata) with persistent identifiers (DOI, URN etc.)



- Metadata and/or actual data easily accessible
- Defined licensing and access conditions
- Metadata available even if actual data is not accessible

PANGAEA.

ECOLOGY

Search for measurement type, author name, project, taxa,...

18121 datasets found on search in topic Ecology

< 1 2 3 4 5 6 7 8 9 10 >

1. **Chouvelon, T; Munsch, C; Bruzac, S et al. (2021):** Stable isotopes, energy density and elemental composition of deep pelagic crustaceans and fish sampled in October 2017 in the Bay of Biscay, North-East Atlantic

Related to: **Duhamel, E; Pawlowski, L; Garren, F (2017):** EVHOE 2017 cruise, Thalassa R/V. *Sismer*

Size: 2 datasets

<https://doi.pangaea.de/10.1594/PANGAEA.937345> - Score: 1.8

2. **Verdugo, J; Damm, E (2021):** Biogeochemical data during POLARSTERN cruise PS106/1 (ARK-XXXI/1.1)

Related to: **Macke, A; Flores, H (2018):** The Expeditions PS106/1 and 2 of the Research Vessel POLARSTERN to the Arctic Ocean in 2017. *Berichte zur Polar- und Meeresforschung = Reports on Polar and Marine Research*

Nikolopoulos, A; Linders, T; Rohardt, G (2018): Physical oceanography during POLARSTERN cruise PS106/1 (ARK-XXXI/1.1). *Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Bremerhaven*

Rohardt, G (2018): CTD Data Processing Report - RV POLARSTERN Cruise PS106.

Size: 2 datasets

<https://doi.pangaea.de/10.1594/PANGAEA.937242> - Score: 1.8

Coverage: Median Latitude: 47.196250 * Median Longitude: 8.468551 * South-bound Latit

License:  Creative Commons Attribution 4.0 International (CC-BY-4.0)

Size: 73 datasets

Interoperability and Reuseability



- Data are combinable with other data sets by humans or computers.
- Use of non-proprietary, open and described or commonly used formats

Recommended formats

Tables: CSV, TSV, SPSS portable

Text: TXT, HTML, RDF, PDF/A

Image: TIFF, JPEG2000, PNG

Multimedia: AVI, WAV, MP4


Data Cite (Metadata) Basic Scheme

- Identifier
- Creators
- Title
- Publisher
- Publication year
- Subject
- Language
- Resource type
- Description



- Data are in a form in which they can be used for further research and processing with computer-aided methods

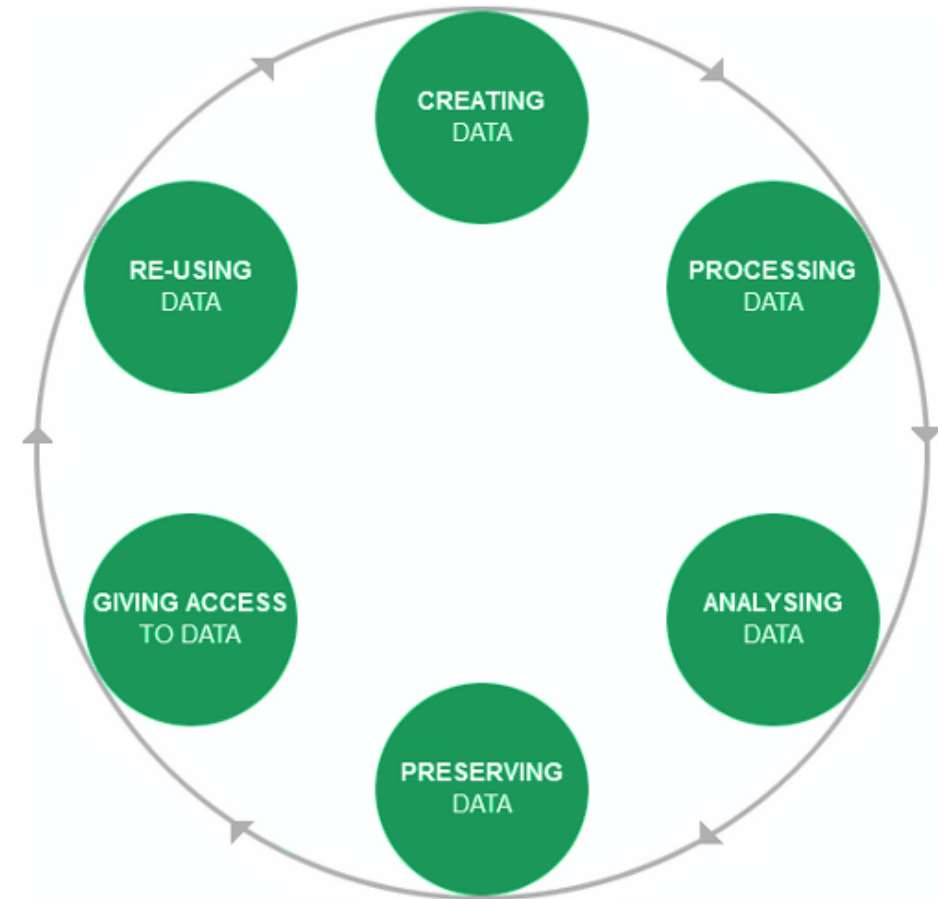
Coverage: *Median Latitude: 47.196250 * Median Longitude: 8.468551 * South-bound Latit*

License:  Creative Commons Attribution 4.0 International (CC-BY-4.0)

Size: 73 datasets

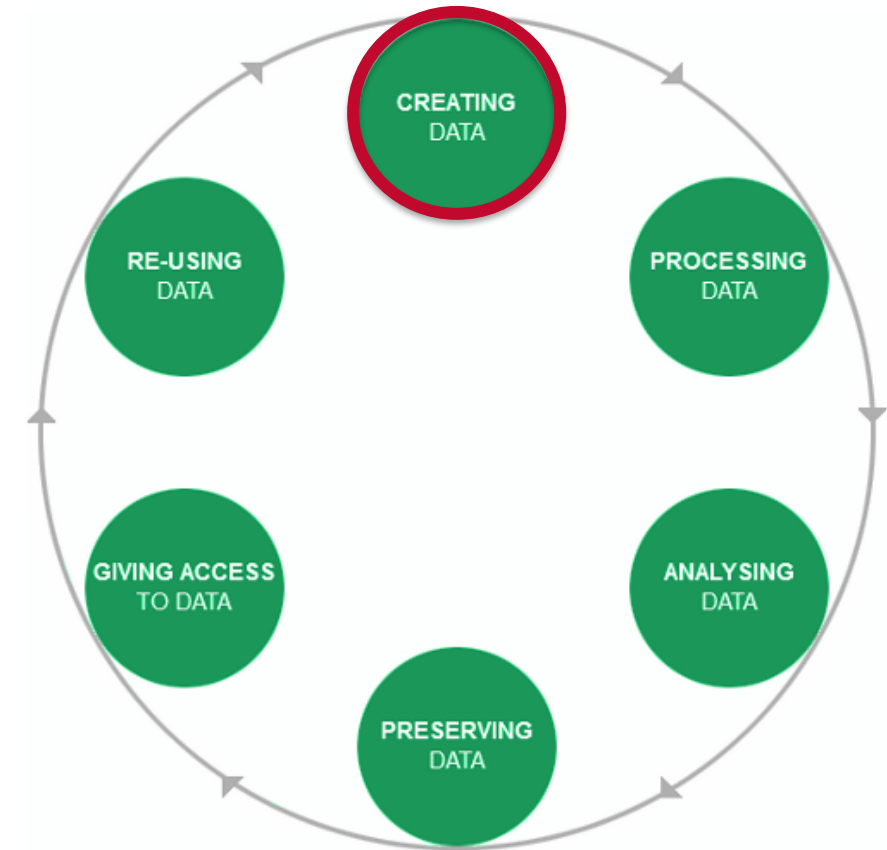
The Research Data Life cycle

... describes all steps of
research data management



Research data lifecycle: sub-steps

- **Creating data:**
 - design research
 - plan data management (formats, storage etc.)
 - plan consent for sharing
 - locate existing data
 - collect data (experiment, observe, measure, simulate)
 - capture and create metadata
 - take care about data privacy protection/legal situation



What are Metadata?

- **Meaning:** Metadata describe and define data. They give additional Information about data.
- **Example:** Metadata of an e-book would be the author, the publisher, date of publication etc.

Data Cite Basic Scheme

- Identifier
- Creators
- Title
- Publisher
- Publication year
- Subject
- Language
- Resource type
- Descriptions

Metadata tool: <https://dhvlab.gwi.uni-muenchen.de/datacite-generator/>

Types of metadata and documentations

-
- **Descriptive/bibliographic:** title, author, keywords, year of publication, etc.
 - **Administrative-legal:** rights holder, license conditions, access rules, etc.
 - **Structural:** physical or logical relationships between objects (e.g. between tables in a database).
 - **Administrative or preservation-related:** conversion and preservation measures, etc.
 - **Technical:** information on used software or hardware, file formats, character encoding, parameters of measuring devices, experimental procedures
-

Electronic Lab Notebooks (ELN) TUDa: eLabFTW

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- digital tool to keep structured experimental information
- significant functional improvements over paper lab journal
 - search functions
 - collaborative features
- eLabFTW currently tested as service at TUDa



The screenshot shows the eLabFTW login interface. At the top, there is a logo for eLabFTW and the text "Login to your account". Below this, there are two input fields: "Email" and "Passwort". The "Passwort" field has a "Login, Passwort" link to its right. There is a "Remember me" checkbox below the password field. A "Login" button is positioned below the "Remember me" checkbox. Below the "Login" button, there is a link that says "Don't have an account? Register now!". Below this, there is a section titled "Login through your institution" with a dropdown menu labeled "Select an identity provider". The dropdown menu is currently open, showing "TU Darmstadt (Single Sign-On/SSO)" as the selected option. There is a "Remember me" checkbox and a "Login" button below the dropdown menu.

Research infrastructure

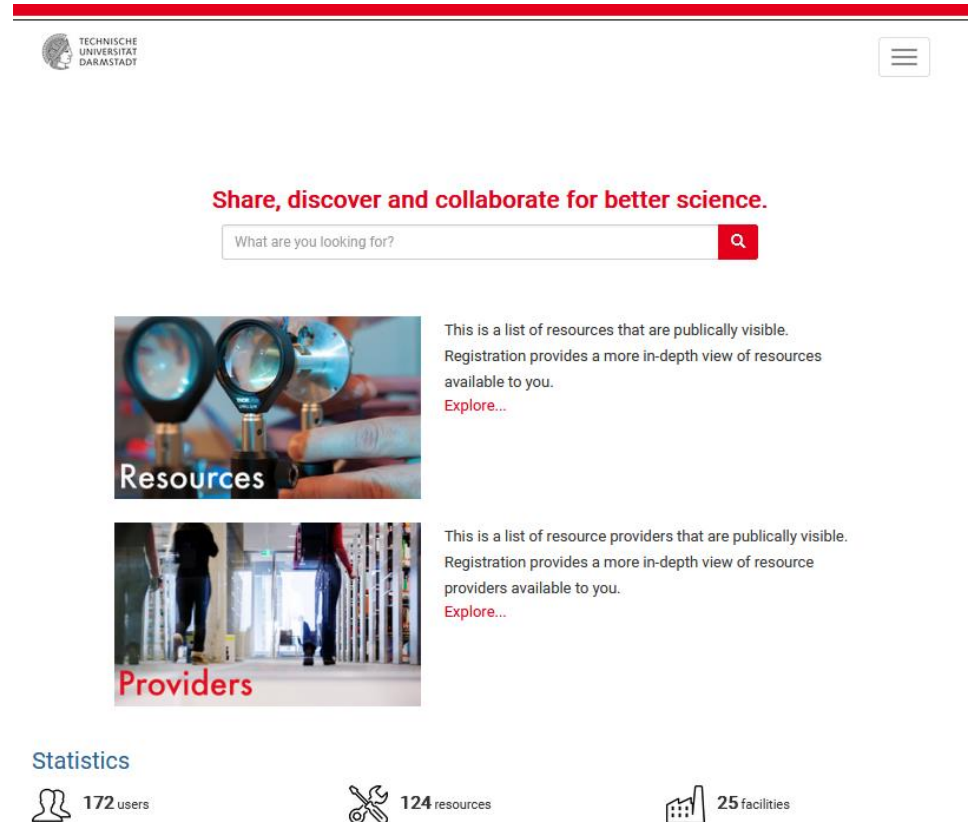
TUDa: TUinfra

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What is TUinfra?

- Database for TUDa research infrastructure
- Increase visibility
- Search for research equipment
- Rights management for visibility, access and booking
- Allows cross-institutional use
- Usage statistics
- <https://www.tuinfra.tu-darmstadt.de>



The screenshot shows the TUinfra website interface. At the top left is the logo of Technische Universität Darmstadt. A search bar is present with the text "What are you looking for?" and a red search button. Below the search bar, there are two main sections: "Resources" and "Providers". Each section features a representative image, a brief description, and an "Explore..." link. At the bottom, there is a "Statistics" section with three icons and their corresponding counts: 172 users, 124 resources, and 25 facilities.

TECHNISCHE UNIVERSITÄT DARMSTADT

Share, discover and collaborate for better science.

What are you looking for?


Resources


This is a list of resources that are publically visible. Registration provides a more in-depth view of resources available to you. [Explore...](#)


Providers

This is a list of resource providers that are publically visible. Registration provides a more in-depth view of resource providers available to you. [Explore...](#)

Statistics

 172 users

 124 resources

 25 facilities

Electronic Lab Notebooks (ELN) GUF:

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-
- Testing two ELNs
 - in practical courses and research
 - Chemotion:
 - for chemistry and related disciplines
 - eLabFTW
 - generic tool for natural science and maybe more
 - No solution yet for all departments
-

Electronic Lab Notebooks (ELN) JGU:

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-
- Department Biology: eLabETW is offered
 - Department Chemistry: Chemotion is offered
 - Other departments: diverse research groups use ELN in self organisation
-

What do I have to document?

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Document everything that a third person needs to understand your datasets!

Research data lifecycle: sub-steps

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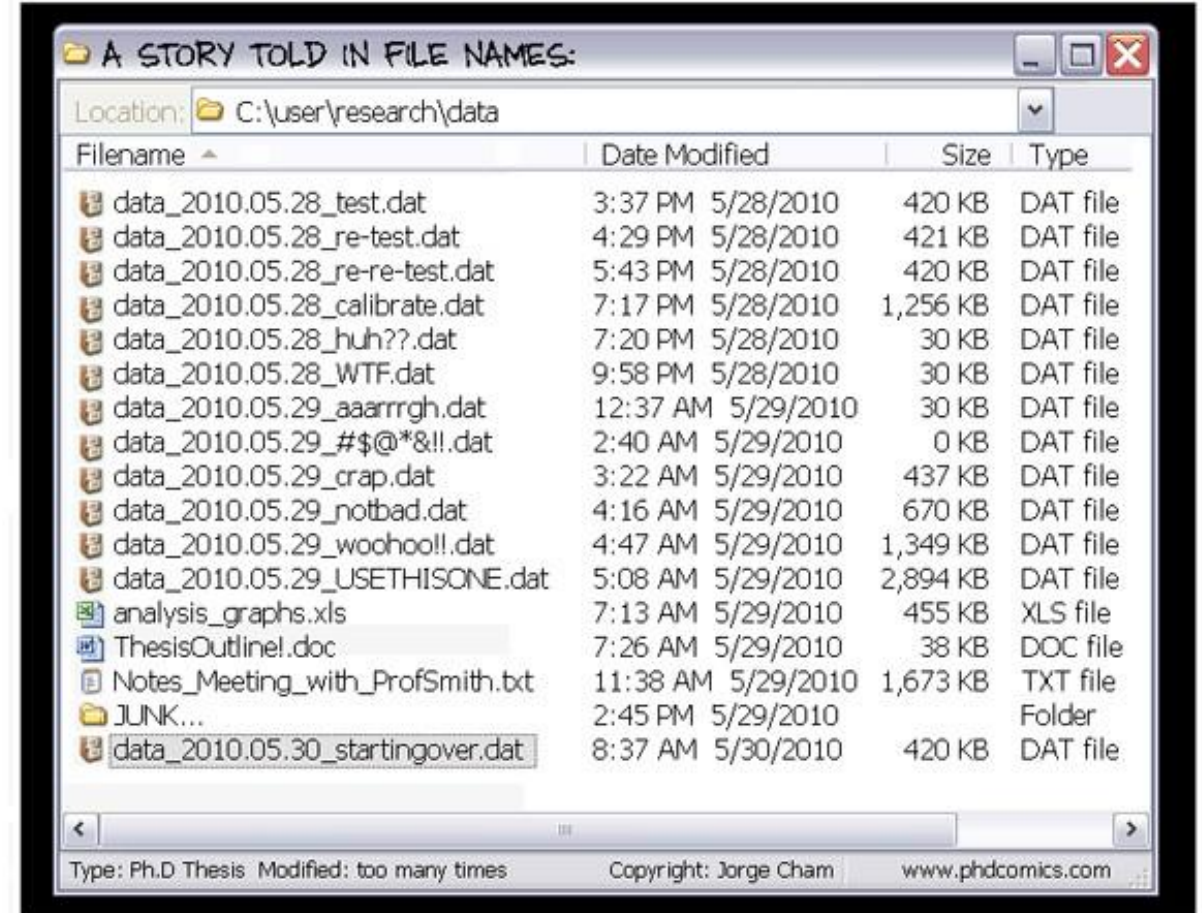
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- **Processing data:**
- enter data, digitise, transcribe, translate
- check, validate, clean data
- anonymise data where necessary
- describe data (metadata)
- manage/organise and store data
- care about versioning



Organizing Data

...or getting completely lost?



... better like this

File naming:

- Develop a naming convention and document it
 - Easy differentiation in the folder
 - Easy identification of different versions
 - Understandable for others
 - Should still make sense, when files are moved
 - Logically sortable
 - Do not use special characters such as % or : or !
-

Data versioning with GitLab

Versioning tool GitLab:

- E.g. for code, text, vector graphics
 - saves and documents changes to files and their source code
 - Branching
 - Issue tracking
 - ...

 - Additional feature; Mattermost for easy and quick communication
-

Personal Data

- Contact the data protection officer of your institution.
- Follow the federal and state data protection laws as well as the European General Data Protection Regulation.
- In the case of surveys/interviews/patient data etc., obtain a written, informed declaration of consent from the persons concerned (right of revocation!).
- Anonymise (if necessary pseudonymise) the collected data.
- Store the raw data protected from access (e.g. encrypted) and separate from the other data (e.g. evaluations).
- Never store personal data of EU citizens on servers outside the EU!

Research data lifecycle: sub-steps

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Analysing data:

- interpret data
- derive data
- care for plausibility and reproducibility of datasets
- produce research outputs/author publications
- prepare data for preservation



Research data lifecycle: sub-steps

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Preserving data

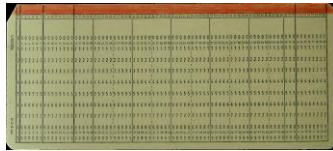
- Convert data to best format
- migrate data to suitable medium
- back-up and store data
- add metadata (better while planning) and documentation
- clarify the financing (better during project planning)
- give the data to preservation specialists, e.g. data repositories/archives



File formats recommended for archiving and reusability

| Recommended formats | Formats to avoid |
|---|--|
| <u>Tables:</u> CSV, TSV, SPSS portable <u>Text:</u> TXT, HTML, RDF, PDF/A <u>Image:</u> TIFF, JPEG2000, PNG <u>Multimedia:</u> AVI, WAV, MP4 | <u>Tables:</u> (Excel; xls) <u>Text:</u> (Word; doc), (PowerPoint; ppt) <u>Image:</u> JPG, GIF <u>Multimedia:</u> WMV (Windows Media Video) |

Backup versus archiving



| | Backup | Archiving |
|------------------|--------------------------------|-----------------------------|
| Target | Active data | Final data |
| Purpose | Protection and recovery | Preservation of information |
| Timeframe | Short term | Long term |
| Metadata | Mainly ACL and file attributes | Data specific |



Archiving data at JGU with IRODS

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What is iRODS?

- Virtual Filesystem
- Attached searchable Metadata
- Publishing
- Fine grained Access Control
- Workflow automation
- Commandline tools

The screenshot shows the ZDV (Efficient Computing and Storage) website. The page title is "OpenStreetMap Traces". The article text discusses the increasing use of embedded systems in IoT, such as factory lines, planes, cars, traffic lights, and even clothes, which are constantly communicating with the outside world. It highlights the challenge of maintaining these devices by updating their software, especially due to the large amount of data transferred. The article describes a study on data deduplication for a car multimedia system, showing that deduplication can achieve significantly better results than commonly used data compression techniques.

Data set description

The data set consists of complete virtual machine images (Virtual Box) collected over a period of more than 2 years. The images are based on Debian Linux and contain a small linux base, a Mate display manager, standard multimedia applications, and software for navigation including an OpenStreetMap from Germany. All data was updated on an almost weekly basis. During the observation time the image size increased from about 5 GiB to about 5.5 GiB without installing any additional software packages from user side.

Citation

Please cite the following paper in case you are using our traces for your research:

[2018]

2018

- Süß, Tim ; Kaya, Tunahan ; Mäsker, Markus ; Brinkmann, André:
Deduplication Analyses of Multimedia System Images [↗](#)
HotEdge, 2018. (Konferenzbeitrag)

Download

The metadata of the individual VMs including their iRods tickets are available in the **DedupVMBackups Collection**.

The metadata of each individual file can be downloaded using the ticket numbers from the overall metadata, e.g., using <https://irods-test.zdv.uni-mainz.de/irods-rest/rest/dataObject/zdv/project/zdvresearch/suess01DedupVMBackups/VMS/backup-20160419.tu/metadata?ticket=KkaeFLIEEYXXLH>.

Individual virtual machines can finally be downloaded again using the ticket number received from the metadata, e.g., <https://irods-test.zdv.uni-mainz.de/irods-rest/rest/11eContents/zdv/project/zdvresearch/suess01DedupVMBackups/VMS/backup-20160419.tu?ticket=KkaeFLIEEYXXLH>.

The image has been provided by Ken Vermette [↗](#) under [CC 2.0](#) [↗](#).

Efficient Computing and Storage - 4. August 2019 [Privacy](#) [Legal Notice](#) [To top of page](#)

Archiving data at TUDa

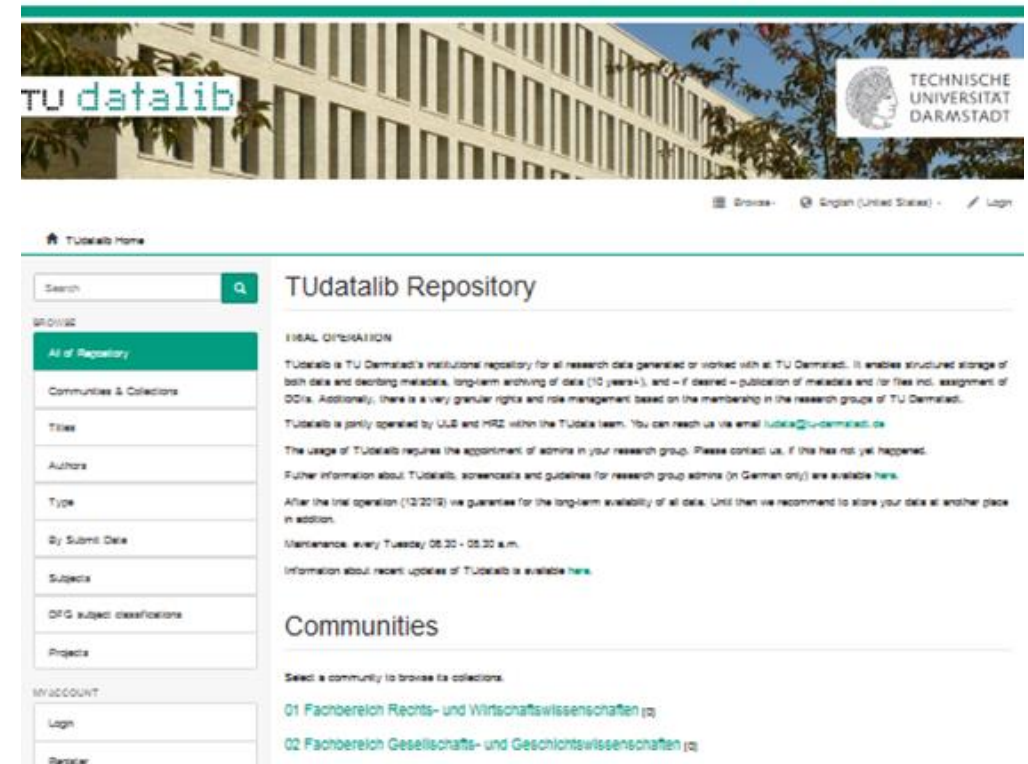
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What is TUDatalib?

- data sets can be
 - ... archived (10 years and longer),
 - ... shared with others,
 - ... published including DOI and permanent storage.
- very detailed rights and role management based on TU-ID and affiliation to TU Darmstadt's institutes
- collaboration with non-TU researchers
- <https://tudatalib.ulb.tu-darmstadt.de>



Archiving data at GUF

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Backup and archive service

- IBM Spectrum Protect software
- no additional cost to users
- licence fees paid by the HRZ
- Backup for 90 days
- Archiving for 10 years

- For more Information:
- https://www.rz.uni-frankfurt.de/134715246/Backup_und_Archivservice

5 minutes break

Research data lifecycle: sub-steps

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Giving access to data:

- distribute data
- share data/ e.g. via repositories
- control access
- establish copyright/licenses
- promote data



How to find suitable repositories?

... use <http://www.re3data.org/>
Registry of Research Data Repositories
➤ About 3000 entries



Browse by subject

Graphical

Text

click to zoom into subjects or to select a bottommost subject in the hierarchy as filter for the re3data search page
ctrl + click on a top subject to select it as filter





Filter

- Subjects
- Content Types
- Countries
- AltD systems
- API
- Certificates
- Data access
- Data access restrictions
- Database access
- Database access restrictions
- Database licenses
- Data licenses
- Data upload
- Data upload restrictions
- Enhanced publication
- Institution responsibility type
- Institution type
- Keywords
- Metadata standards
- PID systems
- Provider types
- Quality management
- Repository languages
- Software
- Syndications
- Repository types
- Versioning

Crystal

Search

Toggle short help

Sort by -

Previous 1 Next

Found 14 result(s)

Das Kristallstrukturdepot

Kristallstrukturdepot

Subject(s): Chemistry, Physics, Materials Science and Engineering, Geochemistry, Mineralogy and Crystallography, Natural Sciences, Engineering Sciences, Geosciences (including Geography)

Content type(s): Scientific and statistical data formats, other

Country: Germany

More than 25 years ago FIZ Karlsruhe started depositing crystal structure data linked to publications in German journals. At that time it was irrelevant whether the deposited structures were organic or inorganic. Today FIZ Karlsruhe is responsible for storing the structure data of inorganic compounds. Organic structure data are stored by the Cambridge Crystallographic Data Center. Nowadays many publishers inform their authors that in parallel to a publication in a scientific journal, crystal structure data should also be stored in the Crystal Structure Depot at FIZ Karlsruhe. A CSD number will be assigned to the data for later reference in the publication. The data can then be ordered from the Crystal Structure Depot at FIZ Karlsruhe.

Inorganic Crystal Structure Database

ICSD Web

Subject(s): Chemistry, Physics, Materials Science and Engineering, Geochemistry, Mineralogy and Crystallography, Natural Sciences, Engineering Sciences, Geosciences (including Geography)

Content type(s): Structured graphics, Scientific and statistical data formats, Structured text, Archived data

Country: United States, Germany

The most comprehensive database on fully determined inorganic crystal structures • Full structural data: cell parameters, atom positions for all entries, displacement parameters • Full bibliographic data: publication title, journal reference(s), author names • Full structure description: Structural formula, compositions, ANX formulae, structure types • High-quality data: extensive data evaluation and correction by senior experts • Web and PC based software solutions, data updated twice a year • 25+ years of serving the scientific community.

The Cambridge Structural Database

Cambridge Crystallographic Data Centre

Subject(s): Physics, Natural Sciences, Chemistry, Petrology, Nuclear and Tissue, Optics, Quantum Optics and Physics of Atoms, Molecules and Plasmas, Physical and Theoretical Chemistry, Molecular Chemistry

Content type(s): Audiovisual data, Software applications, Rich text, Raw data, Scientific and statistical data formats, Structured graphics, Images, Standard office documents

Country: United Kingdom

Established in 1965, the CSD is the world's repository for small-molecule organic and metal-organic crystal structures. Containing the results of over one million x-ray and neutron diffraction analyses this unique database of accurate 3D structures has become an essential resource to scientists around the world. The CSD records bibliographic, chemical and crystallographic information for organic molecules, metal-organic compounds whose 3D structures have been determined using X-ray diffraction, neutron diffraction. The CSD records results of: single crystal studies, powder diffraction studies which yield 3D atomic coordinate data for at least all non-H atoms. In some cases the CODD is unable to obtain coordinates, and incomplete entries are archived to the CSD. The CSD includes crystal structure data arising from: publications in the open literature and Private Communications to the CSD (via direct data deposition). The CSD contains directly deposited data that are not available anywhere else, known as CSD Communications.

eCrystals

eCrystals - Southampton

Subject(s): Basic Biological and Medical Research, Chemistry, Biology, Life Sciences, Natural Sciences

Content type(s): Structured graphics, Images, Raw data, Scientific and statistical data formats

Country: United Kingdom

eCrystals - Southampton is the archive for Crystal Structures generated by the Southampton Chemical Crystallography Group and the EPBR UK National Crystallography Service.

JGU: Gutenberg Open Science repository

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- Institutional Open Access repository JGU
- Pre and post prints, PhD thesis,
- Research data (up to 4 gb per dataset)
- Standardised meta data
- DOI



- <https://openscience.ub.uni-mainz.de/?locale=en>

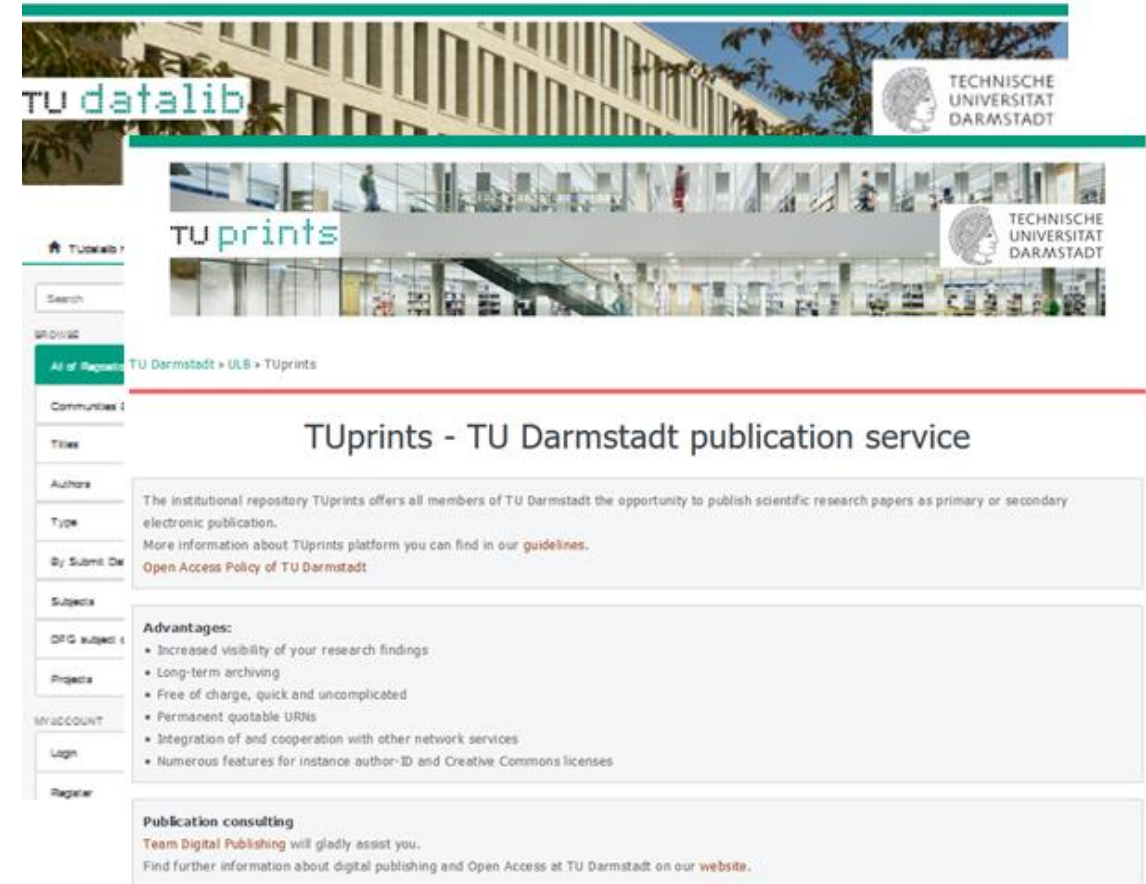
TuDa: Tudatalib & TUprints

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What is TUprints?

- publish scientific **research papers** as primary or secondary electronic publication
- Long-term archiving
- Free of charge, quick and uncomplicated
- Publication consulting by Team Digital Publishing
- <https://tuprints.ulb.tu-darmstadt.de/>



The screenshot shows the TUprints website interface. At the top, there are banners for 'TU datalib' and 'TUprints', both featuring images of university buildings and the logo of Technische Universität Darmstadt. Below the banners, a navigation menu includes 'TU datalib', 'Search', 'SHOW', and 'All of Repos: TU Darmstadt > ULB > TUprints'. The main content area is titled 'TUprints - TU Darmstadt publication service'. It contains a description: 'The institutional repository TUprints offers all members of TU Darmstadt the opportunity to publish scientific research papers as primary or secondary electronic publication. More information about TUprints platform you can find in our [guidelines](#). [Open Access Policy of TU Darmstadt](#)'. Below this, there is a section for 'Advantages:' with a bulleted list: 'Increased visibility of your research findings', 'Long-term archiving', 'Free of charge, quick and uncomplicated', 'Permanent quotable URNs', 'Integration of and cooperation with other network services', and 'Numerous features for instance author-ID and Creative Commons licenses'. At the bottom, there is a section for 'Publication consulting' which states: 'Team Digital Publishing will gladly assist you. Find further information about digital publishing and Open Access at TU Darmstadt on our [website](#).'

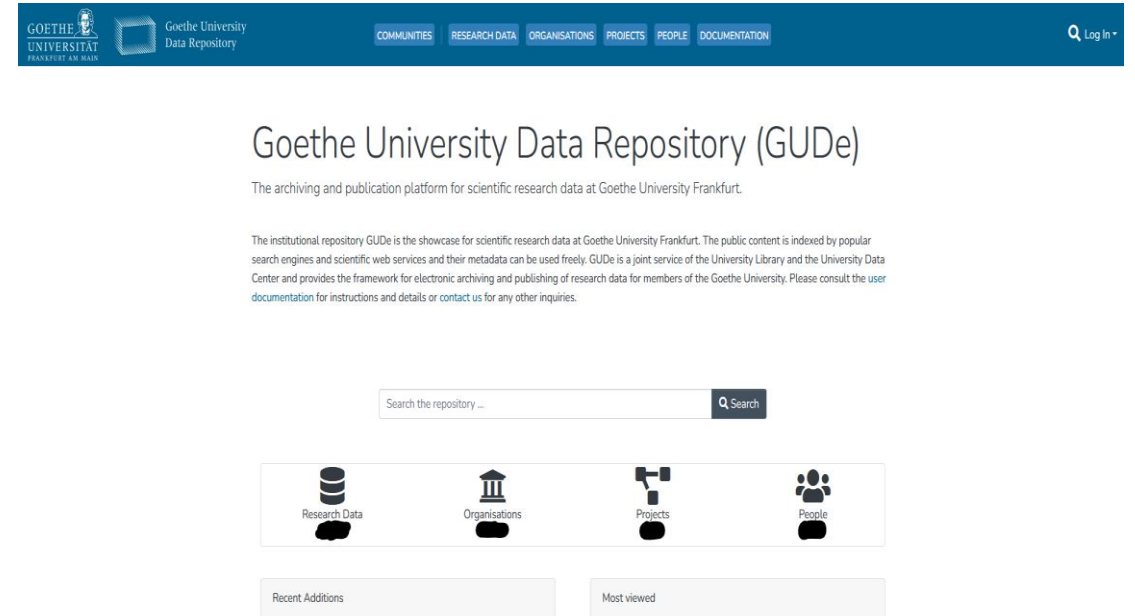
GUF:

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Goethe University Data Repository (GUDe)

- For all members of GUF
- Permanently store research data
- (for at least 10 years)
- Accordance with FAIR criteria
- Sharing or publishing
- Operated jointly by HRZ and GUF Library
- <https://gude.uni-frankfurt.de/home>



The screenshot shows the homepage of the Goethe University Data Repository (GUDe). The header is dark blue with the Goethe University Frankfurt logo on the left and navigation links for COMMUNITIES, RESEARCH DATA, ORGANISATIONS, PROJECTS, PEOPLE, and DOCUMENTATION on the right. A search bar and a 'Log In' link are also present. The main content area features the title 'Goethe University Data Repository (GUDe)' and a brief description: 'The archiving and publication platform for scientific research data at Goethe University Frankfurt.' Below this is a paragraph explaining the repository's purpose and providing user instructions. A search bar is located below the text. At the bottom, there are four icons representing 'Research Data', 'Organisations', 'Projects', and 'People', each with a corresponding label. Below these icons are two buttons: 'Recent Additions' and 'Most viewed'.

Or use Zenodo a general repository

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- Open to all fields of science
- Publications and primary research data
- DOI for all uploads
- Hosted and maintained by CERN
- Flexible licensing
- Upload up to 50 GB per dataset
- Access restriction possible (limited in time)

zenodo Search Upload Communities Log in Sign up

Featured communities [Need help uploading? Contact us](#)

Chicago COVID-19 Response [Browse](#) [New upload](#)

This repository community collects research outputs and information objects relevant to the COVID-19 / SARS-CoV-2 efforts in Chicago. Users are encouraged to upload their research objects in this collection to facilitate sharing and discovery of information. Although Open Access articles and...

Curated by: saragon

Recent uploads

[June 8, 2020 \(v10\)](#) [Report](#) [Open Access](#) [View](#)

The Pan-SL-CoV/GD sequences may be from contamination.

Daoyu Zhang

ABSTRACT Recently, There were much hype about an alleged SARS-like coronavirus being found in samples of Malayan pangolins (*Manis Javanica*) possessing nearly identical RBD to the SARS-CoV-2 coronavirus. Prominent journals cite the alleged discovery to claim that pangolins may be one of a...

Uploaded on January 19, 2021
[9 more version\(s\) exist for this record](#)

[January 19, 2021 \(vauto-2021-01-19\)](#) [Software](#) [Open Access](#) [View](#)

starschema/COVID-19-data: Autorelease 2021-01-19

Need help? [Contact us](#)

Zenodo prioritizes all requested related to the COVID-19 outbreak.

We can help with:

- Uploading your research data, software, preprints, etc.
- One-on-one with Zenodo supporters.
- Quota increases beyond our default policy.
- Scripts for automated uploading of larger datasets.

Or other general repositories

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...

Research data lifecycle: sub-steps

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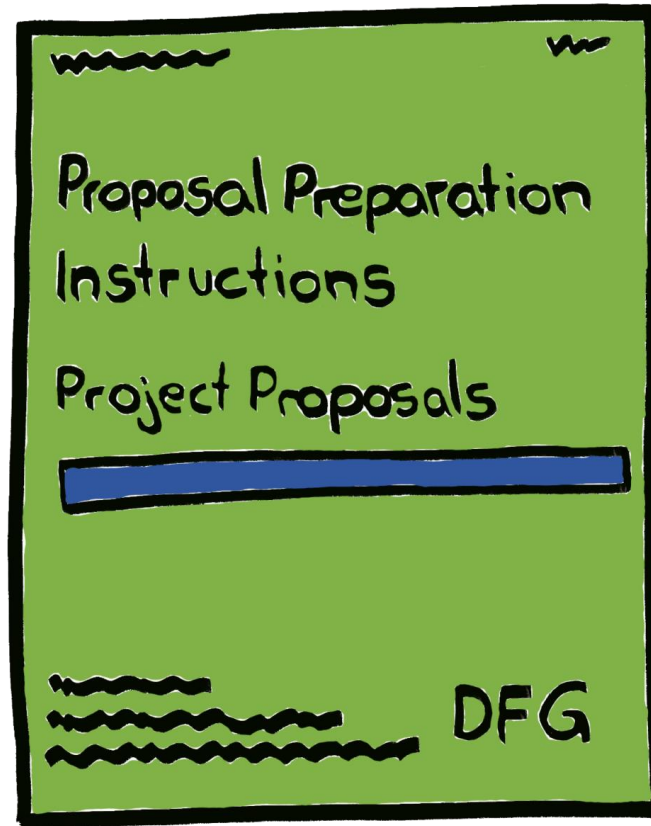
- **Reusing data:**
- follow-up research
- new research
- undertake research reviews
- standardize findings
- teach and learn



RDM requirements of the third-party funders

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RDM Regulations by third party funders

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- DFG: Handling of research data ; RDM Checklist
- Horizon Europe: Open Science in Horizon Europe (europa.eu)
- BMBF: Aktionsplan Forschungsdaten – BMBF
- Volkswagenstiftung

- Code of conduct: „Good Research Practice“

<https://wissenschaftliche-integritaet.de/>

JGU: https://forschung.uni-mainz.de/files/2023/03/00-JGU-Mainz_Ordnung-zur-Sicherung-guter-wiss-Praxis_2023-02-13.pdf

TUDa: https://www.tu-darmstadt.de/forschen/gute_wissenschaftliche_praxis/index.en.jsp

Horizon Europe - RDM

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-
- No opting-out from RDM anymore (data management plans required!)
 - Projects generating research data **MUST** manage their data responsibly and in accordance with the **FAIR** principles
 - Open access to research data. "as open as possible, as closed as necessary", i.e. there may be exceptions to open access to research data. (personal data protection, patenting etc.)
-

DFG: RDM Checklist

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-
1. Data description
 2. Documentation and data quality
 3. Storage and technical archiving
 4. Legal obligations and conditions
 5. Data exchange and long-term data accessibility
 6. Responsibilities and resources
-

DFG Checklist in Detail

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1. Data description

- Process of data creation
- Data formats (e.g. image data, text data or measurement data)
- Type of data processing
- Expected data volume

2. Documentation and data quality

- Metadata or documentation standards or ontologies
 - Quality assurance/control measures
 - Necessary methods and tools (software) for data use
-

3. Storage and technical backup during the course of the project

- Storage location
- Data protection/backup
- Access and usage management for sensitive data

4. Legal obligations and framework conditions

- Legal specifics in the project
 - Impact of specifics on publication/accessibility
 - How to take into account ownership and copyright issues
 - Existing scientific codes or professional standards
-

DFG Checklist in Detail

5. Data exchange and permanent accessibility of the data

- Data suitability for re-use (other context)
- Criteria for data selection for publication
- Archiving data in suitable infrastructure, where?
- Time of publication
- Embargo periods for data publications

6. Responsibilities and resources

- Responsibility for adequate handling of research data
 - Resource requirements (costs, time or other)
 - Responsibility for data after the end of the project
-

DFG funding for RDM

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Eligible costs:

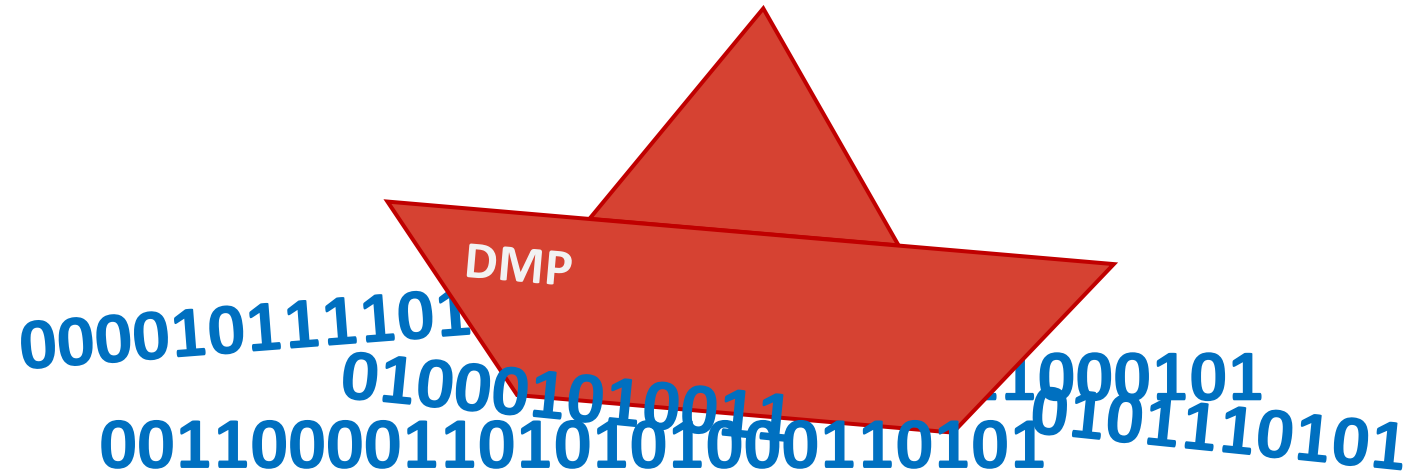
- Costs for the preparation of data for subsequent use or for the transfer to existing infrastructures can be raised.
 - Costs for the use of relevant infrastructures (e.g. external repositories)
 - Funding for personnel costs, user fees
 - CRC: INF project, data stewards
-

Organise your RDM - data management plans (DMP)

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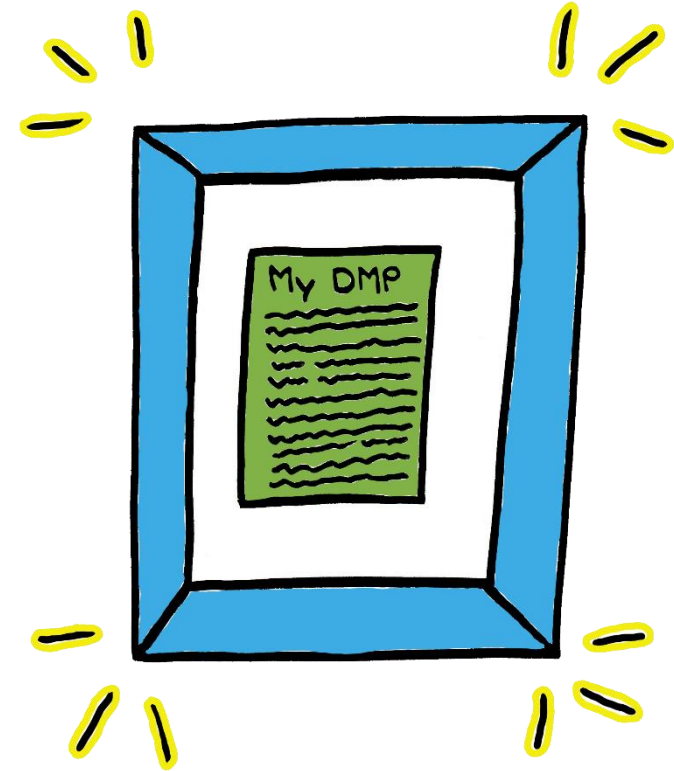
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- describes data handling in a research project
- Divided into different sections
- Obligation of some third-party funders
- formal but dynamic document
 - Make adaptations in the course of the project!



What use has a DMP to me?

- Saves time in the long run!
- Avoidance of data handling problems by explicit RDM-planning
- Improved data retrieval in the final phase of your project
- Facilitates long term preservation of your data and data reuse



Contents of a DMP

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Information about:

- Administrative information
- Documentation and metadata
- Ethical and legal issues
- Storage and back-up
- Data selection and preservation
- Data sharing/publication
- Responsibilities and resources

FARSYD - Farming SYstems as tool to support policies for effective conservation and management of high nature value farmlandS

A Data Management Plan created using DMPonline

Creators: Ângela Lomba, Yulia Karimova

Affiliation: Other

Funder: European Regional Development Fund (FEDER) & the Portuguese Science Foundation (FCT)

Template: DCC Template

ORCID ID: 0000-0003-3748-8751

Grant number: POCI-01-0145-FEDER-016664- PTDC/AAG-EC/5007/2014

Project abstract:

FARSYD (2016-2019) aims to tackle the relation between farming systems and biodiversity and ecosystem services (BES) in High Nature Value farmlands (HNVf), whilst assessing trade-offs between driving forces behind land-use change, and the safeguard of the natural and social capital underlying such farmlands.

Last modified: 19-11-2019

Copyright information:

The above plan creator(s) have agreed that others may use as much of the text of this plan as they would like in their own plans, and customise it as necessary. You do not need to credit the creator(s) as the source of the language used, but using any of the plan's text does not imply that the creator(s) endorse, or have any relationship to, your project or proposal.

DMP tools

Lokal tools

- JGU: **RDMO** <https://rdmo-01.zdv.Uni-Mainz.de>
- TUDa: **TUdmo** <https://tudmo.ulb.tu-darmstadt.de>
- GUF: **RDMO** <https://rdmo.server.uni-frankfurt.de/>

External tools:

- **GFBio Data Management Plan Tool:** <https://www.gfbio.org/de/plan>
 - **DMPonline:** <https://www.dcc.ac.uk/dmponline>
-

DMP tools: RDMO

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Welcome to RDMO

The aim of the RDMO project is to deliver a web application to assist structured planning, implementation and administration of the data in a scientific project. Additionally, the gathered information can be cast into textual forms suitable for funding agencies requirements or for reports.

This is a prototype of the software, for demonstration purposes.

For more information about the project visit rdmorganiser.github.io.

Login

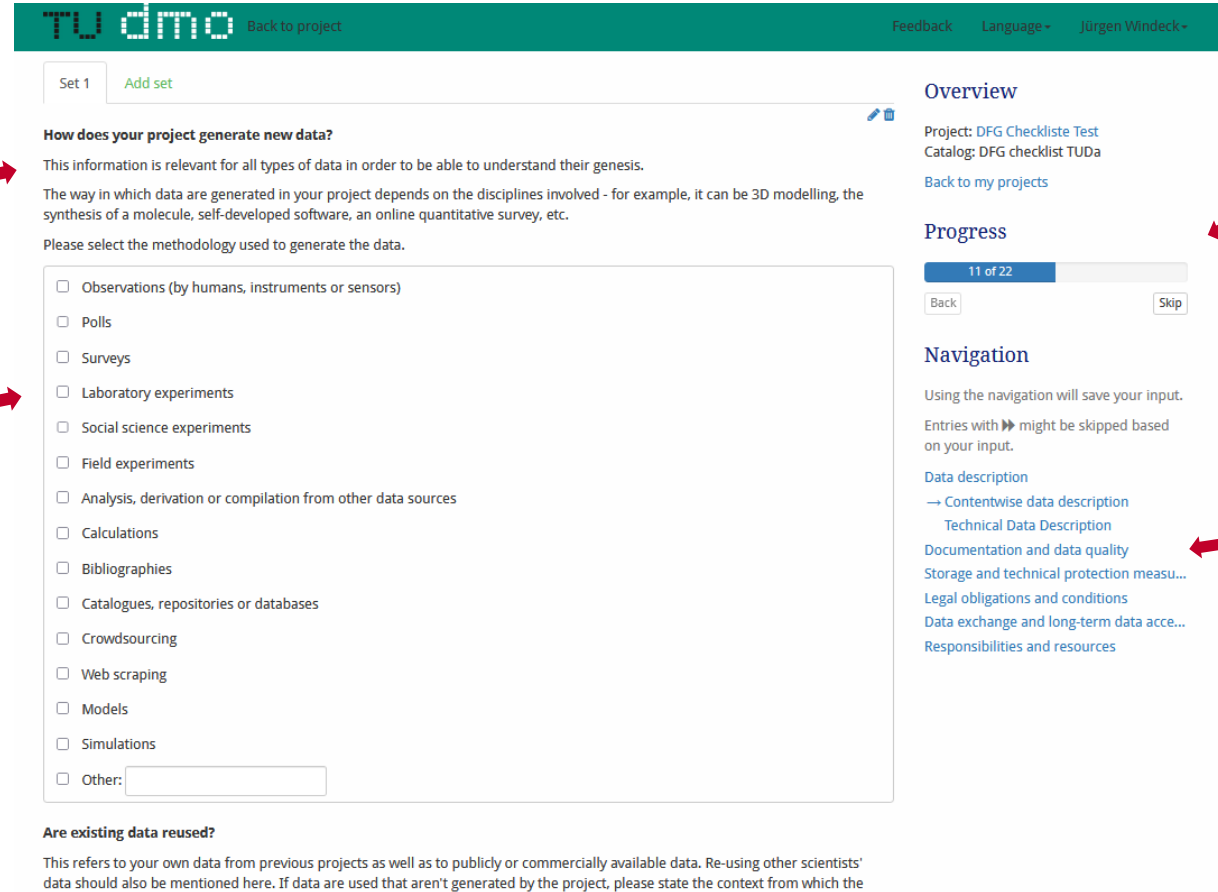
Login with Shibboleth



Log in with your university account

<https://rdmo.zdv.uni-mainz.de/>

DMP tools: RDMO



tu dmo Back to project Feedback Language Jürgen Windeck

Set 1 Add set

How does your project generate new data?

This information is relevant for all types of data in order to be able to understand their genesis. The way in which data are generated in your project depends on the disciplines involved - for example, it can be 3D modelling, the synthesis of a molecule, self-developed software, an online quantitative survey, etc. Please select the methodology used to generate the data.

- Observations (by humans, instruments or sensors)
- Polls
- Surveys
- Laboratory experiments
- Social science experiments
- Field experiments
- Analysis, derivation or compilation from other data sources
- Calculations
- Bibliographies
- Catalogues, repositories or databases
- Crowdsourcing
- Web scraping
- Models
- Simulations
- Other:

Are existing data reused?

This refers to your own data from previous projects as well as to publicly or commercially available data. Re-using other scientists' data should also be mentioned here. If data are used that aren't generated by the project, please state the context from which the

Overview

Project: DFG Checkliste Test
Catalog: DFG checklist TUDa
[Back to my projects](#)

Progress

11 of 22

[Back](#) [Skip](#)

Navigation

Using the navigation will save your input. Entries with **▶▶** might be skipped based on your input.

Data description

- Contentwise data description
- Technical Data Description
- Documentation and data quality
- Storage and technical protection measu...
- Legal obligations and conditions
- Data exchange and long-term data acce...
- Responsibilities and resources

Questions and information

Answer questions

Completion status

Navigate through different parts of your DMP

RDM services at JGU

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Your Team of Experts Research Data: forschungsdaten@uni-mainz.de

- **Dr. Anne Vieten** (Research and Technology Transfer – general RDM aspects, requirements of funders, DMPs, data publication...)
- **Dr. Jörg Steinkamp** (Data Center – technical RDM aspects, GitLab, data archiving and publication ...)
- **Karin Eckert** (University library - Metadata, Gutenberg Open Science, data publication, ...)
- **Tina Rotzal and Esther Reinecke** (University library – good scientific practice, academic integrity)

<https://www.forschungsdaten.uni-mainz.de/>

RDM service at TUDa

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tu data

www.tu-darmstadt.de/tudata

tudata@tu-darmstadt.de

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- Homepage:

<https://www.ub.uni-frankfurt.de/forschungsdaten/home.html>

- Contact:

- forschungsdaten@ub.uni-frankfurt.de
- eln@ub.uni-frankfurt.de

Thank you for your attention!

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Questions?

