forschungsdaten
management

Freie Universität Berlin

May 2021

Research Data Policy of Freie Universität Berlin

Content

1   Preamble

Today, a responsible approach to digital research data is one of the cornerstones of transparent, high-quality, visible, and sustainable research. Freie Universität Berlin supports its members (researchers, instructors, and students) in implementing the relevant principles in alignment with the German Research Foundation's Guidelines on the Handling of Research Data[1] and Guidelines for Safeguarding Good Research Practice,[2] Freie Universität Berlin's Statute for Safeguarding Good Scientific Practice,[3] Freie Universität Berlin's Open Access Policy,[4] the FAIR Data Principles[5] as well as other recommendations[6] regarding the entire research process, from data collection to the publication of research findings. Above and beyond these basic principles, Freie Universität Berlin believes that in the long term, research data are useful not only in a scientific context, but also have the potential to be used and distributed throughout society in accordance with the principles of open research (open science, open scholarship). The university encourages a culture of dialogue as a basis for developing quality assurance concepts for research data in the various departments and subject areas.

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1   Deutsche Forschungsgemeinschaft (DFG). 2015. 'Guidelines on the Handling of Research Data'. https://www.dfg.de/download/pdf/foerderung/grundlagen_dfg_foerderung/forschungsdaten/guidelines_research_data.pdf.

2   DFG. 2019. 'Guidelines for Safeguarding Good Research Practice. Code of Conduct'. https://doi.org/10.5281/zenodo.3923602. and DFG. 2021a. 'Research Integrity'. Accessed 22 October 2021. https://wissenschaftliche-integritaet.de/en/.

3   Freie Universität Berlin. 2020. 'Satzung zur Sicherung guter wissenschaftlicher Praxis (GWP-Satzung)'. *Mitteilungen. Amtsblatt der Freien Universität Berlin* 2020 (42). https://www.fu-berlin.de/service/zuvdocs/amtsblatt/2020/ab422020.pdf.

4   Freie Universität Berlin. 2021. 'Open Access Policy of Freie Universität Berlin'. https://doi.org/10.17169/refubium-31442.

5   Initiated in 2016, the FAIR principles of findable, accessible, interoperable, reusable for the management of scientific data ('FAIR Principles'. n.d. Accessed 22 October 2021. https://www.go-fair.org/fair-principles/.) aim to improve the discoverability, accessibility, interoperability and reusability of digital data; see Wilkinson, Mark D., Michel Dumontier, IJsbrand Jan Aalbersberg, Gabrielle Appleton, Myles Axton, Arie Baak, Niklas Blomberg, et al. 2016. 'The FAIR Guiding Principles for Scientific Data Management and Stewardship'. *Scientific Data* 3 (1): 160018. https://doi.org/10.1038/sdata.2016.18.

6   See, e.g., the compilation DFG. 2021b. 'Subject-specific Recommendations on the Handling of Research Data'. Accessed 22 October 2021. https://www.dfg.de/en/research_funding/principles_dfg_funding/research_data/recommendations as well as the subject-specific commentaries of the Code of Conduct – Guidelines for Safeguarding Good Research Practice (DFG 2021a).

2   Scope

This policy applies to all members of Freie Universität Berlin[7] as well as to visiting researchers and guest lecturers, and partners and institutions with which the university holds a cooperation agreement. Where specific funding agreements with external funders stipulate other rules on data management, those rules take precedence. The binding policies of Freie Universität on data protection[8] and IT security[9] also apply.

3   Definition

This policy applies to all research-related analog data, documents, and objects that are to be digitized in the course of a given research process as well as to "born digital" (i.e., originally created in a digital medium) data, documents, and objects produced in the course of a research process and/or that are the object or result of such a process. Research data are also defined as any data that facilitate the documentation, transparency, and – depending on the research area – replication of research outcomes (metadata).[10]

Common examples of such research data are digitizations, audiovisual data, digital representations of analog data, measurement data, observation data, survey data, texts and text editions, databases, object collections, protocols, methodological test procedures, questionnaires, software, and simulations.[11] The German Research Foundation (DFG) also defines source code and software as research data where they represent central outcomes of scientific research.[12] The broad spectrum of data types reflects the diversity of scientific disciplines and their different research methods and processes.
In the course of the research process, research data can take on several forms. They may vary in quality depending on how they are prepared or if additional data are added. The form of the data may also depend on the stage of processing, or they may be provided in different formats for presentation purposes. Furthermore, they may be subject to varying access regulations (open data, restricted data, closed data).
The management of research data is an ongoing part of the entire research process. It includes the organization, documentation, storage, back-up, archiving, sharing, and publication of data. Research data management not only increases the visibility of the generated and/or processed data, but also the related research. It also helps to improve data quality and data processing, while making subsequent use of the data easier both for the original researchers and for others. Moreover, it facilitates the use of data in new contexts created when different data sets are linked. Sustainable research data management ensures the fulfillment of subject-specific requirements, as well as potential obligations related to funding agreements. It also helps meet publishers' standards and requirements, as well as ensuring compliance with the principles of good scientific practice.

4   Handling Research Data

Freie Universität Berlin encourages researchers to structure and archive their research data and to make these accessible in accordance with the FAIR principles. These principles aim to make digital data more findable, accessible, interoperable, and reusable. Research data should be managed in a way that is compatible with the relevant subject-specific practices, with the principles of ethical research,[13] and the guidelines and recommendations issued by professional associations in the relevant subject.[14] Freie Universität Berlin adheres to the

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7   Section 43 of the Berlin Higher Education Act defines members of the university ('§ 43 Mitglieder der Hochschule'. 2011. Gesetz über die Hochschulen im Land Berlin (Berliner Hochschulgesetz - BerlHG). https://gesetze.berlin.de/bsbe/document/jlr-HSchulGBE2011pP43.).

8   Freie Universität Berlin. 2013. 'Datenschutzsatzung der Freien Universität Berlin'. *Mitteilungen. Amtsblatt der Freien Universität Berlin* 2013 (53). https://www.fu-berlin.de/sites/it-sicherheit/downloads/Datenschutzsatzung.pdf.

9   Freie Universität Berlin. 2019. 'IT-Sicherheitsrichtlinie der Freien Universität Berlin (Version 4.0)'. https://www.fu-berlin.de/sites/it-sicherheit/downloads/IT-Sicherheitsrichtlinie.pdf.

10   In addition to the definitions formulated here, see the glossary accessible on the University Library's research data management website at 'RDM-Glossary'. 2021. Accessed 22 October 2021. https://www.fu-berlin.de/en/sites/forschungsdatenmanagement/glossar.

11   DFG (2019), op. cit.

12   DFG (2019), op. cit.

13   See e.g. with regard to data sovereignty and ethical aspects, the CARE Principles ('CARE Principles of Indigenous Data Governance'. n.d. Global Indigenous Data Alliance. Accessed 22 October 2021. https://www.gida-global.org/care.).

14   See DFG (2019), op. cit..

principles of the "Sorbonne Declaration on Research Data Rights,"[15] and recommends that researchers work on the guiding principle of "as open as possible, as closed as necessary."

4.1 Research and Project Planning; Administering and Managing Research Data

It is recommended that project leaders include the costs of resources required to store and manage data (staff costs, project-specific hardware and software, charges for use) in grant applications. Even if funding institutions do not require it, Freie Universität Berlin recommends that researchers create a data management plan (DMP) as early as possible. The DMP should include details on how data will be collected, administered, secured, stored, used, and published. It should also include an agreement on data organization, the assignment of responsibilities, intellectual property,[16] regulations regarding staff fluctuation, as well as specifications on data access. The data management plan should be reviewed regularly in the course of the research project and updated whenever necessary.

Descriptive metadata should be linked to the research data on an ongoing basis as an integrated part of the research project rather than waiting until the project is completed. It is also essential that the methods and tools used to generate, enrich, structure, and analyze the data are documented in full. This ensures compliance with quality standards, helps to keep the process transparent, and also ensures that the research can be replicated in accordance with the respective subject-specific norms. The University Library can help with choosing suitable tools for this process.

4.2 Publishing, Licensing, Storing, and Archiving Research Data

Machine-readable, processable research data can be deposited, referenced, and made accessible in different repositories. Depending on the project, researchers might choose a domain-specific repository, a subject-specific repository, or Freie Universität's own institutional repository, "Refubium."[17]

Where intellectual property or data protection legislation or the principles of ethical research require restricting access to research data, Freie Universität offers technical archiving solutions.[18] If there are reasons why research-relevant data are not to be stored, this should be documented in accordance with the recommendations on good scientific practice. If the research data are archived but not published, Freie Universität recommends that the metadata are deposited in Refubium to ensure the maximum visibility and long-term citability of research outcomes.

The University Library assists members of the university in documenting and cataloguing their data for publication[19] and in using sustainable and/or open standard formats[20].

If usage or publication rights are to be transferred, use of the data for academic purposes should be guaranteed on a perpetual basis. Freie Universität Berlin therefore recommends granting open licenses for use when data (including their metadata) are published, e.g., CC0 or CC BY[21] for data, GNU General Public License[22] or MIT License[23] for source code. Data should be assigned persistent identifiers, e.g., Digital Object Identifiers (DOIs).

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15 'Sorbonne Declaration on Research Data Rights'. 2020. https://www.leru.org/files/Sorbonne-declaration.pdf. Signatories are, among others, the German U15, of which Freie Universität is a member, as well as other international university associations at the national level.

16 Freie Universität recommends that university members use the author and contributor identifier ORCID (Open Researcher and Contributor iD), which ensures unique assignment to publications and research data ('ORCID'. n.d. Accessed 22 October 2021. https://orcid.org/.).

17 'Refubium – Freie Universität Berlin Repository'. n.d. Accessed 22 October 2021. https://refubium.fu-berlin.de/?locale-attribute=en.

18 See the offers of the backup and archive service of ZEDAT 'Backup-Service für Server im FU-Netz'. 2021. Accessed 22 October 2021. https://www.zedat.fu-berlin.de/Backup. Users can take advantage of consulting services to implement appropriate archiving solutions.

19 In the context of final theses, quality assurance is carried out by reviewers.

20 See e.g. Böker, Elisabeth. 2021. 'Formate erhalten'. Accessed 22 October 2021. https://www.forschungsdaten.info/themen/veroeffentlichen-und-archivieren/formate-erhalten/. and 'Data Formats for Preservation'. 2019. Accessed 22 October 2021. https://www.openaire.eu/data-formats-for-preservation/.

21 'About The Licenses - Creative Commons'. n.d. Accessed 22 October 2021. https://creativecommons.org/licenses/.

22 'A Quick Guide to GPLv3'. 2016. Accessed 22 October 2021. https://www.gnu.org/licenses/quick-guide-gplv3.en.html.

23 'The MIT License | Open Source Initiative'. n.d. Accessed 22 October 2021. https://opensource.org/licenses/MIT.

The University Library offers this service free of charge.[24] For the citation and/or referencing of data[25] and software[26], researchers should refer to established standards.

Research data must be stored and made accessible for as long as required and possible according to the recommendations and rules of research funders within the framework of statutory and legal provisions (e.g., the EU regulations on personal data [GDPR], intellectual property law). The minimum time for which research data should be stored is usually ten years from the date of publication of the data or the relevant work and/or the end of the project.[27] Freie Universität's institutional storage systems (ZEDAT; Refubium) ensure that data are stored for at least this long.

If research data are to be deleted from the institutional storage systems, then this must be done in agreement with the relevant researchers as well as the infrastructure providers (i.e., the University Library and ZEDAT) following the expiry of the required archiving period and in compliance with all legal and ethical requirements. The decision as to whether to retain or delete the data should take into account the interests and contractual obligations of external funders and/or other stakeholders, such as cooperation partners, participating research institutions, etc.

5   Legal and Ethical Considerations

Research data management must always and at all times take into account the current statutory requirements, especially in relation to the protection of individuals and of intellectual property (copyright law, General Data Protection Regulation), as well as the requirements of this policy, subject to special arrangements with third parties (e.g., research groups, joint projects) and to ethical considerations.

The ownership of usage rights is regulated in the employment contract between the researcher and Freie Universität and/or other specific agreements with the researcher. The rules stipulated in other agreements (funding agreements, cooperation agreements, research permissions) and the rights and standards applicable to the persons and groups, if any, who form the object of the research also apply. It may be necessary to carry out individual assessments of cases where ownership of the intellectual property in relation to the data is vested solely in the researcher(s) and/or specific research institutions.

6   Responsibilities

6.1   Research and Teaching

Members of Freie Universität Berlin are bound by the principles of good research practice set out by the German Research Foundation (DFG). Freie Universität's statute on safeguarding good scientific practice[28] stipulates that researchers must ensure that the research data created and processed in the context of their research project must be, wherever possible, organized, documented, made accessible, and stored in a long-term and sustainable way. The researchers at Freie Universität are responsible for implementing the various rules and guidelines that apply to their research, including rules and standards issued by their respective departments and in consideration of all ethical and statutory requirements.[29] Proper handling of research data is also highly relevant in the context of teaching and education. Members of Freie Universität do their best to ensure students and researchers for whom they have a responsibility are aware of the various methods of research data management applicable to their respective subjects[30], whether this is in teaching and training (especially research-oriented teaching), research-based internships, projects, or final theses.

24   'DOI'. 2018. Accessed 22 October 2021. https://www.fu-berlin.de/en/sites/refubium/a-to-z/identifiers/doi.html.

25   Data Citation Synthesis Group. 2014. 'Joint Declaration of Data Citation Principles'. FORCE11. 2014. https://doi.org/10.25490/a97f-egyk.

26   Smith, Arfon M., Daniel S. Katz, and Kyle E. Niemeyer. 2016. 'Software Citation Principles'. *PeerJ Computer Science* 2 (September): e86. https://doi.org/10.7717/peerj-cs.86.

27   See DFG (2019), op. cit.

28   Freie Universität Berlin (2020), op. cit.

29   See DFG (2019), op. cit.

30   See DFG (2019), op. cit.

6.2   Institutional Obligations

The University Library provides consultations on the organizational, legal, and ethical aspects of research data management, as well as on questions related to information science in this context. It offers support to researchers, especially in designing a research data management plan, and in selecting and implementing the best archiving and, where applicable, publishing strategy. Where researchers are dealing with more complex requirements, the Office of the General Counsel, the Central Ethics Committee, and ZEDAT also offer advice on finding tailored solutions for specific legal, ethical, and technical issues. The University Library also supports researchers through training in basic skills and norms in relation to research data management. It can advise the departments and other units in setting up and developing their own training programs, e.g., for Collaborative Research Centers (CRCs). ZEDAT offers one-on-one consultations for researchers along with workshops for small or large working groups on subjects such as computation for scientists, finding the right software, and identifying capacity needs, for example, for big data projects [31].

The Open Access Policy of Freie Universität Berlin [32] encourages the idea that publishable research data should be accessible, and the university supports all researchers in making this possible as well as supporting recognition for data publications and developed software. The university strongly recommends that researchers consider and implement the relevant practices when handling research data in the context of assessing final theses and dissertations, in evaluations, and recruitment and appointment procedures. Freie Universität Berlin is also working toward the establishment of research data management as a core aspect of the curricula in all subject areas and in the courses offered by the central facilities as part of its endeavors to embed good scientific practice in all areas of the university.

7   Entry into Force

This policy was approved by the Academic Senate of Freie Universität Berlin on May 5, 2021, and thereby entered into force.

The University Library will be responsible for coordinating a review of this policy every two years with the participating central offices and committees to evaluate its validity in order to adapt it to new challenges, developments in infrastructure, and the needs of researchers.

Compliance with statutory and regulatory norms (including data protection legislation) is regularly monitored.

The University Library is the point of contact for any questions related to this policy (forschungsdaten@fu-berlin.de).

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31   'High-Performance Computing'. 2018. Accessed 22 October 2021. https://www.fu-berlin.de/en/sites/high-performance-computing.
32   Freie Universität Berlin (2021), op. cit.

8   References

'§ 43 Mitglieder der Hochschule'. 2011. Gesetz über die Hochschulen im Land Berlin (Berliner Hochschulgesetz - BerlHG). 26 July 2011. https://gesetze.berlin.de/bsbe/document/jlr-HSchulGBE2011pP43.

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'DOI'. 2018. Accessed 22 October 2021. https://www.fu-berlin.de/en/sites/refubium/a-to-z/identifiers/doi.html.

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'High-Performance Computing'. 2018. Accessed 22 October 2021. https://www.fu-berlin.de/en/sites/high-performance-computing.

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'Refubium – Freie Universität Berlin Repository'. n.d. Accessed 22 October 2021. https://refubium.fu-berlin.de/?locale-attribute=en.

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9   Imprint

Freie Universität Berlin
Kaiserswerther Straße 16–18
14195 Berlin

May 2021

Layout: Freie Universität Berlin, Center for Digital Systems (CeDiS)

www.fu-berlin.de/en
www.fu-berlin.de/en/sites/forschungsdatenmanagement

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