

Policy Framework for SPP2395 Data Management

SPP2395- Local and peripheral drivers of microglial diversity and function

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Content

1.	Preamble	2
2.	Jurisdiction	2
3.	Intellectual property rights	2
4.	Handling Research data	3
5.	Responsibilities, rights, duties.....	4
6.	Definitions	5
7.	Approval.....	6
8.	Literature	6

1. Preamble

The SPP2395 consortium recognizes the fundamental importance of research data and its management in maintaining research excellence and scientific integrity, and is committed to pursuing the highest standards of research practice. Increased developments in computational advances, internationalization and data protection regulations present significant new opportunities and challenges in this regard.

The purpose of this policy is to provide a framework that defines the responsibilities of the SPP2395 coordination team including data management and its researchers, and to provide guidance for the proper management of research data throughout its full life cycle. This includes promoting data sharing and re-use to the widest extent feasible, in order to maximize research transparency, quality and impact.

SPP23 is committed to a goal of making data created as part of the research process compliant with the FAIR principles [1] Data should be: Findable, Accessible, Interoperable and Reusable. Implementation of this policy also aims to ensure conformity with pertinent legal obligations, ethical responsibilities and the rules of funding bodies, including the:

- Helmholtz Association position paper (1) and guidelines (2) on research data management research software.

- Guidelines of the German Research Foundation for handling research data (3) and good scientific practice (4)

- Federal Data Protection Act (5)

- Berlin Data Protection Act (6)

- EU Open Science Policy (7)

- EU General Data Protection Regulation (8)

2. Jurisdiction

This Policy was generated on the basis of the data management policy on the Max-Delbrück-Centre in Berlin (2). It will be further developed and refined based on consensus discussion among working group members from SPP2395. It applies to all researchers active in SPP2395. Approval is made by the coordinator of SPP2395 (PD Dr. Susanne Wolf)

3. Intellectual property rights

Intellectual property rights and ownership determine the basic conditions for use and sharing of research data. The data manager serves as a point of contact regarding Intellectual Property Rights (IPR) questions about research data/results and initiates suitable protection measures where appropriate.

4. Handling Research data

Researchers are strongly encouraged to develop a written Data Management Plan (DMP) at the design stage of each project, even when not specifically required with the assistance and support of the Research Data Management unit.

4.1. Data storage

Research data must be stored in a correct, complete, unadulterated and reliable manner in order to preserve its integrity. Furthermore, data must be identifiable (including through use of persistent identifiers), accessible, traceable, interoperable and, whenever possible, available for subsequent use.

All research data generated and elaborated in the institutional storage systems, with secure backup storage. Data may be also archived/shared in reliable trusted external repositories, in addition to the institutional storage. Legal agreements have to be done at the PI's institutions.

Storage infrastructures should be compliant with best practices in the field as well as technical specifications per legal requirements.

Where research involves the collection, processing and/or use of identifiable personal data, the storage and sharing of the data must comply with relevant ethical, legal, disciplinary and regulatory requirements and be in line with the consent under which the data was collected or provided.

Research data and related material should be retained for a minimum of ten years after acquisition or generation based on the recommendation of the DFG (9). Longer or shorter retention periods prevail in accordance to legal regulations, funders' and other contractual requirements (e.g. clinical trials, patents).

4.2. Data access and re-use

The use of open-source software/code to support analysis is strongly encouraged in-line with European Open Science guidelines (10) and recommendations. When licensing is indicated to allow data sharing and re-use, the data should be made available under an open license, unless legal obligations, third party rights intellectual property rights and privacy rights preclude this (e.g. Creative Commons (11) and licenses approved by the Open Source Initiative (12)).

In publications and any other presentations of data, the data sources (original and subsequently-used) must be acknowledged and traceable in accordance with the institution's publication policy

4.3. Deletion of data

Deletion or destruction of research data and records, either after expiration of the retention period or for legal or ethical reasons, has to be carried out considering contractual obligations of third-party funders and other stakeholders, including collaboration partners. Such actions should be documented and be accessible for future audit. Backup data copies should also be deleted. Automated deletion of research data is to be avoided. Plans outlining data deletion and destruction should be documented and agreed

upon between the principal investigators or data producers with the IT department; see section 5 for more details on roles and responsibilities.

5. Responsibilities, rights, duties

The SPP2395 coordination team, Principal Investigators (PIs) and all researchers of the consortium hold the primary responsibility for compliance with this policy and the responsibility for research data management during and after a research project.

Furthermore, compliance with the "Guidelines for Safeguarding Good Scientific Practice" of the German Research Foundation (4) should be taken into account in all aspects of research activities.

5.1. Principal Investigators and Researchers are responsible for:

- a) Management of research data and data sets through their life cycle in adherence with principles and requirements expressed in the MDC's policies, see table Related Documents.
- b) Definition of the DMPs including responsible person(s), general responsibilities and decisions (e.g. about sharing/access, central storage of data, data deletion, quality of content, definition of formats). This responsibility lies with the Principal Investigator(s) generating the data.
- c) Allocation of appropriate resources (time and financial resources) for data management
- d) Registration of the SPP2395 proposal for third party funded projects with the Research Funding Departments of the institutions, to ensure appropriate institutional support.
- e) Collection, documentation, archiving, access to and storage or proper destruction of research data and research-related records. This also includes the definition of protocols and responsibilities within a joint research project. Such information should be included in a DMP, as well as in protocols that explicitly define the collection, administration, integrity, confidentiality, storage, use and publication of data that will be employed.
- f) Compliance with the general requirements of the DFG and the research institution.
- g) Planning to enable, wherever possible, the continued use of data even after project completion. This includes defining post-project usage rights, with the assignation of appropriate licenses, as well as the clarification of data storage and archiving in the case of discontinued involvement of the researcher(s) in SPP2395.
- h) Acknowledgment of data sources and abiding by the terms and conditions under which original data was accessed.

5.2. The SPP2395 data management is responsible for:

- a) Providing support, training, guidance and advice on research data management starting from planning to execution and thus enable researchers to exercise their responsibilities outlined above and to comply to requirements of third-party funders and other legal entities.
- b) Supporting retention of research data sets and related metadata and software in the appropriate format in line with its agreed policy and those of its research funders.
- c) Supporting the identification and resolution of legal issues to research data.

6. Definitions

Research is any creative and systematically performed work with the goal of furthering knowledge, including discoveries regarding people, culture and society, in addition to the use of such knowledge for new applications.

Principal investigator (PI) is the most senior researcher associated with the research and the primary individual responsible for the research project implementation, management and integrity of the design, conduct, and reporting. Additionally, the PI holds the responsibility for the direction and oversight of compliance.

Researchers refers to all members of an institution including employed scientists, students and support staff as well as others with a formal affiliation at specific research institutions, who have access to, generate and/or manage research data. Visiting researchers or collaborators may also be expected to comply with the policy.

Research data refers to all information (independent of form or presentation) needed to support or validate the development, results, observations or findings of a research project, including contextual information. Research data include all materials that are created in the course of academic work, including digitization, records, source research, experiments, measurements, surveys and interviews. This includes methods/protocols, metadata, software and code. Research data can take on several forms: during the lifespan of a research project, data can exist as gradations of raw data, processed data (including negative and inconclusive results), shared data, published data and Open Access published data, and with varying levels of access, including open data, restricted data and closed data.

Metadata (13) is data providing information about data that makes findable, trackable and (re)usable. It can include information such as contact information, geographic locations, details about units of measure, abbreviations or codes used in the dataset, instrument and protocol information, survey tool details, provenance and version information and much more.

Data sharing is the practice of making scientific data used for scholarly research available to others, for research re-use or in knowledge transfer activities (e.g. researchers, institutions, the broader public).

The general outline and some text in this policy were adopted from the resources of the MDC, Berlin (2).

7. Approval

Berlin, 17.03.23

PD Dr. Susanne Wolf
Coordinator SPP2395

8. Literature

1. Helmholtz-Gemeinschaft, M. d. (2016) Die Ressource Information besser nutzbar machen!.pdf. <https://doi.org/10.48440/os.helmholtz.026>
2. MDC, P. (2021) Policy Framework for Research Data management (RDM). doi:10.2312/los.helmholtz.002
3. DFG. (2018) Positionspapier Informationsinfrastrukturen. www.dfg.de
4. DFG. (2023) Good Scientific Practice. https://www.dfg.de/foerderung/grundlagen_rahmenbedingungen/gwp/index.html
5. Justiz, B. f. Bundesdatenschutzgesetz. https://www.gesetze-im-internet.de/bdsq_2018/
6. Berlin. <https://gesetze.berlin.de/bsbe/search>
7. EU. Open Science Policy. https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/open-science_en
8. EU. General Data Protection Regulation. <https://gdpr-info.eu/>
9. DFG. Code of Conduct. 10.5281/zenodo.6472827
10. EU. Reproducibility of Scientific Results in the EU. <https://op.europa.eu/en/publication-detail/-/publication/6bc538ad-344f-11eb-b27b-01aa75ed71a1>
11. Commons, C. Licenses. <https://creativecommons.org/licenses/>
12. Opensource. <https://opensource.org/>
13. LEARN. Research Data Management Toolkit. <https://learn-rdm.eu/en/research-data-management-toolkit-now-available/>