Data management plan

Wymagania DMP zawarte są w opisie Narodowego Centrum Nauki:
https://ncn.gov.pl/sites/default/files/pliki/regulaminy/wytyczne_zarzadzanie_danymi.pdf

Poniższe przykłady są pomyślane jako inspiracja, w żaden sposób nie mogą być uznane za kompletne, każdy plan zarządzania danymi powinien zostać sporządzony indywidualnie!!!

Zestaw wskazówek został przygotowany z myślą o badaczkach i badaczach planujących korzystanie z repozytorium RepOD (Kolekcja UwB) - Zarządzenie nr 6 Rektora Uniwersytetu w Białymstoku z dnia 3 lutego 2026 r. w sprawie utworzenia i zasad korzystania z Kolekcji danych badawczych Uniwersytetu w Białymstoku w Repozytorium Otwartych Danych Badawczych RepOD

1 Data description and collection or re-use of existing data
1.1 How will new data be collected or produced and/or how will existing data be re-used?

Data will be collected during the measurements with Spectrometer XXX in ASCII, yyy format on the computer dedicated to this instrument…
Data will be collected on a dedicated PC, Apple etc. with LabView, Matlab… data acquisition system, DAQ hardware with USB, PCI, PCI Express, PXI, PXI-Express devices… connected to own build measurement device…
The outsourced measurement data will be transferred to our system in encrypted files and data format will be homogenized with our standards…
Data will be collected within the joint experiment on the large scale facility, where data acquisition procedures are defined (www…) and we will strictly follow these procedures…
Data will be obtained from numerical calculations with software like Quantum Espresso, LAMMPS etc. The standard output files for a given software will be generated and collected… post processing will be performed with XXX software and the set of simplified data will be collected as well…
The existing crystallographic structural databases like Cambridge Crystallographic Data Centre (CCDC) will be used…
Existing literature, open data resources will be used during the project…

1.2. What data (for example the types, formats, and volumes) will be collected or produced?

The measurements will produce data in the ASCII, xml, proprietary… data format.
Data will be stored in the individual directories/folders for each measurement/sample… data compression will be done with xx. version yy software available for MS Windows, Linux, IOS, android… operating systems…
The standard for data transfer between our Laboratories will be Matlab proprietary format… (version XX or earlier)
Each dataset will include date, time of the measurement, the sample description, thermodynamic conditions…

Graphical data will be stored in TIFF, jpg, png… format.
Audio files in flac format… the numerical data from the measurement consists of frequency, phase and intensity for each temperature… with an average size of 10kB in 120 files per measurement…
The calculations output data consists of ASCII and binary datasets that amount between 1 kB to 10 GB for an individual calculations. Details of the file formats are related to particular software used… reproducible binary not be preserved due to large storage space requirements…
The laboratory logbook will be stored in .doc format… (version Microsoft Office Word 2010)
Data analysis will be done with OriginLab software (version …) and proprietary data format will be stores together with numerical data in format .xlsx (Microsoft Excel), csv…

2. Documentation and data quality

2.1. What metadata and documentation (for example methodology or data collection and way of organising data) will accompany data?

The data will be stored in a structured folders with appropriate laboratory logbooks for each folder…
The folder structure /Sample_descritor/Date/time/… will be used as a standard…
The file naming convention will be: sample_measurement_time_set_...xxx
The xx version of .md file format will be used as a standard in the project. Format conversion, format updates will be provided in xxx file together with conversion software for Debian Linux operating system (version x.x.x).
Structural crystallographic data will be stored in Crystallographic Information File standard (cif) including metadata.
The metadata uploaded to the repository will comply with the schema adopted by that repository. The RepOD Repository allows users to enter metadata—that is, to fill out the fields in the metadata form—and then export it to one of several formats, including Dublin Core, DDI, OpenAIRE, and Datacite.

The metadata will include, among other things, the collection title, author and affiliation, ORCID ID, date of creation, keywords, grant/project number, license, and information about related publications.

File names will clearly describe their contents. A README file (in TXT format) will be included with the dataset, containing data documentation, including a description of the research methodology, data collection and organization methods, file structure and content, information on the software and data formats used, an explanation of abbreviations and terminology, and information regarding data quality control and any data gaps or failed measurements.

2.2. What data quality control measures will be used?

The measurements will be done on XXX spectrometer calibrated with YYY standard, recalibration will be performed each month, day, year…
The sample quality will be assessed prior to any measurement according to the procedure…
The XXX software will be used to assess data quality, reduce noise etc…
The long distance connections will be recalibrated on daily basis in order to avoid artifacts…
The data will be produced by a high quality numerical software and the industry standards…
Data analysis done by the participants of the project, it will reveal any data irregularities…

Verifying measurements taken by other members of the research team, consulting with experts, selecting an appropriate sample group (in accordance with the standards applicable in the field), and creating photographic documentation are examples of measures that help minimize the risk of errors.

Using file version control, repeating subsequent stages of the study, logging performed activities, implementing file access controls, and working in track changes mode—these types of measures also minimize the risk of errors.

3.Storage and backup during the research process

3.1. How will data and metadata be stored and backed up during the research process?

During the study, files will be stored on the project manager's work computer and on two external hard drives. Each file will be stored in duplicate on different file servers.
The project manager will serve as the primary coordinator for access to research data. Members of the research team will have access to all data using a designated password and will be responsible for updating the data.
The data collected during the project will be stored on a work computer, a work laptop, and local disk servers… A daily data backup on the redundant storage will be performed at a cloud infrastructure… Data form the analysis software or a portable storage devices will be weekly/monthly archived on the local served backup system.

Backup will not/be encrypted… the password will be known to…

In the event of an incident data restoration will be performed with XXX software …

3.2. How will data security and protection of sensitive data be taken care of during the research?

Sensitive data will not be processed during the project.
The data stored on personal physical drives will be kept in the department's office.
Any sensitive or personal data will be protected in accordance with the regulations in force at the University of Białystok, with particular attention paid to its security.
The project manager will have access to the research results; these do not involve any sensitive data (NOTE: In the case of sensitive data, it is necessary to consult with the university's data protection officer).

4. Legal requirements, codes of conduct

4.1. If personal data are processed, how will compliance with legislation on personal data and on data security be ensured?

The personal data will not be collected during the project.

The processing of personal data will be carried out in accordance with the university's RODO policy, as set forth in Zarządzenie nr 11 Rektora Uniwersytetu w Białymstoku z dnia 16 kwietnia 2019 r. w sprawie wprowadzenia Polityki bezpieczeństwa danych osobowych oraz Instrukcji zarządzania systemem informatycznym w Uniwersytecie w Białymstoku.
All data will be generated, stored, and processed in accordance with the RODO Rozporządzenie Parlamentu Europejskiego i Rady (UE) 2016/679 z dnia 27 kwietnia 2016 r. Data processing will be

approved by the Data Protection Officer at the University of Białystok.

Research results containing personal data will have the participants' identities protected through pseudonymization and/or anonymization in accordance with current GDPR requirements.

4.2. How will other legal issues, such as intelectual property rights and ownership, be managed? What legislation is applicable?

The participants of the project will follow the intellectual property rights management according to the Uchwała nr 3107 Senatu Uniwersytetu w Białymstoku z dnia 28 września 2022 r. w sprawie Regulaminu zarządzania prawami autorskimi, prawami pokrewnymi i prawami własności przemysłowej oraz zasad komercjalizacji w Uniwersytecie w Białymstoku
In the case of datasets created by multiple authors, individual creative contributions and terms of use will be governed by a separate agreement.
The published data shall be available according to Creative Commons license with the consent of all authors.

5. Data sharing and long-term preservation
5.1. How and when will data be shared? Are there possible restrictions to data sharing or embargo reasons?

The research data elaborated in the project will be shared monthly, quarterly, after the end of the project…
The data will be made available no later than when the research results are published.
The RepOD repository ensures that deposited data is stored indefinitely.
The data will be stored for a period appropriate to the discipline and methodology used, for a minimum of 10 years.
The data will be shared no earlier than the final publication of the results receives DOI number…
The research data elaborated in the project will not be shared because they are secret…
Each publication with DOI identifier shall contain information relevant for data reproduction.
Data elaborated within the project which directly contribute the research publications will be considered as a long-term value and it will be preserved…
If appropriate a Publisher's embargo policy will be applied…

5.2. How will data for preservation be selected, and where will data be preserved long-term (for example a data repository or archive)?

Data will be selected based on its research value. Data that may be useful to other researchers will be made publicly available. Some of the data will be deposited in the RepOD repository. Data containing working drafts will be stored on an electronic medium in the author's collection;
The RepOD repository will serve as the primary data repository. The data made available in the repository will meet FAIR principles.
During meetings, the research team will discuss the collected data and decide which portion of the research data merits inclusion in the repository and whether, in its current form, it is sufficiently understandable or requires additional processing.

The long term data storage will be related to reduced data sets. It will contain data which contribute to the research publications published during and shortly after the project accomplishment.
The long term data preservation will be applied to all/selected raw, processed, … data produced within the project…
The RepOD repository ensures that backups of stored research data are created.

5.3. What methods or software tools will be needed to access and use the data?

The shared data will be in open formats, so there will be no need for specialized software by recipients.
ASCII, csv, xml, … files will be stored they can be accessed with any text or xml editor…
Textual files saved with .doc format will require MS Office (version 2007 or later), LibreOffice (version xx or later), PDF files will be stored in PDF/A-3 format based on PDF 1.7 (ISO 32000-1:2008) …
Pictures will be stored in TIFF format (TIFF 6.0 Baseline TIFF standard)…
Access to data via standard, widely available software (web browser + OpenOffice) from various operating systems (Windows, Linux, MacOS).
The data will be made available through the repository on an open-access basis.

5.4. How will the application of a unique and persistent identifier (such us a Digital Object Identifier (DOI)) to each data set be ensured?

The datasets provided in the repository will have the DOI assigned.
Due to the selection of a repository meeting the FAIR Data rules, a persistent identifier will be assigned to each dataset – ultimately DOI.

6. Data management responsibilities and resources
6.1. Who (for example role, position, and institution) will be responsible for data mangement (i.e the data steward)?

The project manager manages the data during the project and after it is completed.
The project manager or a person designated by the project manager is responsible for data archiving and data management.
The PI will be responsible for data management…

6.2. What resources (for example financial and time) will be dedicated to data management and ensuring the data will be FAIR (Findable, Accessible, Interoperable, Re-usable)?

Storing data on the project manager's work computer, a portable storage device, and the RepOD repository will ensure data security, traceability, and stability.
The cost of hard drives will be covered by the grant; the RepOD repository is free of charge.
The RepOD repository is free of charge.
We will adhere to and ensure compliance with FAIR data standards.
Financial and time resources allocated to managing data in accordance with FAIR principles.