MICROSCOPY
AUSTRALIA

Research Data Management Guidelines

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An Australian Government Initiative

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Microscopy Australia adopts the following guidelines on Research Data Management, in partnership with participating institutions.

Research data will be managed to the highest possible standards throughout the research data lifecycle as part of Microscopy Australia's commitment to Australian research excellence. Microscopy Australia enables the research data created and generated by users to be managed in a way that is compliant with the FAIR Principles (Findable, Accessible, Interoperable and Reusable data) and the institutional, regulatory and funding requirements.

Microscopy Australia promotes ongoing access to research data following the FAIR principles as a way to maximise the value and impact of research and research data. These guidelines apply to all research data, irrespective of format, size, origin and funding source. They are complementary to and do not replace existing policies, procedures, provisions or guidelines on research data and their management at institutions hosting Microscopy Australia facilities and the organisations of our researchers, from academia and industry[1].

The guidelines adhere to the values expected from research institutions and researchers described in the Australian Code for Responsible Conduct of Research (2018) and the guide Management of Data and Information in Research supporting the implementation of the Code.

The guidelines are based on five principles for facilities that lay the foundation for research data management at Microscopy Australia. Specifically:

1. **Research data management planning:** The use of a research data management plan that addresses topics such as data retention, sharing permissions and publication, is strongly encouraged for all researchers and industry clients.
    1.1. All new projects and new users must have a plan for research data management.
    1.2. Microscopy Australia will provide training, support and advice to researchers and industry clients, including templates, for their research data management plans. Where possible, the data management planning process will form part of the registration process for new projects and new users.
2. **Definition of research data ownership, stewardship and custodianship:** All projects should identify and document data ownership, data stewardship and/or data custodianship. Data ownership is independent of intellectual property. The project should ensure the associated responsibilities are understood by all stakeholders.
    2.1. Researchers and industry clients are primarily responsible for identifying data owners, stewards and custodians for the data arising from the research project.
    2.2. Microscopy Australia will encourage all participating institutions to develop clear definitions of data ownership, data stewardship and data custodianship.
3. **Identification and documentation of research data:** The capture of metadata and persistent identifiers is encouraged and, ideally, should follow an automated process upon data collection or storage.
    3.1. All new projects and new users are encouraged to collect project metadata. Where possible, this can be achieved by using electronic laboratory notebooks.
    3.2. Microscopy Australia will develop workflows to automate the collection of metadata from instruments and guidelines for the creation of persistent identifiers.
4. **Preservation of research data quality and integrity:** Defining and applying basic and minimum standards for data quality and metadata is encouraged to guarantee research data integrity.
    4.1. All new projects and new users should, where possible, use well-established data formats and preserve the accuracy, completeness and reliability of data over time.
    4.2. Microscopy Australia will, where possible, promote the use of standardised and non-proprietary data and metadata formats.

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[1]In case of any discrepancy (actual or perceived) between these guidelines and organisational rules for researchers accessing Microscopy Australia facilities, users should follow the rules of their organisations.

5. **Ensuring research data storage, access and security:** Providing secure and safe storage of and access to research data is recommended until, at least, data ownership, stewardship and/or custodianship and the responsibility for data management are transferred to the user. Access to research data by third parties should be considered.

   5.1. All new projects and users must use their home organisation's storage facilities for long-term data storage. Where appropriate, they must ensure that research data are available according to FAIR data principles, providing access and re-use under appropriate safeguards for sensitive, private and/or commercial projects.

   5.2. Where possible, Microscopy Australia facilities will offer short-term data storage, as provided by the participating institutions. Users are advised to be aware of and follow institutional policies and guidelines on data storage, retention and disposal.

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Related Policies, Procedures, Guidelines, Forms or Templates	Principles for a research data management policy framework 2020 (version 1.0) – Download Here

HOST INSTITUTIONS

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