

JIC DATA MANAGEMENT POLICY

OWNER: The Communication and Information Strategy Committee (CISC)

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Purpose

The purpose of the Data Management Policy is to identify the drivers for data management at JIC, and set out the aims of what must be achieved. Each subsection of the Policy inherits the aims of the parent by default. The details of how the aims will be achieved are then set out in the Data Management Strategy.

Key Drivers

- Scientific data must be recognised as having a potential value that may exceed publications immediately derived from it. Data underpinning a publication are rarely published, yet may increase in value over time, and remain capable of generating further research or be required for re-analysis.
- The quality and availability of Administrative data is crucial to the running of all scientific projects.
- It is incumbent upon JIC to provide adequate Quality Assurance to satisfy funding bodies of our ability to deliver the promised scientific results. Data Management forms an important part of our commitment to Quality Assurance and Risk Management.
- Scientific projects and data, as well as administrative processes and data, are subject to auditing by funding bodies or other external organisations.
- Data may be shared with other organisations or made publicly available.
- The [BBSRC Statement on Safeguarding Good Scientific Practice](#) outlines a requirement for data management and the need to keep research data for at least 10 years.
- The Research Council's [Joint Code of Practice for Research](#) outlines a requirement for adequate and auditable documentation of scientific records and materials.
- Legislation such as the Data Protection Act and the Regulation of Investigatory Powers Act.
- Intellectual property must be protected, for both JIC and its sponsors.
- Maintaining the excellence of JIC's science and its international reputation.

Key aims for all Data Management

- To ensure that data management solutions are driven by the needs of JIC's scientific mission, and support the needs of JIC staff.
- To ensure that data are identified, managed, protected and accessible, taking into account JIC and sponsor requirements, as well as Intellectual Property issues and current legislation.
- To ensure that data management integrates with the JIC Quality Assurance program.
- To produce, provide and support professional quality data storage and management systems.
- To perform regular reviews of the Data Management Strategy, keeping pace with requirements and technological change.

The policy is divided into distinct, but overlapping, areas:

- Non-scientific data
 - Administrative, including Financial, Purchasing, Personnel, Project Management, Institute Management, Computing, Engineering and Glasshouse/Field Services.
- Scientific data from
 - Platform technologies
 - Other research than platform technologies
 - Biological collections

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1) Non scientific data

a) Aims for all non-scientific data

- i) To encourage “seamless/joined-up” administrative services.
- ii) To ensure that solutions are cost effective and maximise JIC’s return on investment.
- iii) To ensure that administrative departments and systems are responsive to the needs of the JIC user community.
- iv) To ensure that systems are planned, developed and implemented in a professional and timely manner - using project management methodology when appropriate, and ensuring that risks are understood.
- v) To ensure that administrative data is available to all who require it (confidentiality and Data Protection Act permitting).
- vi) To ensure that administrative systems and data are managed and supported to professional standards.
- vii) To task the Admin Computing Liaison Group with responsibility for developing and implementing the Admin IS strategy.

2) Scientific Data

a) Drivers for all scientific data

- i) Laboratory notebooks are the link between experimental methods, and acquired or derived data.
- ii) The curation of scientific data is generally the responsibility of the individual scientists, as part of the QA process.

b) Aims for all scientific data

- i) To extract maximum value from the data for the benefit of JIC science.
- ii) To index/catalogue and annotate such data, as appropriate.
- iii) Where appropriate, establish procedures for the automated capture and safe storage of scientific data.
- iv) Provide data management facilities and/or advice to researchers.
- v) Provide long-term archival storage for important data.
- vi) Provide a mechanism for deciding on the long term storage requirements of data on a case by case basis.
- vii) To store acquired and processed experimental data for 10 years, either on or off-site. Towards the end of this period it may be necessary to review how long the data should subsequently be retained.
- viii) To manage risks to the data, including loss through disaster or corruption, alteration to the data, either intentional or accidental, and to protect intellectual property (IP).
- ix) To ensure that scientific systems and data are managed and supported to professional standards.
- x) Plan ahead on a JIC-wide scale for predicted data storage requirements.
- xi) To establish a small data management team for each area, to establish and review strategy.
- xii) Where available, community standards for metadata should be adopted.
- xiii) Stored metadata should include details of sample: originator name, data capture system (including hardware and software versions), organism, treatment (in a format determined by the user), reasons for failure/rejection, etc in a standardised searchable data-structure.
- xiv) Where possible data and metadata will be presented in a commonly agreed format that can be accessed from elsewhere in JIC and, where appropriate, it will be made publicly available.
- xv) It must be possible to locate data relating to samples from a reference in the researcher's laboratory notebook. The data should be annotated with a reference to locate the laboratory notebook and page where the sample is described.
- xvi) JIC will provide guidance and mechanisms, where required, to reduce data sets to a form that can be stored online and/or archived at reasonable cost, e.g. by data compression. It must be possible to adequately reconstruct original data from the compressed form.
- xvii) To create online databases/catalogues of biological collections, visible to JIC and the public where appropriate.
- xviii) To ensure that, where possible, the protocols and methods for creating biological entities can be located.

Appendix I: Relevant extracts from the [BBSRC Statement on Safeguarding Good Scientific Practice](#)

Documenting results and storing primary data

Throughout their work, BBSRC requires researchers to keep clear and accurate records of the scientific procedures followed and of the results obtained, including interim results. This is necessary not only as a means of demonstrating proper scientific practice, but also in case questions are subsequently asked about either the conduct of the research or the results obtained. For similar reasons, data generated in the course of research must be kept securely in paper or electronic form, as appropriate. BBSRC expects data to be securely held for a period of ten years after the completion of a research project, and institutions receiving funding from the Council to have guidelines setting out responsibilities and procedures for keeping data.

Appendix II: Relevant extracts from the Research Council's [Joint Code of Practice for Research](#)

6. Handling of samples and materials

All samples and other experimental materials should be labelled (clearly, accurately, uniquely and durably), and retained for a period to be agreed by the Funding Body. The storage and handling of the samples and materials should be as specified in the project plan (or proposal), and must be appropriate to their nature. If the storage conditions are critical, they must be monitored and recorded. Samples must be readily tracked through the stages of analysis or use, and have designated disposal routes and dates.

8. Documentation of procedures and methods

All the procedures and methods used in a research project must be documented, at least in the personal records of the researcher. This includes analytical and statistical procedures and the generation of a clear audit trail linking secondary processed information to primary data. There must be a procedure for validation of research methods as fit for purpose, and modifications must be trackable through each stage of development of the method.

9. Research/work records

All records must be of sufficient quality to present a complete picture of the work performed, enabling it to be repeated if necessary. The Project Leader must ensure the validity of the work by carrying out regular reviews of the records of each scientist. The location of all project records, including critical data, must be recorded. They must be retained in a form that ensures their integrity and security, and prevents unauthorised modification, for a period to be agreed by the Funding Body.

Appendix III: Definition of IP (Intellectual Property)

“Intellectual Property” means any concept, discovery, invention, process, procedure, development or improvement in process or procedure; and any data, design, formula, model, plans, drawings, documentation, database, computer program or software (including related preparatory and design materials) whether registrable or not and whether or not copyright or design rights subsist in it; and any idea, method, information or know-how which is made, discovered, created or generated by [you/a researcher at JIC/visiting worker/employee of JIC etc] whether alone or with others in the course of your [employment/visit/period at JIC].

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