Research Data Management: Guidelines & Planning for Researchers

Prepared by Arna Karick (Research Information Services) on behalf of Swinburne Research and the DVC (R&D)

Updated July 14th 2014

Introduction

These procedures and guidelines should be read with the University's *People, Culture and Integrity Policy*[1] which outlines the regulatory and policy framework for academic conduct at Swinburne University of Technology. This document relates to specific policy requirements in section 3. *Our Research*.

The management of research data is an essential component of all research. These guidelines and procedures outline the critical steps for meeting the requirements of the above policy and provide practical advice for researchers for achieving compliance with the *Australian Code for the Responsible Conduct of Research*[2], jointly developed and issued by the National Health and Medical Research Council (NHMRC), the Australian Research Council (ARC), and Universities Australia. The code assigns researchers and their institutions the responsibility of addressing ownership, storage and retention, access to, and sharing of research data.

Swinburne University recognizes that research data that is better managed, more discoverable and available for re-use will contribute to increased research impact, enhanced research practice and collaboration.

[1] Swinburne Policy – People, Culture and Integrity: http://www.swinburne.edu.au/policies/hr/index.html
[2] *Australian Code for the Responsible Conduct of Research* (2007) https://www.nhmrc.gov.au/guidelines/publications/r39

Summary and Guiding Principles[3]

The University subscribes to the principles articulated in the Australian Code for the Responsible Conduct of Research jointly developed and issued by the National Health and Medical Research Council (NHMRC), the Australian Research Council (ARC) and Universities Australia. The University expects staff, students and visitors engaged in research to:

- Observe the highest standards of the responsible conduct of research
- Embrace the highest ethical, professional and scholarly standards in research
- Demonstrate intellectual honesty
- Promote a strong research culture
- Meet responsibilities to the research community and the public
- Protect the rights, dignity, health, safety and privacy of individual research participants and the wider community
- Strive to ensure that the benefits of research results are passed to other researchers, professional practitioners and the wider community
- Emphasise quality and originality
- Be open to scrutiny and debate of research methods and results.

The management of research data should be consistent with the above principles and expectations. The University recognises the value of data generated through research and the importance of that data to justify, and defend when necessary, the outcomes of research. The University is committed to:

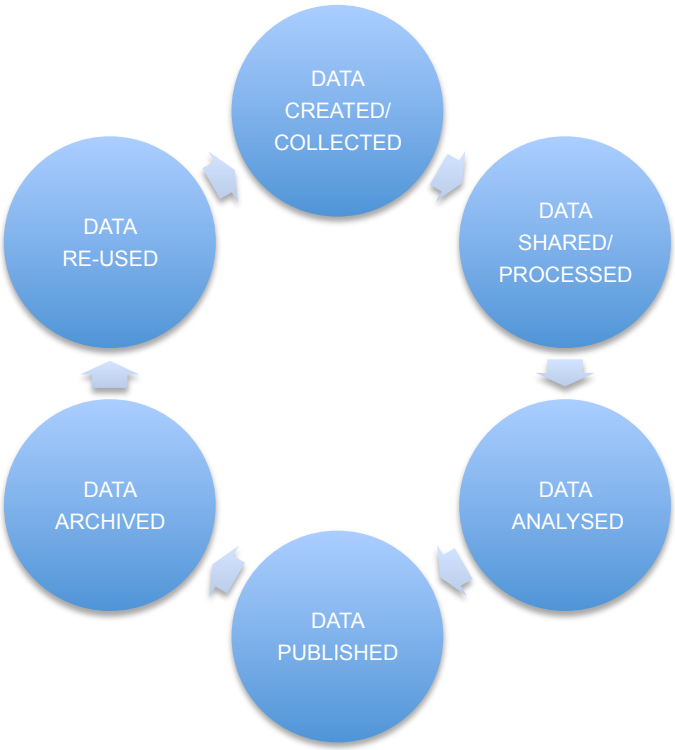
- Maintaining the integrity of research data
- Clarifying standards for secure data retention
- Optimising the benefits of research through collecting, storing and making research data accessible in such a way that it can be used in future by members of the community
- Establishing guidelines for retention and disposal of research data and records that accord with legal, statutory, ethical, professional and funding body requirements

Ensuring that University researchers, research administrators and collaborators work together to implement and maintain good practice consistent with the above.

[3] Swinburne Policies and Regulations: http://www.swinburne.edu.au/policies/hr/research.html

1. Research Data Management and Lifecycle

A typical dataset has a longer lifespan than the research project that creates it. Although research projects usually begin and end when funding ceases, the reality is that researchers will continue to work with datasets collected well after funding has ceased and more often than not, in a new institution. A typical data lifecycle[4] includes both private and publicly managed data, and can be illustrated as;



The management of research data[5] becomes more complex the longer it needs to be kept, especially when; research involves national and international collaboration, researchers move between institutions, retention periods require research data to be archived or disposed, and when research data is re-used.

Data management usually begins in the private domain when it's created or collected by a researcher. The type of data varies markedly across projects and research disciplines. In addition to digital information, data can also mean physical specimens (inorganic and biological), historical papers, audio and visual files etc.

[4] UK Data Archive: http://www.data-archive.ac.uk

[5] Managing and Sharing Data: http://www.data-archive.ac.uk/media/2894/managingsharing.pdf

Managing the transition of data through the data lifecycle, from the private to the public domain, requires careful data management planning. Complex data life cycles require data to be well organised and documented througout each phase. Once research projects are completed, selected data is generally made public, via the publication of journal articles and where possible deposited in data archives. Research data that is well described and properly archived becomes an invaluable resource to advance scientific inquiry and to increase opportunities for learning and innovation.

The responsibility for data management lies primarily with researchers, however Swinburne acknowledges that providing a framework of guidance, tools and infrastructure is essential to helping staff manage all aspects of the data life cycle.

The Benefits of Research Data Planning[6]

Effective management of research data provides many benefits to research staff, including:

- decreased risk of data loss or misuse
- good research practice ensures integrity and quality of data
- well described data can be used immediately or archived for future use
- helps research gain access to data management expertise and resources at Swinburne
- enables researchers to identify research storage needs and request permanent allocation on Swinburne Research Storage
- enables researchers to be more proactive about their research needs
- increased researcher profile through data dissemination and re-use
- enables researchers to clarify ownership, assign responsibility and set up technical standards and frameworks in research collaborations
- enables researchers to more easily defend their research method or outcomes if requested

[6] http://monash.edu/library/researchdata/guidelines/data-planning/

2. Research Data Storage and Sharing at Swinburne

Researchers must ensure that research data and materials generated and collected as part of their research, regardless of the format, are stored securely in a durable and accessible form. Data must be stored in a manner that ensures its authenticity and integrity as well as meeting all legal and confidentiality requirements. Making back-ups of data is an essential element of data management. Regular back-ups protect against a number of risks including human error, hardware failure, software faults and power outages. Critical data files or data that is used regularly should be backed-up frequently.

Swinburne has a number of research storage, sharing and computing services for researchers. The following information can be found on the Information Technology Services website. Swinburne Research Storage is the University's primary centrally supported network storage. It is the University's recommended option for the storage (back-up) of research data and records. For questions about research data management and storage, please contact the Research Information Services Team (RIS) - Swinburne Research (RIS@swin.edu.au) or the IT Service Desk.

2.1 Locally managed research data storage

Personal computer hard drives;
Personal computer hard drives are recommended for storing working versions of research data. They are not recommended for storing the master copy of your data, unless it is networked and regularly backed up on an external device. In the case of laptops there is a high risk of data loss. The lifespan of laptops is generally only 3-5 years and therefore not sustainable for storage of important data and records that in general need to be stored for 5+ years post-publication.

Removable Media;
This includes USB drives, memory cards, DVDs etc. These methods are convenient and inexpensive but they are also easy to misplace and corrupt. Security is poor and is not recommended for the storage of sensitive and confidential materials. Where this does occur, files should be encrypted or password protected. The University recommends, when possible, that data is backed-up on Swinburne Research Storage, rather than removable devices.

2.2 Externally managed research data storage

Any external storage solutions (e.g. Dropbox, Amazon Cloud Services) used to manage research data should comply with University IT policies and procedures. Please contact IT for advice before entering binding agreements with external vendors. Please also be alert to applicable Privacy requirements for human research or biohazardous data that are personally identifiable where storage is interstate or overseas.

2.3 Swinburne Research Storage

A network Storage System up to 330TBs is available for researchers for data that would otherwise be stored on PCs or USB drives. Swinburne Research Storage is managed by Information Technology Services. Currently, the storage system does not have a secondary back-up and therefore should not be used for the storage of primary data. In future, back-up storage may be implemented.

- Access to this storage will be limited to Swinburne Researchers and Research groups only (controlled access).
- Storage does not provide any content management, indexing or search capabilities.
- It is not suitable for users who require high-speed or intensive access such as HPC users running simulations or computations.
- As this is a backup device, NO data stored on this system will be backed up.

To request storage please contact the IT Service Desk.

2.4 File Sharing – Cloudstor[7]

Cloudstor is a large file transfer service available to all Swinburne staff and students who wish to share files of up to 100GB with others. The service is available through Australia's Academic and Research Network (AARNet).[8]

FAQs

- **Cloudstor** is a free service available to all current Swinburne staff and students.
- You can share any file with **a maximum of 100 people.**
- You can **upload files up to 100GB in size.**
- Your SIMS username and password are used to access the **Cloudstor** service.
- If your **colleagues are external to Swinburne** and do not have access to Cloudstor, you can send them a guest voucher to allow them to upload files to share.
- Files are automatically deleted from **Cloudstor after a maximum of 20 days.**
- People who you share files with are able to forward those files on to anyone else to download without consent, so in this respect, it is not a "secure" service.
- When a shared Cloudstor file is downloaded, all parties will automatically receive an email.
- Cloudstor uses HTML5, which is known to work well with up-to-date versions of Firefox and Google Chrome on Windows, Mac OS X and Linux. The **upload limit in Internet Explorer is currently 1.95GB per file** as Internet Explorer does not yet support HTML5.
- Use of this service is subject to the Swinburne's IT Systems Acceptable Use Policy and Copyright policies.

How do I access Cloudstor?

- Go to https://cloudstor.aarnet.edu.au, click Logon and select Swinburne University of Technology in the dropdown box under Select your identity provider. If you tick the Remember my choice box, you will only have to do this once.
- Log in with your **SIMS username** and **SIMS password.**
- The first time you log on to Cloudstor, select **Help** in the upper right side of the screen and review the information provided. Notes concerning first time logon.

[7] Cloudstor: http://www.its.swinburne.edu.au/services/cloudstor.html
[8] AARNet: http://www.aarnet.edu.au

ADVANTAGES	DISADVANTAGES
• Can be accessed from outside of Swinburne • No syncing or slow network issues. • Non-commercial – FREE • IT security compliant	• No drag and drop functionality • No batch upload by file dragging. Multiple files will need to be combined into a single file and recipients will need to download and unpack the dataset

2.5 File Storage – Cloudstor+

CloudStor+ is a high-performing and secure personal file storage solution for researchers at AARNet customer institutions, enabling them to easily and reliably store files "in the Cloud".

Features of CloudStor+

- Up to **100GB of free storage** is available to individual researchers.
- For researchers or research groups wanting more than 100GB, charges apply (in the vicinity of $30/month per Terabyte).
- The service is available to researchers at institutions that are AARNet customers just like Cloudstor.
- Authentication and authorisation are provided via the Australian Access Federation (AAF).
- The storage is provided within Australia, using (in the first instance) storage facilities provided by AARNet (located in Brisbane, Perth and Canberra, and connected directly to the network backbone at 10Gbps). This ensures very rapid storage and retrieval, as well as avoiding any data sovereignty issues.
- Data uploaded onto the platform is geographically replicated and distributed, with a minimum of three copies being maintained at any given time. The storage capacity of the system can be expanded rapidly in response to demand, and enables the use of a range of storage types.
- Note that, unlike some other services, it is not necessary to retain copies of your files on your own device. Files stored in CloudStor+ can be retrieved very quickly by virtue of the nodes being located in Australia and connected directly to the Network backbone (initially at 10Gbps).
- CloudStor+ can be synchronised to the desktop or accessed via the Web or from mobile devices.
- The system is based on the community-developed **ownCloud** software on the user-facing interface.
- Note that **CloudStor+ should not be confused with CloudStor** (also known as FileSender), which is used to send large files.

3. Data Management and Open Access

Researchers are encouraged to keep clear and accurate records of their data – raw or archived – including information about data access, retention, ownership and sharing agreements.

3.1 Best Practice – Data Management and Record Keeping

Good record keeping ensures that the data will be easy to locate, understand and in the case of academic disputes, defend. Documentation of how the data collection relates to the final analysis also supports the integrity, reproducibility and re-use of publicly available or collaborative data. It is critical that data description provide provenance and contextual information for the data so that is can be understood in the future or by other researchers.

Record keeping requirements will vary depending on the discipline and type of research being conducted. Producing good documentation is easier if it is planned from the start of a project and considered throughout the lifecycle of the data. Data-level descriptions can be embedded within data files themselves. Many software packages allow data annotation or the inclusion of metadata. Data documentation may also be contained in publications, progress reports, online lab books, data management plans, or created as a personal user guide.

3.2 Swin ReDBox – Swinburne's Research Data Registry

Swin RedBox is Swinburne University's online system for capturing information about research data collections. It contains research data records relevant to Swinburne University research - linking researchers to their datasets and associated research activities and outputs, such as journal publications. Swin ReDBox also includes information about the nature and extent of the data, how it has been collected or generated, where it is stored, who can access it and so on. It is now available for researchers to record where research data and data collections reside. Individual researchers can also create their own Data Management plans (see also – Section 4.2. Data Management Planning) which can be private or shared with supervisors and collaborators. For more information please visit the Swin ReDBox[9] website

Swinburne ReDBox is maintained by the Research Information Services team within Swinburne Research. Researchers wishing to use Swin ReDBox will need to request an account. For all queries please send email to RIS@swin.edu.au

[9] Swin ReDBox: http://www.research.swinburne.edu.au/our-research/ANDS/connectToRedBox.html

4. Data Management Planning

Currently there is no internal requirement for Swinburne researchers to centrally lodge a data management plan. However, it is anticipated that the ARC and NHMRC will increasingly require grant holders to produce data management plans in line with practices emerging from the UK and US. For this reason we recommend that researchers, where practicable, include data management plans as part of their everyday research. In the case of human research or biohazardous data, data management is important to ensure compliance with legal and ethical requirements.

4.1 General guidelines for data management plans

A comprehensive data management plan should include the following information:

- **Description/Context of the project:** includes title, summary, collaborators, funding, duration, details of external policies that may impact. e.g. external funding, research groups
- **Information about the data:** what is the 'data' for this project, where is it stored, who owns the data, who is responsible for backing up data, what is the extent of size of the data, file formats
- **Access to the data:** who has access to the data, how is it shared, is the data proprietary, what is the embargo period, is the data confidential, and are there third party agreements associated with the project and data
- **Retention requirements for the data:** These may be specified by the discipline, or funding body. (See section 5.2 on the retention policies for research requiring ethics approval)
- **Short-term data planning:** how will the data be managed throughout the duration of the research project
- **Long-term data planning:** how will the data be managed once the research is published, will the data be archived, will the data be made available to the public, who will be responsible for managing the data

At the data-level, documentation may include:

- Description of file formats
- Definitions of specialist terminology or acronyms and abbreviations
- Technical aspects of data collection, e.g. intstrument parameters
- Data quality flags or descriptors
- Hardware or data processing parameters

4.2 ARC Fellowship Applications and Data Management Planning

ARC Laureate and Discovery Fellowship applications now include specific sections on the *Communication of Results* and *Management of Data*. For Laureate Fellowships[10], please refer to section D1 – Description of Project/Program of Research in the Instructions for Applicants. For Discovery Projects[11], refer to section C1 – Description of Project in the Instructions for Applicants. In both cases, applicants are required to:

- Outline plans for communicating the research results to other researchers and the broader community, including scholarly and public communication and dissemination
- Outline plans for the management of data produced as a result of the proposed research, including but not limited to storage, access and re-use arrangements

[10] http://www.arc.gov.au/pdf/FL14/FL14 Australianhttp://www.arc.gov.au/pdf/FL14/FL14 Australian Laureate Fellowships Instructions to Applicants.pdf
[11] http://www.arc.gov.au/pdf/DP15/DP15_ITA.pdf

Further clarification from the Australian Research Council[12]

Frequently Asked Questions for Discovery Program Schemes for the years 2014 and 2015

3.12 What information am I required to provide in relation to Management of Data in the Project Description?

In line with responsibilities outlined in the *Australian Code for Responsible Conduct of Research (2007)* and international best practice, the ARC has updated wording in relation to the management of data.

The ARC does not mandate open data. However, researchers are encouraged to consider the ways in which they can best manage, store, disseminate and re-use data generated through ARC-funded research. The Project Description requires researchers to articulate briefly their plans for the management of data generated through the proposed Project. In answering this question researchers need not include extensive detail of the physical or technological infrastructure.

Answers should focus on plans to make data as openly accessible as possible for the purposes of verification and for the conduct of future research by others. Where it may not be appropriate for data to be disseminated or re-used, justification may be provided.

Further information and resources on managing data are available on the Australian National Data Service (ANDS) website at http://www.ands.org.au/.

3.13 Is it sufficient to answer the Management of Data section in the Project Description by noting that I will comply with my institution's requirements?

No. Whilst the ARC recognises that some institutions may have infrastructure and/or processes in place for storing, managing and sharing data and that these are valuable resources, to take into account the differences that may exist between institutions, disciplines and research projects, researchers are encouraged to highlight specific plans for the management of their research data in this section.

The Management of Data section in the Project Description aims to encourage consideration of ARC-funded research data at both an individual and institutional level, in accordance with the responsibilities outlined in the *Australian Code for Responsible Conduct of Research (2007)*. Researchers, in consultation with their institutions, are best placed to consider the management and future potential of their research data. This approach allows individuals to take into account the differences that may exist between disciplines and research projects as well utilise institutional resources and support available.

Details of compliance with institutional requirements should be included in this section, provided that they are supported by a description specific to the data arising from the individual research Project.

[12] http://www.arc.gov.au/pdf/DP15/Combined FAQs for Discovery Program Schemes 2014-15_Version 3_7 Feb 2014.pdf (Release Date: 7th February 2014)

4.3 Data Management Resources for Researchers

1. Data Management Checklist

Swinburne Library has developed a Research Data Management Checklist for researchers. The checklist takes you through the components of an effective data management plan. By addressing each item carefully, your answers will form the basis of a data management plan for your research project. The checklist is intended to function as a working document with the various sections to be addressed as the research project evolves. The Research Data Management Checklist[13] is available (as a Word document) through the library website.

2. Data Management Planning with Swin ReDBOx

Researchers can use the Swin ReDBox system to create data management plans. The system is still in its infancy and Swinburne Research anticipates further development in 2014. Users will be able to create and edit multiple plans for the duration of their time at Swinburne. Plans can be kept private, or shared with supervisors and research collaborators. Once completed, Swin ReDBox will include all the information contained in the Library's Research Data Management Checklist. In the meantime it is recommended that researchers use the existing Research Data Management Checklist.

5. Movement and Disposal of Research Data

5.1 Exit Strategy

Researchers should start developing an exit plan with their supervisors and immediate collaborators, at least a month before leaving. The exit strategy should ensure that any data leaving the University is also archived at Swinburne and state clearly who is responsible for the ongoing management and if relevant, the dissemination of data. An effective exit plan also helps with meeting legal and ethical requirements for human research and biohazardous data.

[13] Data Management Checklist: http://www.swinburne.edu.au/lib/research/data/index.html.

5.2 Research Requiring Ethics Approval

The Swinburne Research Ethics team provides online resources for academics and students embarking on research projects that require ethics approval. These include information about research ethics and integrity, research data management, and retention policies and disposal, relevant to research involving humans, animals or biohazardous material (including genetically modified organisms). Researchers requiring ethics or biosafety approval should be familiar with the University's policies and procedures, and the ethics or biosafety application and approval processes.

5.3 Retention policies for ethics approved and NHMRC funded research

Data needs to be securely retained and then securely disposed of or destroyed when data no longer needed, or if there is a legal requirement that data be deleted when the retention period lapses. How long the data or material need to be retained depends on the type of research or data. Research data should be retained for as long as there is need for referral to the data, for example, to justify or defend the research, or to satisfy legislative or some other standard. Some minimum standards as follows:

- For most research, the minimum recommended standard is 5 years from the date of any published or reportable outcome based on the data.
- For short term projects which will not lead to published outcomes and are only for assessment purposes, the minimum period, should be sufficient to cover the assessment period (including any appeals in case of dispute). A minimum period of 12 months after the completion of the project is deemed sufficient.
- For identifiable health research data collected, the minimum period may need to be 7 years after last health-related usage or service provision, or 5 years after any research outcome based on the data, whichever is the longer. Health records legislation may be relevant here and Swinburne's privacy guidelines should be consulted.
- For identifiable health research data involving minors, the data may need to be retained until the individuals turn 25 years of age, or 5 years after any research outcome based on the data, whichever is the longer. Health records legislation may be relevant here and Swinburne's privacy guidelines should be consulted.
- For adverse incidents occurring during or as a result of the research that have health implications, the standard applying to health records should be followed.
- For most clinical trials, at least those involving substances being administered to individuals, retaining research data for 15 years or more may be necessary.
- For research data for areas such as gene therapy, the retention period should be permanent.
- For research data that has heritage or community value, archival standards would apply, preferably in a national collection.

You may also need to be alert to other applicable standards and requirements, for example, if you have approval to include a voluntary prize draw or lottery, you would need to satisfy record-keeping requirements under gaming regulation.

5.4 Human Research and Data Management Planning

Researchers should carefully plan and submit data Management proposals as part of their ethics or biosafety clearance application. Once the proposals are approved, researchers should monitor and maintain the data management arrangements for the duration of the project or the required retention period (as applicable).

6. Sharing and Disseminating Data

Research data are a valuable resource and in many cases have significant value beyond their original use. There are many benefits[14] to sharing research data:

- promotes the research and researchers that created the data
- can lead to re-use, discovery, and increased citation
- provides important resources for education and training
- reduces the cost of duplicating or collecting similar data
- maximises transparency and accountability
- enables scrutiny of research findings
- can lead to new collaboration between creator and user
- encourages the improvement and validation of research methods
- as a research output in can provide direct credit to the researcher

The Australian Code for the Responsible Conduct of Research advises that researchers should share data wherever possible. While there is no mandate for Open Access Data, the ARC considers data management planning an important part of the responsible conduct of research and strongly encourages the depositing of data arising from a project in an appropriate publically accessible repository.

ARC Funding Agreements (Section 20) for Australian Laureate Fellowships, DECRAs, Discovery Projects, Future Fellowships have conditions relating to publication and data dissemination.
http://www.arc.gov.au/applicants/fundingagreements.htm

20 Material Produced Under this Agreement, Publication and Dissemination of Research Outputs

20.1 The Administering Organisation must establish and comply with its own procedures and arrangements for the ownership of all Material produced as a result of any Project funded under this Agreement.

20.2 For any Material produced under this Agreement, the Administering Organisation must ensure that all Specified Personnel (CIs and PIs):

(a) take reasonable care of, and safely store, any data or specimens or samples collected during, or resulting from, the conduct of their Project;

(b) make arrangements acceptable to the ARC for lodgement with an appropriate museum or archive in Australia of data or specimens or samples collected during, or resulting from, their Project; and

(c) include details of the lodgement or reasons for non-lodgement in the Progress Reports and the Final Report for the Project.

[14] http://www.data-archive.ac.uk/media/2894/managingsharing.pdf

7. Legal Framework

Clarification of ownership and rights associated with research data is a critical component of the research process, and should be determined early in the project planning. This protects the rights of students and research staff, minimizes disputes, provides accountability for research data. Any changes to ownership should be recorded as part of the data management plan.

Where research is undertaken in accordance with contractual agreements or under commercial sponsorship the ownership of the research data and records, and responsibilities should be determined prior to the commencement of the research and should be specified in the contract.

7.1 Copyright

The Copyright Office provides assistance, training, resources and online information for researchers. The University and staff and students of the University are both creators and consumers of copyright material. These activities are governed by the Australian *Copyright Act* 1968 (Cth). The University is committed to ensuring that its staff and students are provided with information about the requirements of copyright legislation and contractual commitments when accessing and using material protected by copyright.

The University owns and asserts copyright over all copyright material created by employees as part of their employment and otherwise created, sent or received by users over the University network.

Copyright and ownership of research data

FAQ

Q. Is there copyright in collection of data?
A. Copyright protects a range of materials such as books, journal articles, images, music, movies and computer programs. It can also protect compilations of material or data where there has been, skill, judgment, labor or expense required to compile it.

Q. Is there copyright in collection of facts, figures and information?
A. Generally there can be no copyright protection for information such as numbers, words, names or strictly factual data. However, if the information is collected and compiled, then copyright may subsist in the compilation of that information. Therefore, databases, datasets and directories of information may be protected by copyright

Q. Who owns datasets and databases?
A. The owner of a database or dataset will be its creator.

Under Swinburne's Intellectual Property policy students retain ownership of copyright in the material they create in the course of their studies. Copyright material created by staff members during the course of their employment is owned by Swinburne.

There are also some specific situations where both staff and student material created through the university will be owned by the university and material created by staff members will be owned by the staff member. More information is located on the Copyright Ownership[15] webpage. The Copyright for Researchers webpage provides more information that may be useful to researchers.

[15] Copyright Ownership: http://www.swinburne.edu.au/copyright/a-z/ownership.html
Copyright for researchers: http://www.swinburne.edu.au/copyright/researchers/
Intellectual Property: http://www.swinburne.edu.au/policies/hr/ip.html

Appendix – Glossary and Definitions

- **Australian National Data Service (ANDS):** ANDS vision - *More Australian researchers reusing research data more often.*
- **Destruction:** The irreversible physical obliteration of all existing copies of data carried out using appropriate methods such as shredding or pulping and in the case of electronic data, rendering them unreadable.
- **Human research:** Research conducted with or about people or their data or biospecimens (e.g. tissue, bodily fluids)
- **Intellectual Property:** Includes any proprietary right that arises under, or could be obtained as follows:
- Patents under the *Patents Act 1990* and subsequent amendments or re-enactments;
- Information which is confidential;
- Copyright vesting by virtue of the *Copyright Act 1968* and subsequent amendments or re-enactments in literary works (including computer programs), dramatic works, musical works, artistic works, films, sound recordings, broadcasts, published editions and certain types of performances and non-copyright protection for certain performances;
- Trade marks registered under the *Trade Marks Act 1995* and subsequent amendments or re-enactments;
- **Primary materials:** Physical objects or raw electronic data, acquired through the process of scholarly investigation from which research data may be derived. It includes inorganic and biological material, questionnaires or audio and visual recordings.
- **Public Record Office Victoria:** State Government archives. Oversees management and disposal of records created and maintained by public office.
- **Research:** Original investigation undertaken to gain knowledge, understanding and insight.

"…includes work of direct relevance to the needs of commerce, industry, and to the public and voluntary sectors; scholarship; the invention and generation of ideas, images, performances, artefacts including design, where these lead to new or substantially improved insights; and the use of existing knowledge in experimental development to produce new or substantially improved materials, devices, products and processes, including design and construction. It excludes routine testing and routine analysis of materials, components and processes such as for the maintenance of national standards, as distinct from the development of new analytical techniques. It also excludes the development of teaching materials that do not embody original research" (British Research Assessment Exercise, p.28, cited in the Australian Code for the Responsible Conduct of Research (2007, p.1-2).

- **Research data:** Records, files or other evidence, irrespective of their content or form (e.g. in print, digital, physical or other forms), that comprise research observations, findings or outcomes. This includes primary materials and analysed data.
- **Researcher:** Includes but is not limited to Swinburne staff, adjunct staff, Higher Degrees research students, honorary appointments and visiting scholars.
- **Retention:** The process of retaining research data according to the periods specified in the Code and by the Public Record Office of Victoria.
- **Safe disposal:** The act of deletion of digital files, or disposal of primary materials in a safe and appropriate manner.