

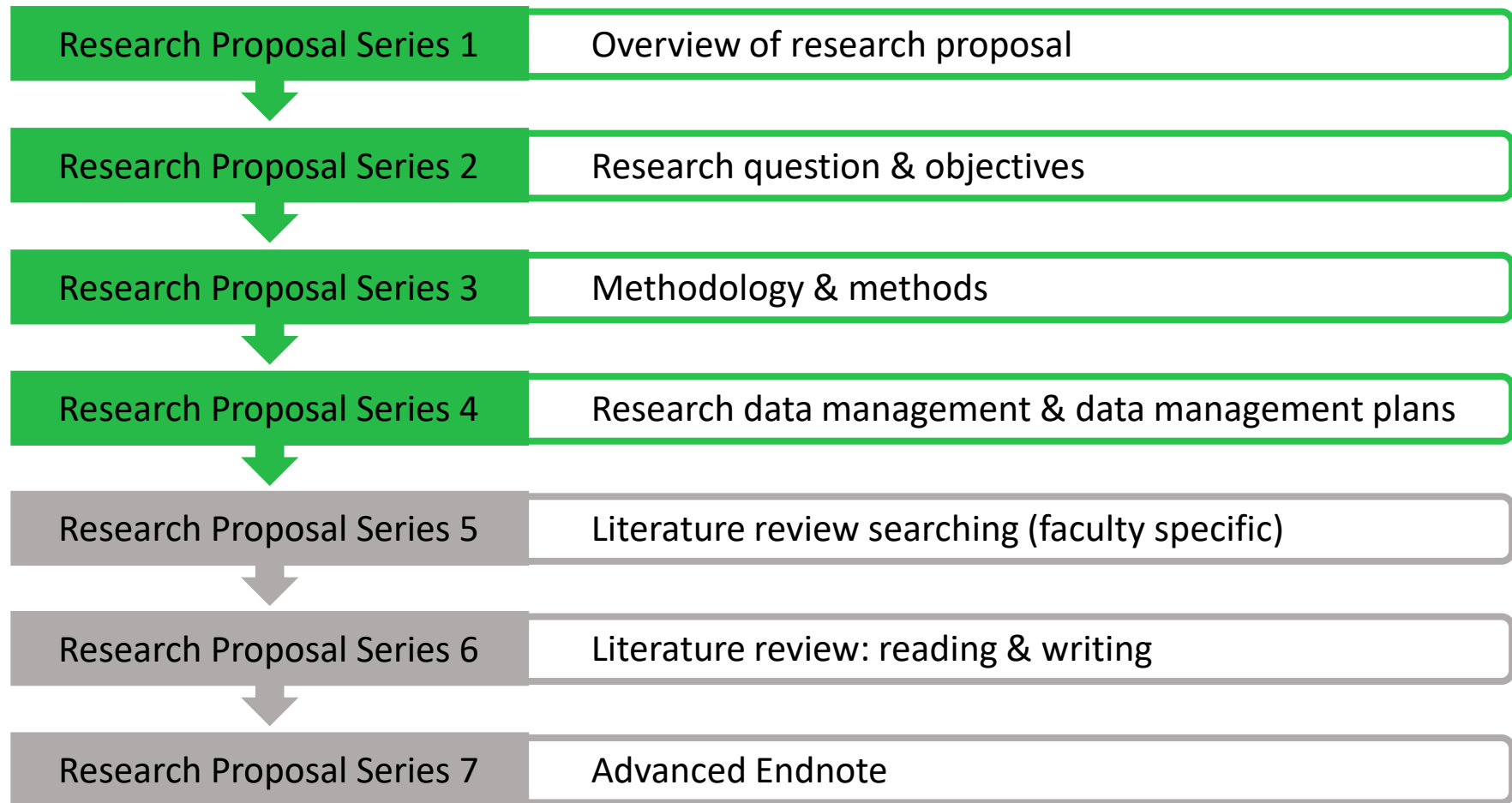


Graduate Research Advanced Skills Program (GRASP)

**Research Proposal Series  
(Milestone 1)**

# **Research Data Management and Data Management Plans**

Kaitlyn Houston & Peter Wang, Sem 2 2023



We would like to acknowledge the traditional owners of the land on which we live and work, the Wadjuk Noongar people. We would like to pay our respects to their elders past and present and extend that respect to any First Nations people present today.



# About us

## **Kaitlyn Houston**

Coordinator, Research Services  
Research & Copyright

## **Peter Wang**

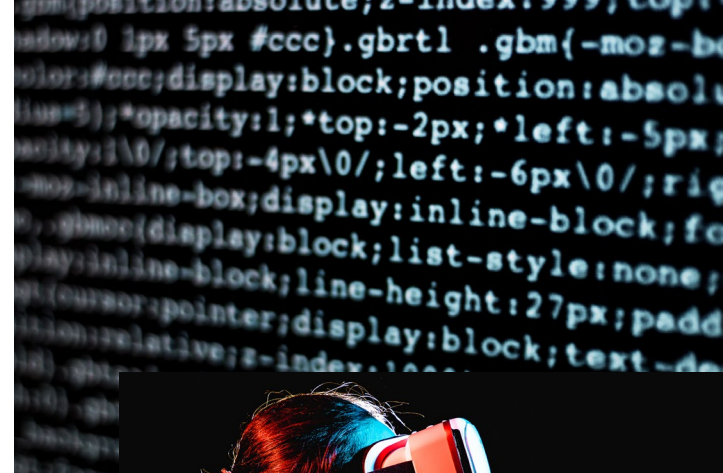
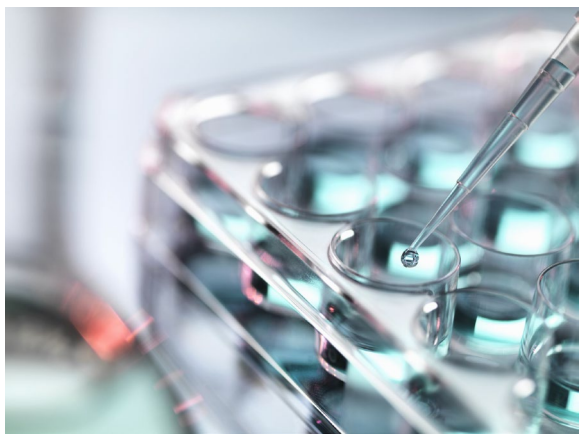
Librarian  
Research & Copyright


## Workshop goals

- Key Research Data Management concepts, rules, and principles
- Basics of creating a Data Management Plan
- Where to find further information/help

# What is data?








Research data is **any documentation**, in **any format**, of findings, observations or outcomes created through the research process.





# The range of research activity at Curtin is very broad

*-What about your planned data?  
Group discussion & share*

# Help with Research Data Management

- [Library Research & Copyright team](#) (that's us!)
- [Curtin Institute for Data Science \(CIDS\)](#)
- [Research Office at Curtin \(ROC\)](#)
- [Pawsey](#)

# Research Toolkit

Level up your research. Tools for higher degree by research students and staff.



## Concept and planning



Ideas and processes to explore and consider before you begin your research.

## Searching and literature review



Techniques, sources and resources to help you find the information you need.

## Data collection and analysis



Skills, resources and tools to help you collect, analyse and manage research data.

## Writing and publishing



Information about where and how to publish and what to do with publication outputs.

## Promotion and impact



Ways to measure, track, promote and improve your research impact.

# Research data management

## Introduction

[Welcome](#)

[Types of data](#)

[Make your data FAIR](#)

[Ownership](#)

[Policies](#)

[More resources](#)

Data management planning

Documentation and description

Storage

Access and security

File management

Publication

Retention and preservation

Finding and reusing data

Help and training

Notes about this resource

## Welcome

The data that Curtin researchers create has an incredible value.

- It's valuable to you - you're building your research and publications on it
- It's valuable to the discipline you're working in - every discipline moves forward by building on shared information
- It's valuable to the university - it's a critical output of every research project, which aids Curtin's reputation

As with all things of great value, there is a high cost associated with it.

- It takes time and effort to develop the skills and knowledge required to conduct research
- It takes time to go through the whole research process
- It takes financial resources to complete the research

Because of this balance of value and cost, it's in the interests of the researcher and the university to ensure that the maximum benefit is obtained by research conducted - by following practices described in this guide and managing research data well, researchers can help ensure their research has the greatest impact and benefit possible.

## Types of data

Research data is any documentation, in any format, of findings, observations or outcomes created through the research process. This definition is broad by necessity - the range of research activity at Curtin is very broad. Each different field and discipline have their own ways of collecting and using data; each research question will require different data; and each research project will create different forms of data.

Your data could be:

- numerical data in tabular format
- an unstructured text document
- physical samples taken from field studies
- digital files for specific software
- sensitive personal information on research subjects
- publicly shared datasets

Whatever form your data takes, it's important to understand that proper handling will improve your impact and strengthen the validity of your research results.

## Make your data FAIR

The acronym FAIR is used to describe qualities that research data can have which maximises how beneficial it can be. They describes how research outputs should be organised so they can be **findable, accessible, interoperable and reusable**. Major international and national funding bodies, including the ARC and NHMRC, promote FAIR data to maximise the integrity and impact of their research investment.

LIBRARY

Collections | Using the Library | **Study & research** | About | News | Help

# Support for Curtin researchers and HDR students

Achieve your research goals with help from the Library.



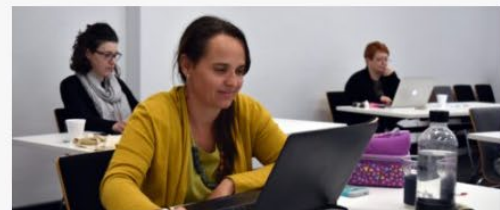
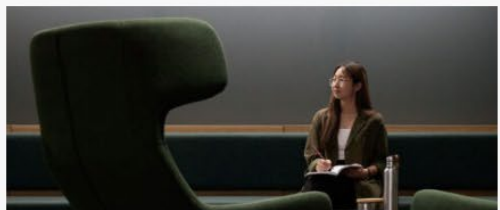
[Home](#) > [Library](#) > Research support

RESEARCH SUPPORT

[Research Data Champions](#)

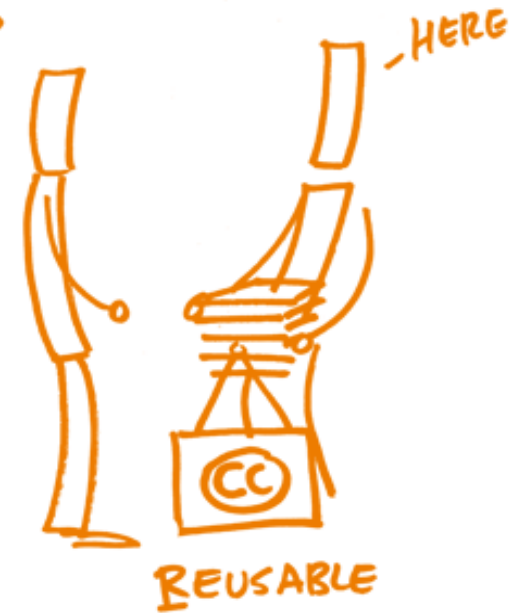
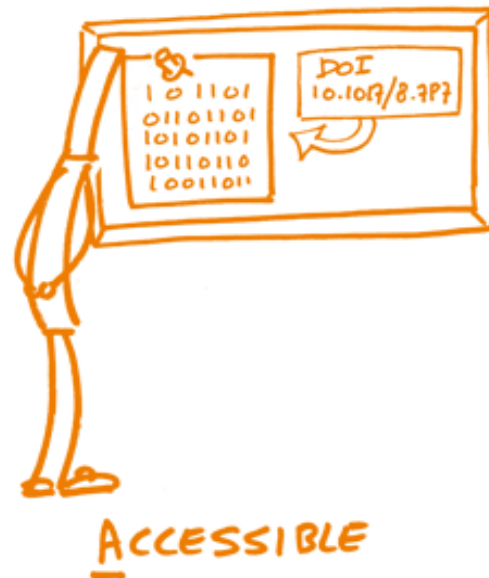
[Open Research](#)

## Develop your research skills



# It's only FAIR if you...

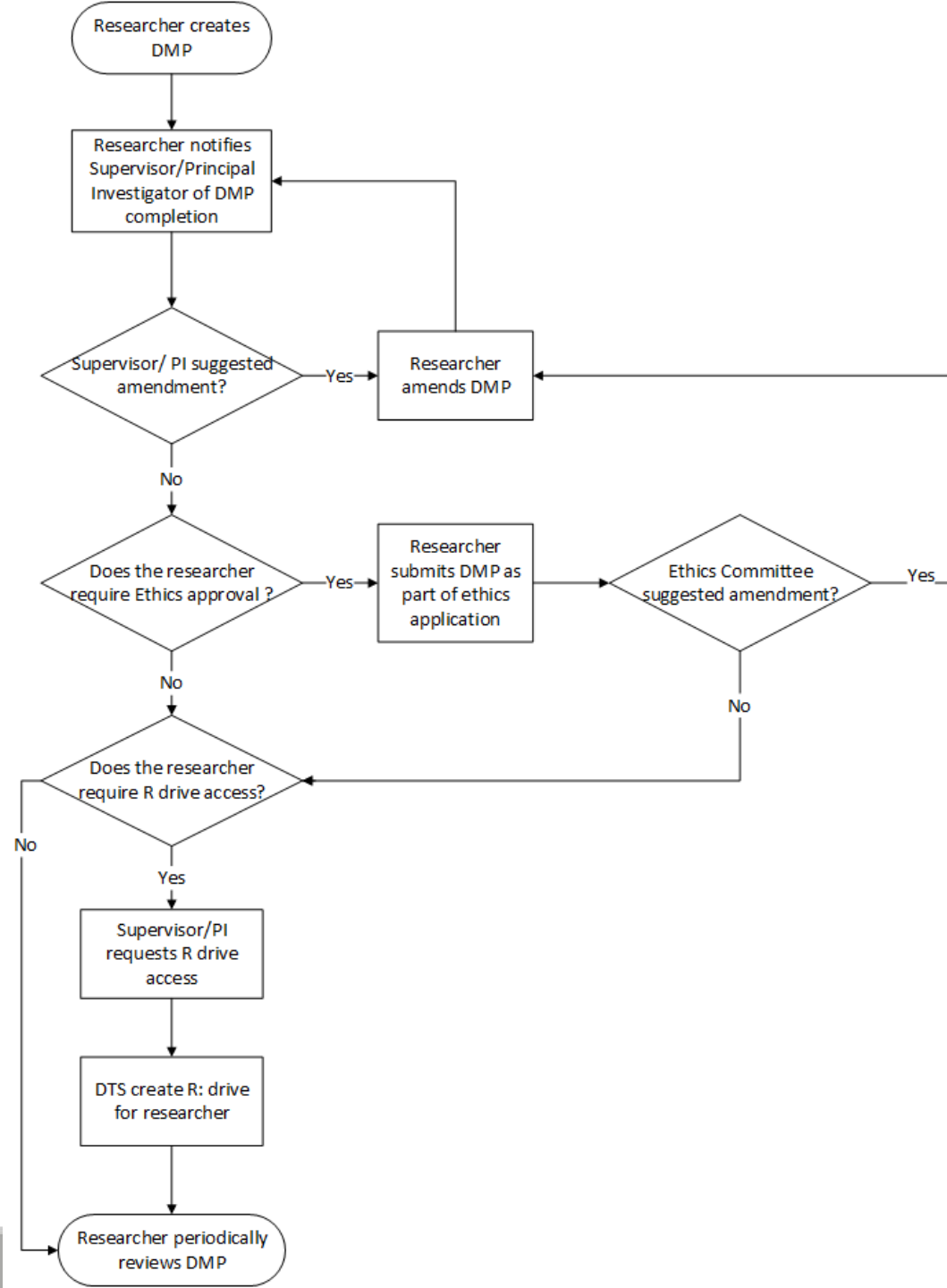
## FAIR DATA PRINCIPLES



# DMP process & resources

- <https://dmp.curtin.edu.au/>
- Required for M1 & Ethics
- Required for R: access
- [Full step-by-step video](#)
- [Example plans](#)

It's **not** a test , or a trap! it's to help you avoid pitfalls!





# File naming and versioning

- There is no one-size-fits all approach!
- Good principles:
  1. Write the system down and communicate it with your collaborators (including your future self)
  2. Any file name should give you a solid clue as to what is in that file/folder and how it is different to other files in the same directory and other folders

**Versioning** is the way you keep a track of the changes you've made in a dataset – this can be very simple (a change table or an “Archived” folder) or more sophisticated software systems (Git)



## Good or Bad?

### Good file names:

20191004 Registry of participants - Survey.doc

ROBERTSON Thomas Logan - 2011 Interview.mp4

### Bad file names:

final assignment.txt

Document13.docx

crt doc scan.pdf

Lit review, bib., chpt2-4, rev, cvr page,

appendices.docx

output NVB>3.0.xml

# Data storage

- Curtin has many options available, but you'll need to consider:
  - How do I need to access my data?
  - Who else needs to access my data and how can they get to it?
  - Are there any other restrictions specific to my project?
- [Research Data Storage Explorer](#)
- In *most cases* you should be using:
  - Local storage with a backup plan and a level of security appropriate for your research
  - OneDrive to share with active Curtin collaborators
  - R: drive as your long-term storage (and possibly your active storage, too!)

# Cloud computing options

You may find that regular desktop computers are not powerful enough to do the processing and analysis you need for your research, or you need to interact in sophisticated ways with external collaborators!

There are cloud computing options that might be available to you -

- [Nectar](#) – provided by ARDC
- [Nimbus](#) – provided by Pawsey Supercomputing Centre
- [Cloudstor](#) – provided by aarnet
- ....and others!

# Publishing, DOIs and ORCID

- DOI – Digital Object Identifier
- ORCID - **O**pen **R**esearcher and **C**ontributor **I**Dentifier

## Data Publication

This is usually done at the end of your research

- May be required when you publish
- May be recommended by grants/funders
- Can give huge benefits to your discipline, the reproducibility of your research and to your career
- Make sure you consider the downstream reuse of your dataset – the more documentation and description you have, the more it will be useful
- Can be done in many places, including for free in the [Curtin Research Data Collection](#)

# Activity

Try creating a mock-DMP using worksheet provided for one of these case studies

Research topic	Brief data description
How variations in clinical practice affect the survival rates of lung cancers	<ul style="list-style-type: none"><li>• Patient surveys with identifiable personal and medical information</li><li>• Anonymised medical imaging from clinical trials</li><li>• Dataset linked to an external database of identifiable personal and medical records</li><li>• Aggregated/analysed data from the surveys, imaging, and linked dataset</li></ul>
How the level of toxicity in contaminated soil affects non-endangered wildlife activity	<ul style="list-style-type: none"><li>• Samples of contaminated soil</li><li>• Laboratory data from the analysis of soil samples</li><li>• Observations of non-endangered wildlife (e.g. camera tracked images and survey)</li></ul>

# *DMP examples/case studies*

## **Example DMPs**

These examples are fictitious DMPs in the faculties of Science and Engineering, Health Sciences, Business & Law, Humanities, Centre for Aboriginal Studies and the Vice-Chancellory, which may provide assistance.

- [Science and Engineering example data management plan \[PDF, 80kB\]](#)
- [Health Sciences example data management plan \[PDF, 60kB\]](#)
- [Business & Law example data management plan \[PDF, 61kB\]](#)
- [Humanities example data management plan \[PDF, 60kB\]](#)
- [Centre for Aboriginal Studies example data management plan \[PDF, 59kB\]](#)
- [Vice Chancellory example data management plan \[PDF, 59kB\]](#)



# QUESTIONS?



# Questions

GRASP webpage

<https://researchtoolkit.library.curtin.edu.au/grasp/about-grasp/>

Help

[LibraryResearchSupport@curtin.edu.au](mailto:LibraryResearchSupport@curtin.edu.au)

Feedback (Stop – Start – Continue)

<https://tinyurl.com/LibraryGRASP>

