



Australian Research Data Commons

FAIR Data 101 Express

a virtual course in the FAIR data principles

PRESENTED BY

Liz Stokes (host)

Speakers: Natasha Simons, Keith Russell + Siobhann McCafferty



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Welcome to FAIR Data 101 Express



Our hopes for you

- be familiar with the concept of FAIR data and its application in research
- gain experience with techniques, services and tools for making data FAIR
- be able to identify best practice examples of FAIR data management

Components

Course website

<https://au-research.github.io/FAIR-data-101-training/>

4 modules

webinars, activities and a quiz

Live Q&A sessions each Wednesday

Slack workspace

tiny.cc/code-conduct



Australian Research Data Commons



Photo by [La-Rel Easter](#) on [Unsplash](#)

Findable today!

- Natasha Simons
- Siobhann McCafferty
- Keith Russell
- Q&A




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Which
circumstances
would motivate
you the most to
share your data?



The State of Open Data
Report 2019
[https://doi.org/10.6084/m9
.figshare.9980783.v2](https://doi.org/10.6084/m9.figshare.9980783.v2) via
[@figshare](#)



Increased impact
and visibility of
my research and
for public
benefit



The State of Open Data
Report 2019

[https://doi.org/10.6084/m9
.figshare.9980783.v2](https://doi.org/10.6084/m9.figshare.9980783.v2) via
[@figshare](#)



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FAIR Data Principles

Findable

Findable describes data that can be discovered by others. Even if the data itself is not available, the *metadata* is registered or indexed in a searchable resource, and contains a globally unique and persistent identifier that can be used to disambiguate between similar, but not identical, data.

- F1. (Meta)data are assigned a globally unique and persistent identifier**
- F2. Data are described with rich metadata ([defined by R1](#))**
- F3. Metadata clearly and explicitly include the identifier of the data they describe**
- F4. (Meta)data are registered or indexed in a searchable resource**



Research Data Australia enhances the **Findability** of Australian Research Data

ARDC
Research Data
Australia

EXPLORE ▾ ABOUT MYRDA LOGIN

Find data for research

Find, access, and re-use data for research - from over one hundred Australian research organisations, government agencies, and cultural institutions

All Fields ▾ Search for Data Q Search

Publicly accessible online [Advanced Search](#) [Map Search](#)

ARDC You can search **144,126** data collection records contributed by **99** Australian research orgs
Australian Research Data Commons

Research Data Australia enhances the **Citability** of Australian Research Data



Cite ✕

Copy and paste a formatted citation or use one of the links to import into a bibliography manager.

Citation:
Meinrad Scheller (collector), 1966; Prof. Meinrad Scheller's field recordings (MS2), Digital collection managed by PARADISEC. [Open Access] DOI: 10.4225/72/56E97573BD37E

[EndNote](#) [EndNote Web](#) [EndNote Help](#)

cheller (Aggregated by)

 You can get a **DOI from ARDC** for your data collections and this helps citation and tracking impact

Research Data Australia enhances the **Citability** of Australian Research Data

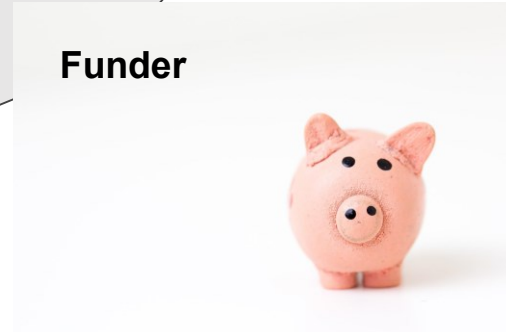
The screenshot shows a dataset page on Research Data Australia. On the left is the Australian Government logo and text: 'Australian Government', 'Department of the Environment', and 'Australian Antarctic Division'. The main title is 'Measuring the effects of human activity on Weddell Seals (Leptonych...', with the author 'GIESE, MELISSA ; VAN POLANEN PETEL, TAMARA' listed below. A 'Dataset' label is in the top right. A 'Similar interest' sidebar is partially visible. A callout box displays citation information: 'Data Citation Index™ All Databases Times Cited: 14' and a note that the count is a trial service. At the bottom, there are social media icons and statistics: 'Viewed: 2297 Cited: 14 Accessed: 97'.

 You can see a **Citation Count** for your data collections in RDA

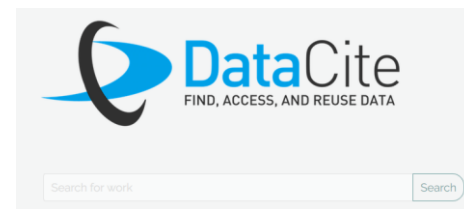
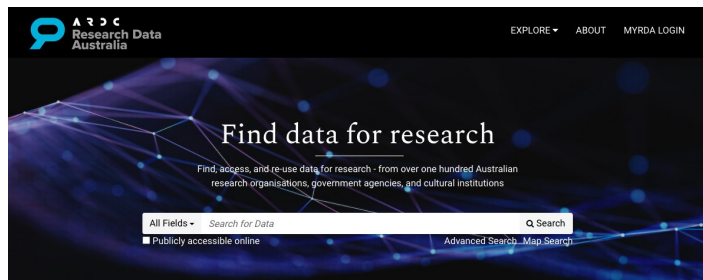
Research Data Australia improves the **Connection** of Australian Research Data



All connected to enhance findability and impact of research



Research Data Australia improves the **Connection** of Australian Research Data



All connected to enhance findability and impact of research



Data Impact story

Professor Ann Cust, School of Public Health, University of Sydney led a study into the link between sunbed use and melanoma.

Data was pivotal in NSW govt banning commercial sunbeds.

Research won the Sax Institute's Research Action Award, recognising the impact the study had on improving public health.



Research Data Australia



Improves **Findability**, **Citability** and **Connection** of Australian Research Data

Helps make more data more FAIR =
more impact of research!

<https://researchdata.edu.au/>



Rich metadata

F2 Data are described with rich discovery metadata



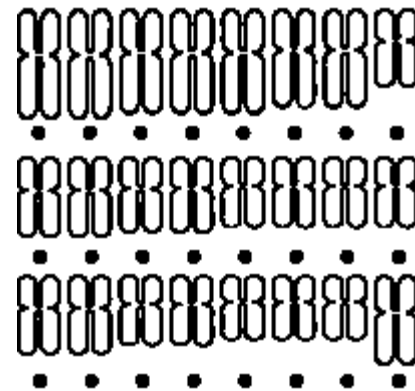
Peters
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Crosswalking between metadata standards



CSIRO Data Access Portal

CONTACT | HELP

Registered Users
 Log in using

SEARCH DATA BROWSE DATA DOMAIN SEARCH

The purpose of the CSIRO Data Access Portal

The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is Australia's national science agency and one of the largest and most diverse research agencies in the world.

[View CSIRO Data Access Portal metadata](#)

The portal is maintained by CSIRO Information Management & Technology to facilitate sharing and reuse of data held by CSIRO.

Search CSIRO data collections

SEARCH

What type of data is available?

- Bibliographies of public records in Australia available from State and Territory Archives
- CSIRO eLibrary collections
- The CSIRO Australia 1996-2006 Census
- Australian Antarctic Data Collection

SEARCH BY LOCATION

Each word in the text box will be searched with results for each of the words, any combination or all of the words.

[Search By Location](#)

ARDC
 Research Data Australia

Find d

Find, access, and re-use research organisation

Google Dataset Search Beta

Search for Data Sets

Try [boston education data](#) or [weather site:nasa.gov](#)

Google™



OceanDataPortal
 Seamless access to ocean data

Year	Area	Value	Unit
2000	1000000	1000000	km²
2001	1000000	1000000	km²
2002	1000000	1000000	km²
2003	1000000	1000000	km²
2004	1000000	1000000	km²
2005	1000000	1000000	km²
2006	1000000	1000000	km²
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2016	1000000	1000000	km²
2017	1000000	1000000	km²
2018	1000000	1000000	km²
2019	1000000	1000000	km²
2020	1000000	1000000	km²
2021	1000000	1000000	km²
2022	1000000	1000000	km²

So ensure your metadata

- Enables discoverability to a range of researchers
- In a relevant metadata standard
- And can be discoverable through multiple platforms/portals





Australian Research Data Commons

Digital Object identifiers (DOI)

PRESENTED BY

Siobhann McCafferty
Project Manager ARDC

Identifier services

Connecting objects to important context

We provide services to create and manage persistent [identifiers](#) for research data, research samples, files, documents or other digital objects. Identifiers connect objects to important context surrounding the objects thus adding value to them.

Scroll down to read more about the types of Identifier service we have available.

Identifier services



Digital Object Identifier services

We deliver Digital Object Identifier (DOI) services as a member of the global [DataCite](#) initiative. A DOI is used to identify research data and provide a persistent link to its location on the internet.

[Find out more](#) | [Access the DOI service](#)



Handle service

We use the Handle system to create persistent identifiers for situations where a DOI is not appropriate or unable to be created. The Handle service is available cost-free for Australian organisations and individuals creating, using or curating publicly available research data.

[Find out more](#) | [Access the Handle Service](#)



International Geo Sample Number

We can create an International Geo Sample Number (IGSN) to provide unambiguous globally unique persistent identifier for physical samples. The IGSN system facilitates the location, identification, and citation of physical samples used in research.

[Find out more](#) | [Access the IGSN Service](#)



Research Activity Identifier

We offer the Research Activity Identifier (RAiD), an identifier for research projects and activities. It is persistent and connects existing PIDs for researchers, institutions, outputs and tools together to create a timeline of research activity which makes connecting digital infrastructure, reporting on impact and establishing [data provenance](#) clear and easy.

[Find out more](#) | [Access the RAiD service](#)

What is a Digital Object identifier (DOI)?

Digital Object Identifiers (DOI) are unique digital identifiers for objects.

DOIs require six essential metadata elements:

- Identifier
- Title
- Creator(s)
- Publisher
- Publication year
- Resource type (general)

NB: Updating the details of these metadata fields is the responsibility of the project partner.

What can DOI be used for?

DOIs can be used for:

- research datasets and collections published in a repository associated workflows
- software and models
- grey literature: such as theses, reports, unpublished conference papers, newsletters, creative works, preprint journal articles, technical standards and specifications for which the institutional repository is the primary publication point.
- Instruments e.g. telescopes, synchrotrons, sequencers, shiny thingotrons...

[[doi:10.1594/PANGAEA.667386](https://doi.org/10.1594/PANGAEA.667386)]





- Use Handle technology
- International standard (ISO)
- Overseen by the DOI Foundation
- DOIs are allocated locally by globally distributed Registration Authorities

CrossRef and DataCite



- Scholarly and professional research content.
- Journal articles, books, conference proceedings, etc.
- Reference linking and searchable metadata database.



- DataCite is a global non-profit organization that provides DOIs for research data and all other research outputs.
- By assigning DataCite DOIs, research outputs become discoverable and associated metadata is made available to the community.
- DataCite develops additional services to make it easy to connect and share research outputs with the broader research ecosystem and to assess the use of outputs within that ecosystem.
- All organizations within the research community can join DataCite to start registering DOIs.

ARDCs DOI Service

Web interface

This service may be preferred by those institutions expecting to mint only a very small number of DOIs, or as an interim arrangement while a machine-to-machine service is established.

- Manual minting service can only mint a single DOI at a time. Bulk DOI minting is currently not supported by the manual minting service.

API

This service exposes an API for machine-to-machine (m2m) DOI minting.

- The API can be integrated into research software, data archive systems, workflows and tools, to automate the minting of DOIs.





CONTACT

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In the meanwhile

- Any issues please contact nichola.burton@ardc.edu.au
- Stay in touch until then on the slack
 - **#general** introduce yourself and get to know the other learners in this course
 - **#discussion** dive into specific threads
 - **#silly** share a gif, or a meme, or terrible FAIR puns

Feedback



Photo by [Wynand van Poortvliet](#) on [Unsplash](#)



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