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

This work is licensed under a Creative Commons Attribution 4.0 International License.

Welcome to FAIR Data 101 Express

Australian Research Data Commons

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

Australian Research Data Commons

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

Australian Research Data Commons

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

Australian Research Data Commons

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.

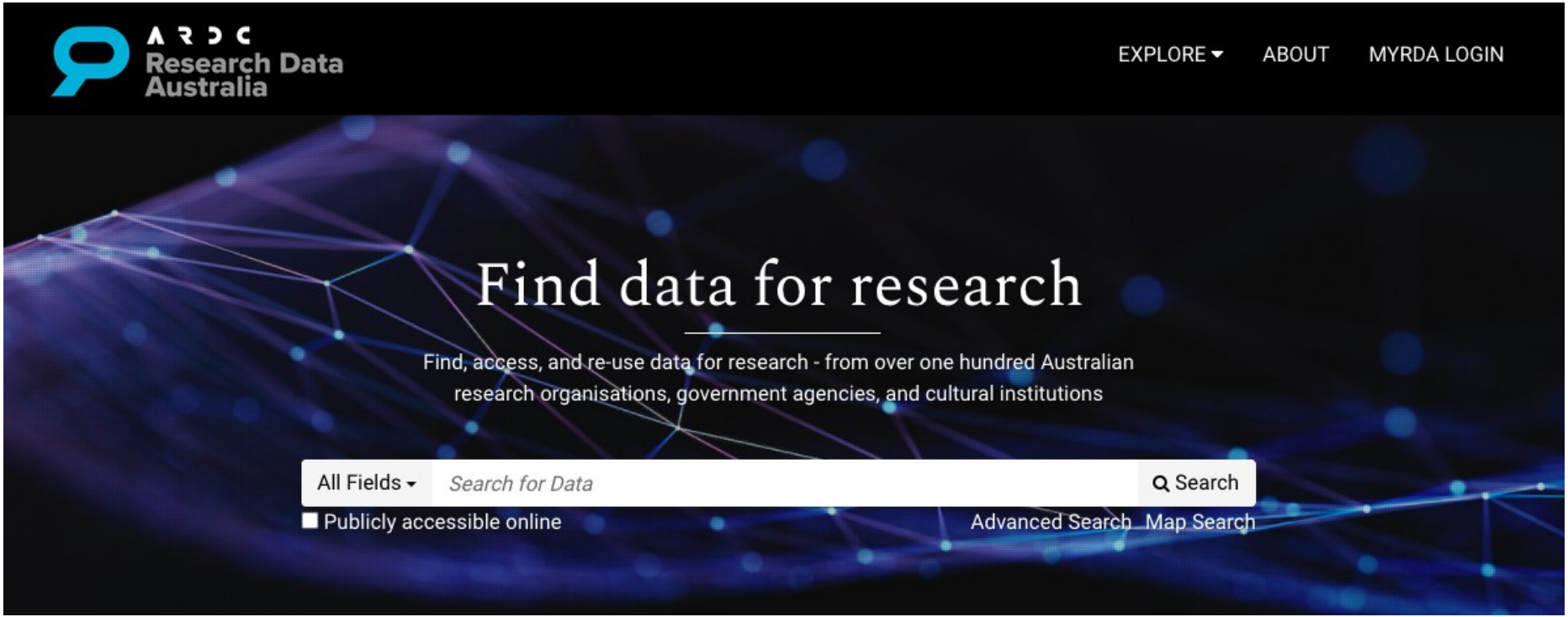
F1. (Meta)data are assigned a globally unique and persistent identifier

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

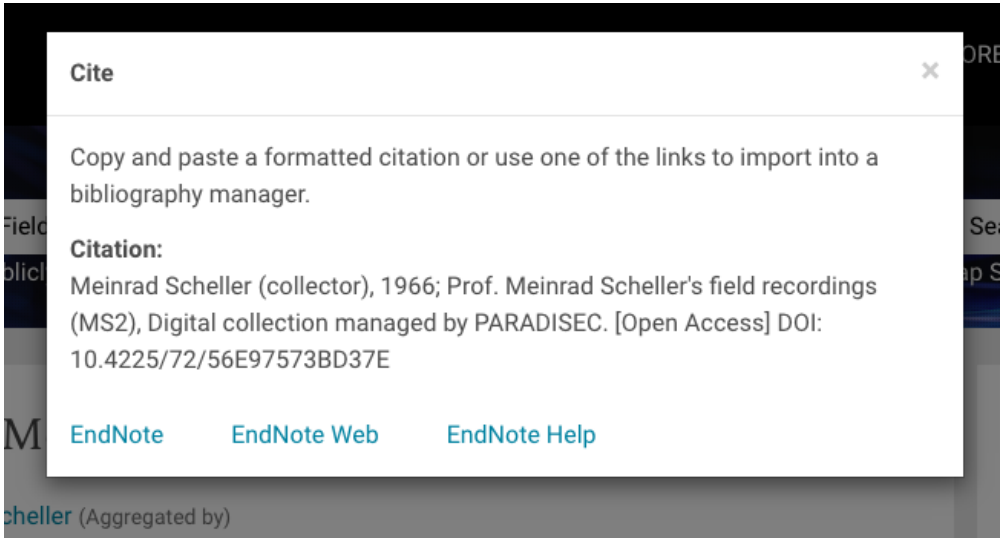


You can search **144,126** data collection records contributed by **99** Australian research orgs

Australian Research Data Commons

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

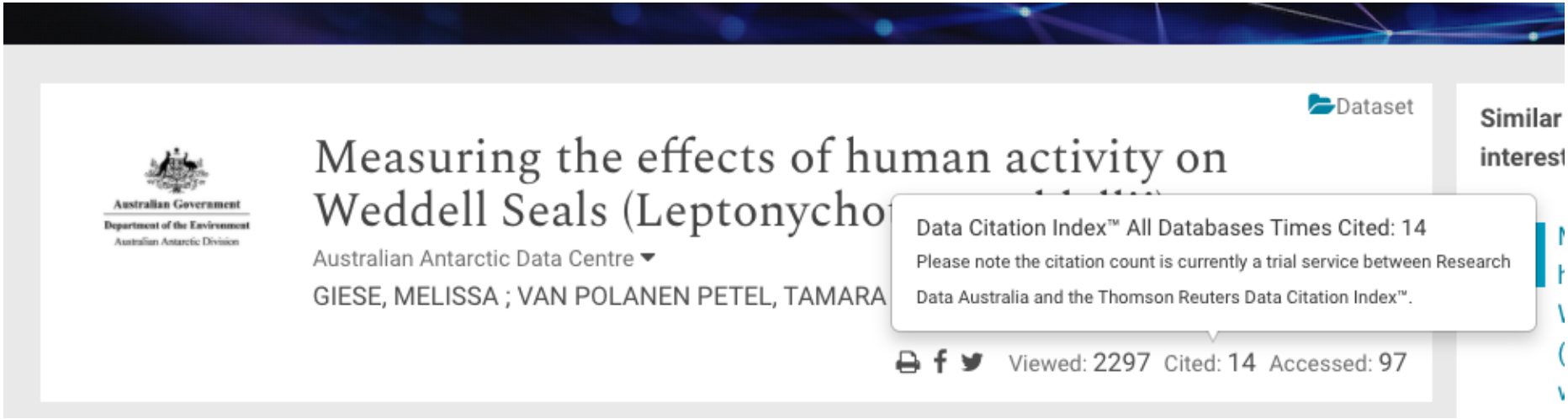
DOI



Australian Research Data Commons

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

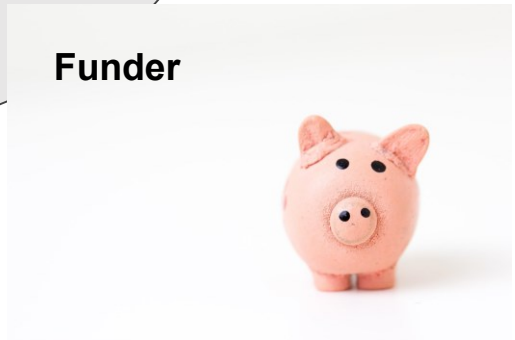


You can see a **Citation Count** for your data collections in RDA

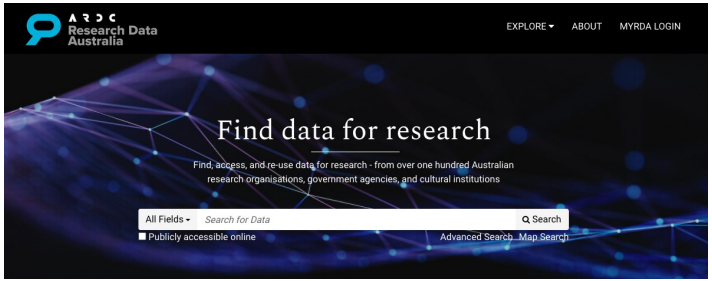
Australian Research Data Commons

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



Google

DataCite
FIND, ACCESS, AND REUSE DATA

SCHOLIX

MAKE DATA COUNT

ARDC
Australian Research Data Commons

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.

Australian Research Data Commons

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/

Australian Research Data Commons

Rich metadata

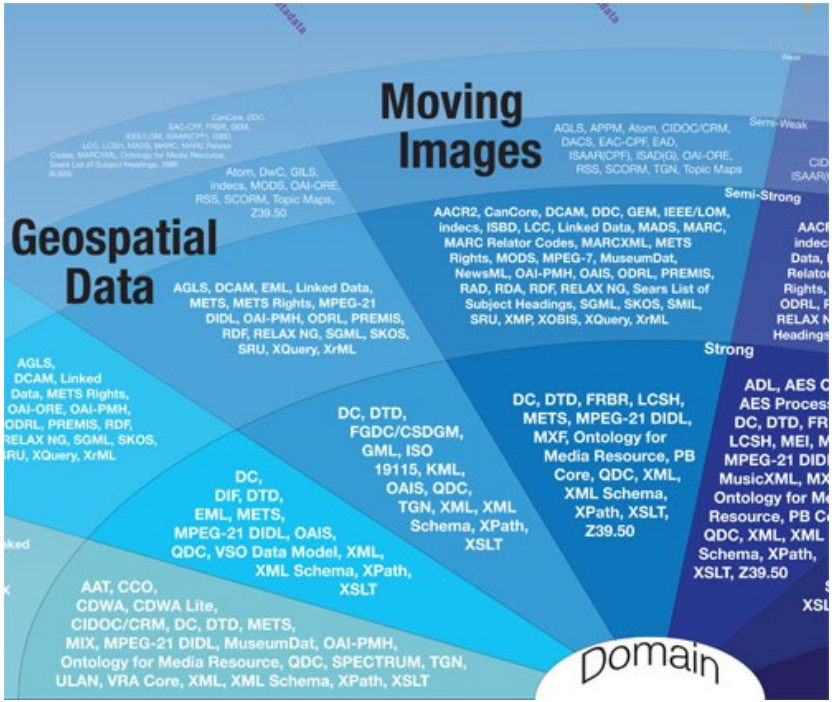
F2 Data are described with rich discovery metadata

Australian Research Data Commons

Metadata standards

Dublin Core, Darwin Core, RIF-CS, Schema.org, ISO19115-1 ….

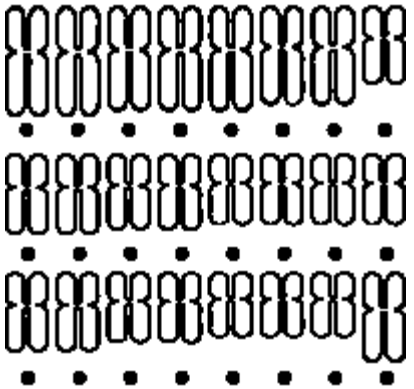
[RDA Metadata Standards directory]



Visualization of the Metadata Universe. Credit: © Jenn Riley 2009-2010

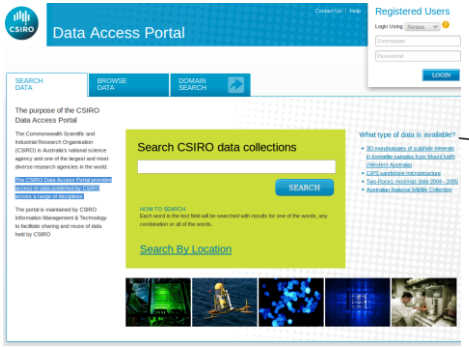
Australian Research Data Commons

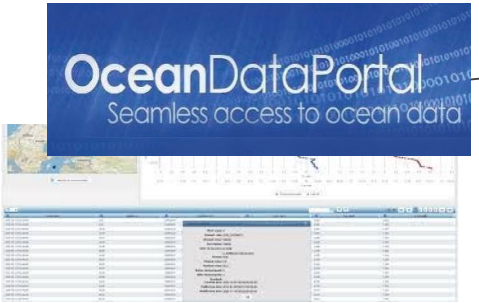
Bernard Spragg. NZ from Christchurch, New Zealand / CC0



Crosswalking between metadata standards

Australian Research Data Commons





Australian Research Data Commons

So ensure your metadata

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

Digital Object identifiers (DOI)

Australian Research Data Commons

PRESENTED BY
Siobhann McCafferty
Project Manager ARDC

NCRIS National Research Infrastructure for Australia
An Australian Government Initiative

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]

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

Australian Research Data Commons

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.

Australian Research Data Commons

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

Level 2, AIBN (Building 75)
Brisbane QLD 4072
AUSTRALIA

siobhann.mccafferty @ardc.edu.au
ardc.edu.au

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

CONTACT

Course content: @Liz @Matthias liz.stokes@ardc.edu.au matthias.liffers@ardc.edu.au

Course administration, community groups: @Nichola Nichola.Burton@ardc.edu.au