



ORCID: Case studies of Persistent Identifiers in Research Data Management

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Research Data Management Workshop 2023

2023.12.21



Getting to know you first..

Who is here:

- Representing a university (or research organisation)
- Representing government agency
- Representing service providers
- As a researcher

Who has an ORCID iD already?

Research data centers need standards and tools to fulfill their goals

FINDABLE

Unique identifiers and metadata are used to allow data to be located quickly and efficiently



ACCESSIBLE

Data is open, free and universally available for research discovery efforts



INTER-OPERABLE

A common programming language is used to allow use in a broad range of applications



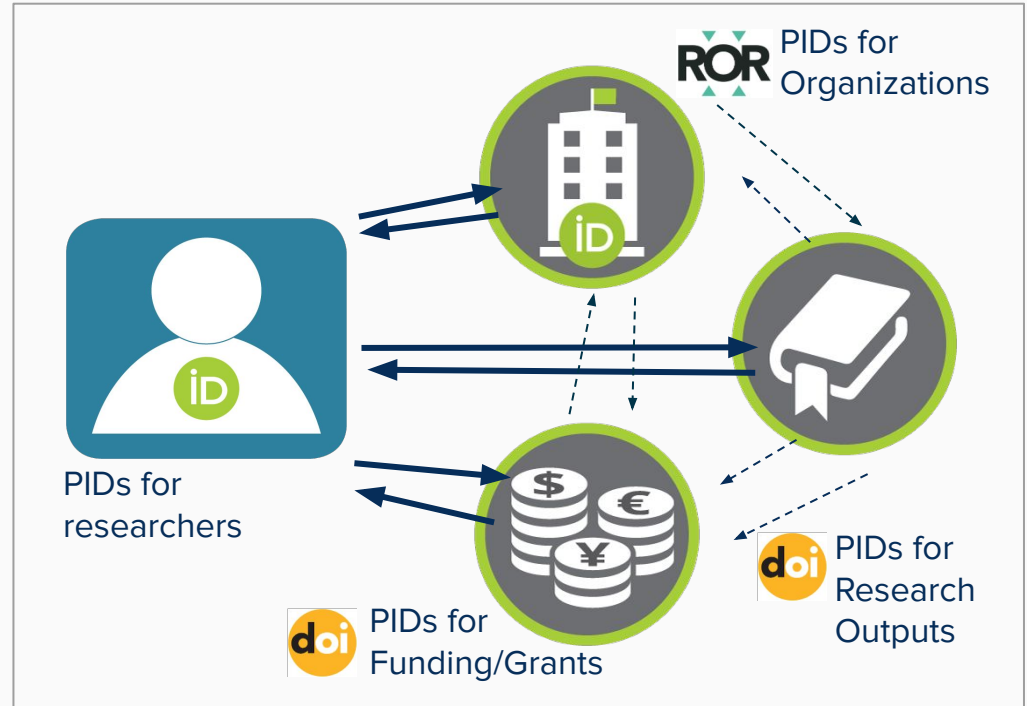
REUSABLE

All data is clearly described and outlines associated data-use standards



Persistent identifiers (PIDs) and their associated metadata are the **building blocks** of open research infrastructure.

- PIDs enable entities in the research ecosystem (people, places and objects) to be **uniquely identified** and **connected**, to create **reliable links** between them.
- When using PIDs, metadata about **organizations, people** and **objects flows reliably** between systems/platforms, forming the building blocks of an open research infrastructure.



UNESCO Recommendations on Open Science

- As in UNESCO Recommendations on Open Science, **Persistent identifiers (PIDs)** are one of the critical components of open science infrastructures that realize a FAIR Data Ecosystem



*The critical components of open science infrastructures allow unambiguous identification of scientific items **by unique persistent identifiers**. They provide essential open and standardized services to manage and provide access, portability, analysis and federation of data, scientific literature, thematic science priorities or community engagement. **Examples of unique persistent identifiers (PIDs) include ORCID iDs for people,***

What is ORCID and how is it used?



A Few ORCID Facts

- Independent not-for-profit open to participation by all
- Launched in 2012
- Sustained by fees from our member organizations
- Guided by our [values and founding principles](#)
- Community-governed by a Board of Directors elected by our members

ORCID provides three main services



The ORCID iD

A unique, persistent identifier (PID) free of charge to researchers



An ORCID record

Connected to the ORCID iD, that can include employment, education and research output metadata



The ORCID APIs

To enable the data exchange between ORCID records and member organizations

Your ORCID record can contain..

Researchers & Members can add:

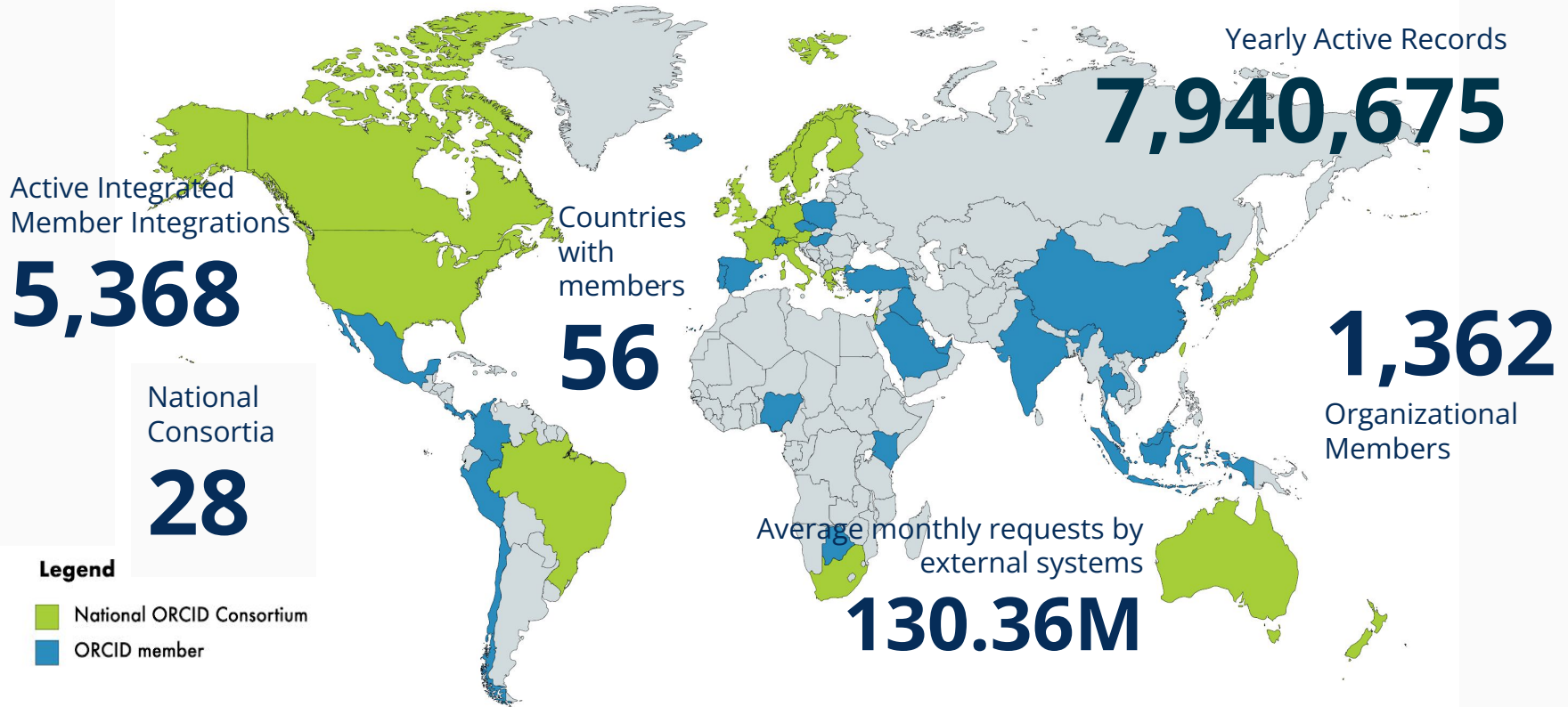
- **Employment affiliations**
- Educational affiliations
- **Funding information**
- **Publications & outputs (works)**
- **Professional activities**
- Non-sensitive personal information: keywords, countries and other IDs

Members can add:

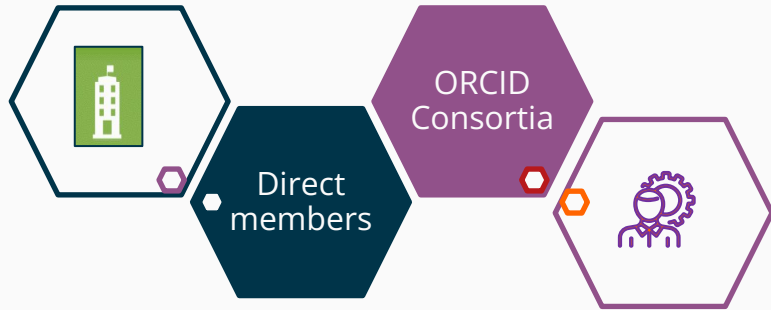
- Peer Review
- Research Resources

The screenshot shows an ORCID iD profile for Sofia Maria Hernandez Garcia. The profile includes a header with the ORCID logo and the URL <https://orcid.org/0000-0001-5727-2427>. The profile is divided into several sections: **Biography** (Sofia Maria Hernandez Garcia is used for testing and demonstrating ORCID records), **Activities** (Expand all), **Employment (2)**, **Education and qualifications (4)**, **Invited positions and distinctions (3)**, **Membership and service (2)**, **Funding (1)**, **Research resources (2)**, **Works (7)**, and **Peer review (2)**. The profile also includes a **Printable version** link, a **Published name** field, and a **Name** field (Sofia Garcia) with an **Also known as** field (S. M. Garcia, Sofia Maria Garcia). The **Other IDs** section lists the Profile system identifier (A-123456), ResearcherID (L-8716-2018), and eScientist (0000-0001-5727-2427). The **Countries** section lists the United States.

We have reached a critical mass of global participation



Become part of a growing member community



ORCID consortia around the world

- 27 National consortia
- 1 Regional consortium

Australia	Finland	Netherlands
Austria	France	New Zealand
Belgium	Germany	Norway
Brazil	Ireland	Mexico
Canada	Israel	South Africa
Chile	Italy	Sweden
Czech Republic	Japan	Taiwan
Denmark	Latvia	United Kingdom

A network diagram with a central green circle containing the 'id' logo. It is connected to several other circles: a yellow circle, a light blue circle, a red circle, and a light green circle. The text 'ORCID consortia around the world' is positioned above the yellow circle.

Ukraine
United States - Federal Government
United States - Non-profits

Latin America and Caribbean (*Regional*)

Current consortium conversations:
Angola, Greece, Spain, Sri Lanka, and
Regional Sub-Saharan Africa.

ORCID in Research Data Management workflow

How ORCID can help



The **vision**

(Research) data / Metadata

- Findable
- Accessible
- Interoperable
- Reusable

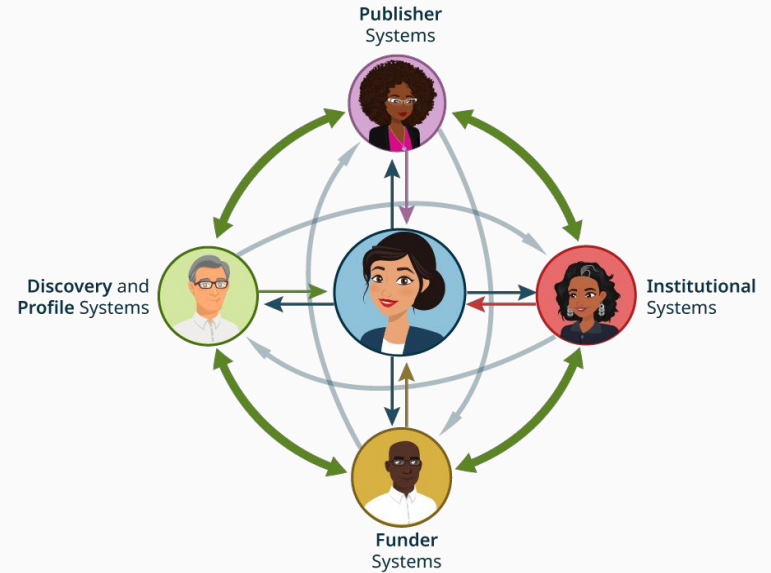


The **solution**

- **Disambiguate your researchers with ORCID and relating research information**
- **Use ORCID and other PIDs and their respective APIs to obtain authoritative metadata about people, places, and outputs so to connect multiple systems**

Best practices for organizations when adopting ORCID across research workflows

- ✓ Researchers register and connect their **ORCID iDs** in any research workflow
- ✓ Display authenticated ORCID iDS
- ✓ **connect (write) data to ORCID records**
- ✓ **Collect (read) data from ORCID records**
- ✓ Ensure your system **synchronised** with ORCID



ORCID member organizations add validated information

When an ORCID member updates an ORCID record, the source (provenance) of that update is captured for re-use:

- Research organizations add affiliations
- Publishers add outputs and reviews
- Funders add funding items



These provide 'trust markers' that can be used to help in decision making.



University of Oxford: Oxford, Oxfordshire, GB

(Said Business School)
Employment

Source: ORCID Integration at the University of Oxford



▼ Review activity for **British journal of Cancer** (1)

Journal, British journal of Cancer
ISSN: [1532-1827](#)

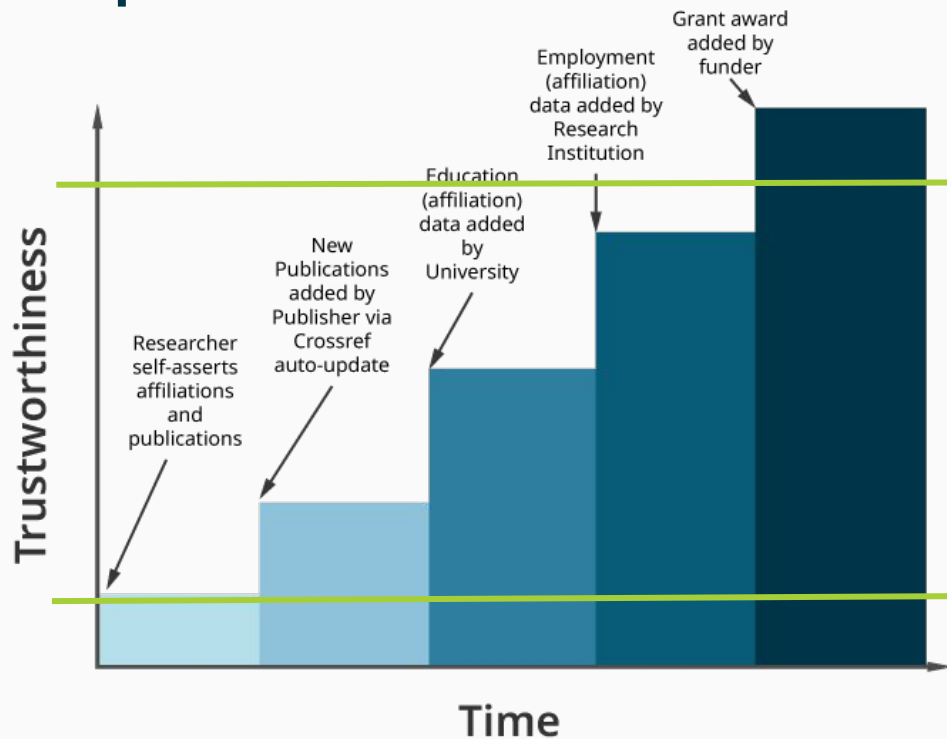
Review date: 2020-11-16

Type: Review

Role: Reviewer

Source: Nature Publishing Group

Trustworthiness is evaluated by the user of the data with transparent connections



Trust markers coming from institutions



Distributed, accumulative trust model

Self-asserts



Case Studies

#1

Data Management Plan (DMP)

California Digital Library (CDL)

- **The DMPTool** by CDL is a free service that helps researchers and institutions create high-quality data management plans that meet funder requirements.
- The DMPTool can now generate persistent, unique IDs (the DMP ID) for data management plans, and can be automatically linked to the DMP creator's ORCID record.

EAGER: The FAIR Island Project for Open Science

Project Details Collaborators Write Plan Research Outputs Request feedback Download Finalize / Publish

Set plan visibility

Public or organizational visibility is intended for finished plans. You must answer at least 50% of the questions to enable these options. Note: test plans are set to private visibility by default.

Private: visible to me, specified collaborators and administrators at my organization

Organization: anyone at my organization can view

Public: anyone can view

Save

Register your plan and add to ORCID

Get a DMP ID for your data management plan.

Register

← Click "Register" to get a DMP ID



CDL is adding validated DMP to researchers' ORCID records

Works (24)

Sort

Progesterone modulation of influenza-induced adverse maternal and fetal outcomes

2023-10-02 | Data management plan
DOI: [10.48321/D1TH3Q](https://doi.org/10.48321/D1TH3Q)

[Show more detail](#)

Source:  California Digital Library DMP Tool

Percepção dos pesquisadores da área da Comunicação e Informação acerca da divulgação e popularização da ciência

2022-04-09 | Data management plan
DOI: [10.48321/D1V65P](https://doi.org/10.48321/D1V65P)

[Show more detail](#)

Source:  California Digital Library DMP Tool

Comparison of Single-Session, Neoadjuvant, and Adjuvant Embolization Gamma Knife Radiosurgery for Arteriovenous Malformation

NEUROSURGERY
2023-05 | Journal article [Show more detail](#)
DOI: [10.1227/neu.0000000000002308](https://doi.org/10.1227/neu.0000000000002308)
URI: [22282913/194262](https://www.ncbi.nlm.nih.gov/pubmed/36790732)
PMID: [36790732](https://pubmed.ncbi.nlm.nih.gov/36790732/)
CONTRIBUTORS: Myung Ji Kim; Hyun Ho Jung; Yong Bae Kim; Jong Hee Chang; Jin Woo Chang; Keun Young Park; Won Seok Chang

Source:  Yonsei University Medical Library

Long-lasting restoration of memory function and hippocampal synaptic plasticity by focused ultrasound in Alzheimer's disease

BRAIN STIMULATION
2023-05 | Journal article [Show more detail](#)
DOI: [10.1016/j.brs.2023.05.014](https://doi.org/10.1016/j.brs.2023.05.014)
URI: [22282913/195426](https://www.ncbi.nlm.nih.gov/pubmed/37211337)
PMID: [37211337](https://pubmed.ncbi.nlm.nih.gov/37211337/)
CONTRIBUTORS: Chanho Kong; Ji Woong Ahn; Sohyun Kim; Ji Young Park; Young Cheol Na; Jin Woo Chang; Seungsoo Chung; Won Seok Chang

Source:  Yonsei University Medical Library


Synchronize information between the DMP Tool profile and researchers' ORCID records



DMP ID: 10.48321/D1V65P Version: 13 Sep 2023

This page describes a data management plan written for the Fundação Cearense de Apoio ao Desenvolvimento Científico e Tecnológico (funcap.ce.gov.br) using the DMPTool.

Percepção dos pesquisadores da área da Comunicação e Informação acerca da divulgação e popularização da ciência

 Read the data management plan

Contributors to this project

Andreza Pereira: [Data-curation](#), Universidade Federal do Ceará (ufc.br),  <https://orcid.org/0000-0002-5621-402X>

Project details

Project Start: March 16, 2022

Project End: June 23, 2023

Created: July 06, 2023

Modified: September 13, 2023

Ethical issues related to data that this DMP describes? no

Citation

When citing this DMP use:

Andreza Pereira. (2023). "Percepção dos pesquisadores da área da Comunicação e Informação acerca da divulgação e



The Belgian national research network (BELNET)

- **DMPonline.be** provided BELNET is to for researchers write and maintain data management plans.
- A researcher may have different user accounts created in DMPonline.be by different email address because he/she can be affiliated with more than one partner institution, or move to a new institution.
- IDMPonline.be allows researchers
 - to sign in via ORCID, to link existing account(s) in DMPonline.be to researchers' ORCID records
- **Through connecting with ORCID and local DMPonline.be accounts, researchers can easily switch between accounts to access the plans associated with each separate account.**



Sign in via ORCID

Welcome to DMPonline.be

We can help you [write and maintain data management plans for your research](#).

This instance of DMPonline is provided by [Belnet](#)

[Interested in joining?](#)

Sign in with your institutional account

-- Select your institution --

Sign in with shibboleth

Sign in with ORCID

Sign in with ORCID

[How to sign in via ORCID?](#)



ORCID

Authorize access

You are currently signed in as:

Estelle Cheng


<https://orcid.org/0000-0002-3207-0527>

[Sign out](#)

[Switch to another account](#)

[DMPonline.be](#) ?

has asked for the following access to your ORCID record:

-  Read your information with visibility set to Trusted Organizations

Authorize access

Deny access

If authorized, this organization will have access to your ORCID record, as outlined above and described in further detail in [ORCID's privacy policy](#).

You can manage access permissions for this and other Trusted Organizations in your [account settings](#).

Link existing account(s) to ORCID records

Edit profile

Personal Details | Notification Preferences

Verify your profile details below.

Email
rdm.support@ugent.be

* **First name**
RDM

* **Last name**
Support

Organisation
Ghent University

ORCID
● Create or connect your ORCID ID

Save

Edit profile

Personal Details | Notification Preferences

Verify your profile details below.

Email
rdm.support@ugent.be

* **First name**
RDM

* **Last name**
Support

Organisation
Ghent University

ORCID
● <https://orcid.org/0000-0001-6626-7849> ✕

Save

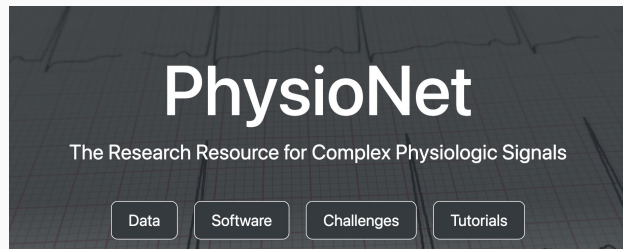
#2

institutional Research data Management



PhysioNet

- PhysioNet is an ORCID-enabled repository of medical research data managed by the Massachusetts Institute of Technology (MIT) Laboratory for Computational Physiology.
- PhysioNet uses ORCID to qualify users and grant them access to sensitive clinical data.



More information available in this blog post

<https://info.orcid.org/a-use-case-for-trust-markers-in-orcid-records-streamlining-the-credentialing-process/>

Invite Researchers to create or connect their ORCID iDs with the repository

Edit ORCID

ORCID provides a unique identifier to distinguish researchers and bolster digital identity. Learn more at <https://info.orcid.org/benefits-for-researchers/>. You can create an account for free if you don't already have one.

If you already have an ORCID account, you can use the button below to link or unlink it. Should you make a request to become a "credentialed user", connecting to your ORCID account may help to expedite the application process. In the future, we hope to add an option for sending information about published project(s) to your ORCID profile.

- No ORCID iD linked.

 Link ORCID

Trust markers in ORCID records increase efficiency and confidence levels of credentialing process

- Applicants are often asked to provide references who can speak to their research background and current work, so reference providers are also able to link their ORCID iDs with PhysioNet for credential review purposes.
- Information collected from ORCID helps PhysioNet staff to verify credentialed access applications more quickly.
- Research information added by trusted organizations
 - affiliation or education data added by universities
 - publications added by publishers

A sample application

Application information

Username: [briangow](#)

Applied: Jan. 28, 2022

Personal

[[Search for name and affiliation.](#)]

- First name: Brian
- Last name: Gow
- Email (primary): brian_gow@fake_gmail.com
- Emails (other): N/A
- Position: Lead Engineer
- Research category: Industry Researcher
- ORCID:  <https://sandbox.orcid.org/0000-0001-8231-0202>

Location

- Institution: Big Company
- Address: Mountain View, CA, 94039
- Country: United States of America
- Webpage: N/A

Training

- Report (CITI): [View file](#)

Reference

[[Search for reference name and email.](#)]

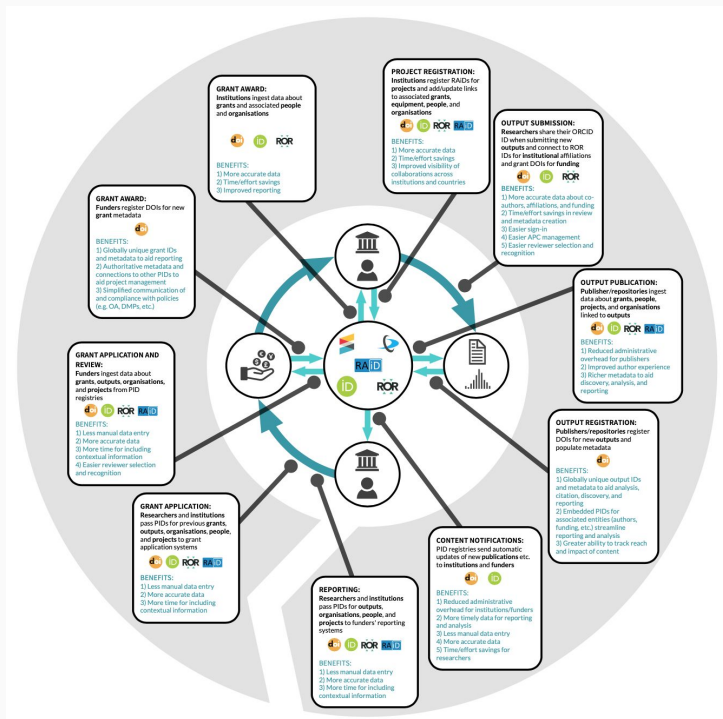
- Name: Margaret Brown
- Email: margaret_brown@bigcompany.xyz
- Organization: Big Company
- Position: Product Manager
- Relationship: Colleague
- Active User: No
- Credentialed User: No
- ORCID: No ORCID iD linked

Research

- Topic: I would like to use the MIMIC-IV dataset to develop a new algorithm for detecting septic shock risk.

The promise of PIDs — less cost, more benefits

It's estimated that ubiquitous use of priority PIDs to provide automation and remove the need to re-key data could save the UK higher education sector £45 million over a five-year period, and Australia A\$24m dollars a year.



Policies

Funders's PID Policies

- Globally, funders started to implement PID policies in part to foster Open Science
 - Open Access
 - Open Scientific workflows (in funding and review)
 - Open Research Data management

EU	EU	OA & Data Management Guidelines	https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/open-access_en.htm
FNR	Luxembourg	ORCID requirement for researchers applying for FNR funding	https://storage.fnr.lu/index.php/s/gLzPu2hMhsgaVqg
FWF	Austria	FWF mandates ORCID for applications as of 2016	https://www.fwf.ac.at/en/news-and-media-relations/news/detail/nid/20151116-2155/
FWO	Belgium	Article 14 – Each FWO funded researcher must have a personal ORCID profile and register it with the host institution. This profile can be used by the FWO as a unique reference for the identification of the researcher involved	https://www.fwo.be/en/general-regulations/

White House – OSTP	US	Says “funding agencies shall establish policies regarding requirements for individual researchers supported by or working on any Federal research grant to be registered with a service that provides a digital persistent identifier for that individual.”	https://trumpwhitehouse.archives.gov/presidential-actions/presidential-memorandum-united-states-government-supported-research-development-national-security-policy/ https://www.whitehouse.gov/wp-content/uploads/2022/01/010422-NSPM-33-Implementation-Guidance.pdf
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ORCID and Research Security

The United States Office of Science and Technology Policy (OSTP) publishes **NSPM-33** (Memorandum on Research Security) and the memo “Guidance to Make Federally-Funded Research Freely Available Without Delay” (a.k.a “**Nelson memo**”) focuses on making research publicly accessible with integrity. It requires all author and co-author names, affiliations, and sources of funding, referencing digital persistent identifiers.

Prepare for NSPM-33 Policies Write accurate, real-time data with integrity to your researchers' ORCID records

With an ORCID integration, you can...

Push data into your researchers' records (like Education and Employment) to ensure the information describing your institution is correct.

Sync information between your institution's systems and ORCID for accurate, real-time data about your researchers

Pull data from ORCID records to populate your systems with accurate data about your researchers.

Education, Employment, Funding, and Works data in ORCID records will pull into SciENcv for both NIH & NSF, helping researchers comply with the upcoming NSPM-33 Policies.

Learn more about NSPM-33 Policies, integrations, and ORCID consortia membership at <https://orcidus.lyrasis.org/>



<https://info.orcid.org/orcid-poised-to-support-research-institutions-in-new-era-of-public-access-and-research-security/>

Recap and Actions

Transparent connections among researchers, organizations and research data is the key to enable Open Science and the FAIR Principles



Individuals and organizations both play a role

Register for an ORCID ID and connect it with any systems that encountered in the research workflow!

Integrate ORCID into your systems in any research workflow. Apply for FREE ORCID Sandbox to try out the APIs

Individuals



Organizations



“ PIDs alone do not provide much value. The value comes through embedding PIDs in other systems, connecting to them, visualizing connections, and leveraging relationships “

CNI Spring 2023 Membership Meeting

Resources

- ORCID Use Case <https://info.orcid.org/category/use-cases/>
- ORCID on-demand <https://info.orcid.org/orcid-on-demand/>
- ORCID events <https://info.orcid.org/events/>
- ORCID Resources <https://info.orcid.org/resources/>
- ORCID membership <https://info.orcid.org/membership/>
- ORCID member directory <https://orcid.org/members>
- ORCID Blog <https://info.orcid.org/category/blog/>
- ORCID Statistics <https://info.orcid.org/orcid-statistics/>
- ORCID workflows <https://info.orcid.org/documentation/workflows/>

Thank you!



Find out more at <https://orcid.org>

Register at <https://orcid.org/register>

Email - e.cheng@orcid.org

Skype - j493520@hotmail.com

Twitter @ChihEstelle

WeChat ID j493520

Linked-In:

<https://www.linkedin.com/in/chieh-chih-estelle-cheng-pids/>

Discussion and Feedback

