Persistent IDentifiers In Funder Workflows and the Research Lifecycle

ORCID workshop for Czech RFOs, Prague, June 14 2024

Ivo Wijnbergen, *Director of Engagement,* ORCID

Agenda

1. A very brief (re-)introduction to ORCID
2. How can funders best support PID-enabled open scholarly infrastructure?
3. Q&A

Key (pre)Takeaways

- **Persistent identifiers (PIDs) are the building blocks of open research infrastructure**
- **ORCID is the most broadly adopted PID for researchers**
- **Funders obtain better insights, reduce administrative burden, and increase Trust by using ORCID, and PID-enabling their workflows**

A very brief re/introduction to ORCID

A Few ORCID Facts

- Independent not-for-profit open to participation by all
- Registry launched in 2012
- Sustained by fees from our member organizations
- Guided by our values and founding principles
- Community-governed by a Board of Directors representative of our membership

Where we want to go

ORCID's vision is a world where **all who participate** in research, scholarship, and innovation are **uniquely identified** and **connected to their contributions** across **disciplines, borders, and time.**

How we are going to get there

ORCID's mission is to **enable transparent** and **trustworthy connections** between **researchers**, their **contributions**, and their **affiliations** by providing a **unique, persistent identifier** for **individuals** to use as they engage in **research, scholarship, and innovation activities**.

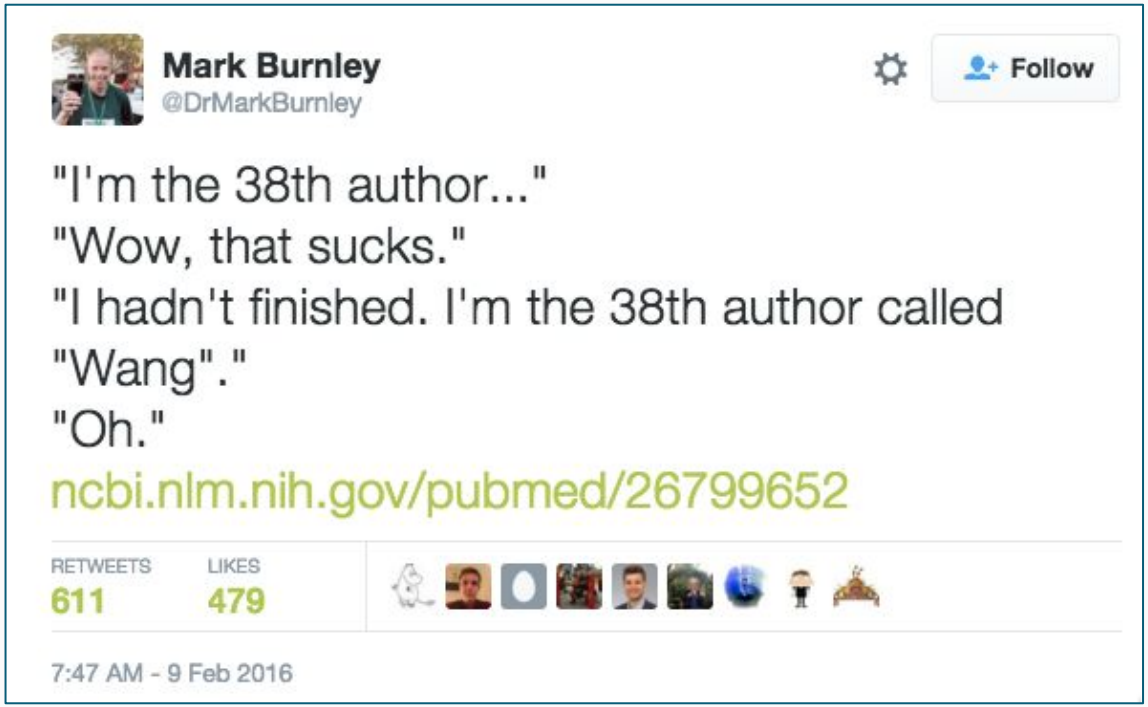
ORCID provides three infrastructure services

The ORCID iD
A unique, persistent identifier free of charge to researchers (e.g. https://orcid.org/0000-0002-1108-3660)

An ORCID record
A digital CV/profile connected to the ORCID iD, that can include employment, education, funding, peer review, research output and other metadata

The ORCID APIs
A set of *Application Programming Interfaces* (APIs), as well as the services and support of communities of practice enabling interoperability between an ORCID record and member organizations

ORCID solves name ambiguity

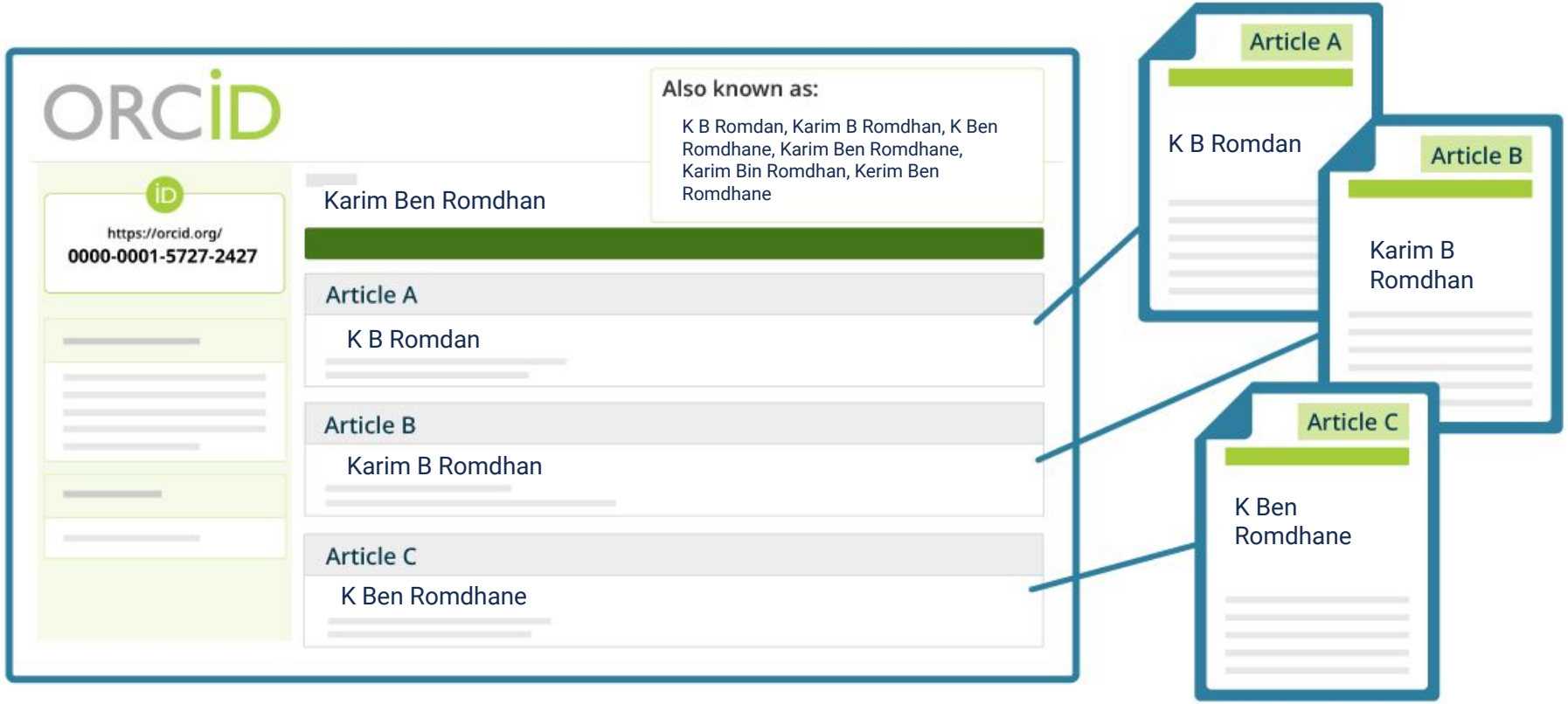


Most common Czech surnames:

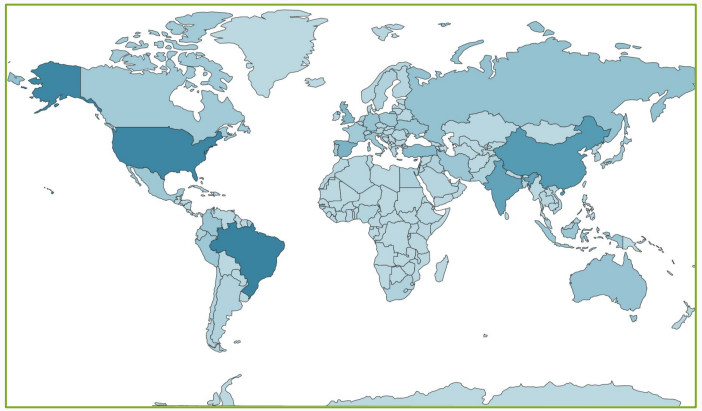
1. Novák
2. Svoboda
3. Novotný
4. Dvořák
5. Černý

https://pubmed.ncbi.nlm.nih.gov/26799652/
Most common Czech surnames (globalsurnames.com)

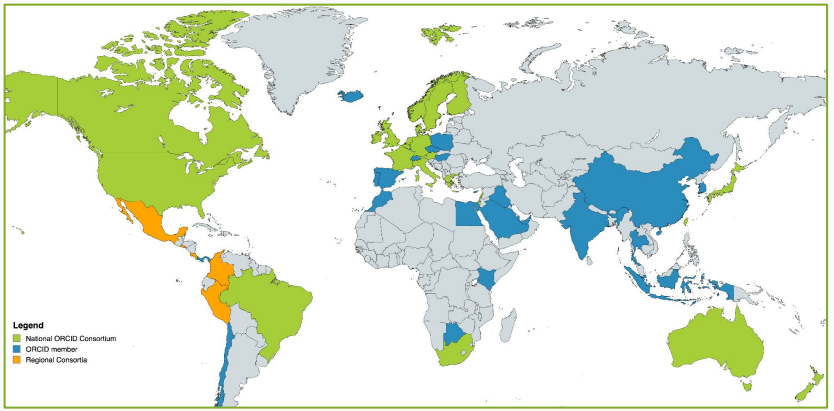
ORCID solves name variation



We have broad adoption around the world



Users in 249 countries
That's every country on the planet!



Member organizations in 59 countries
28 national consortia and 1 regional consortium

Yearly Active Researchers
8.4 Million

Active Integrated Systems
5,684

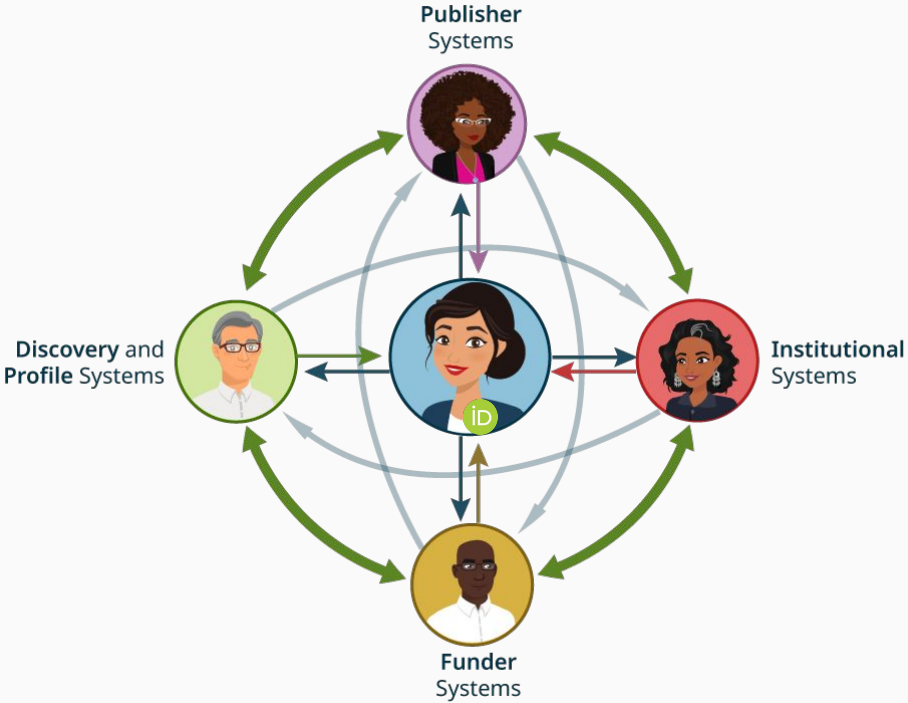
Organizational Members
1,393

22 in CZ

Data collected on 9 May 2024
More data available at https://info.orcid.org/orcid-statistics/

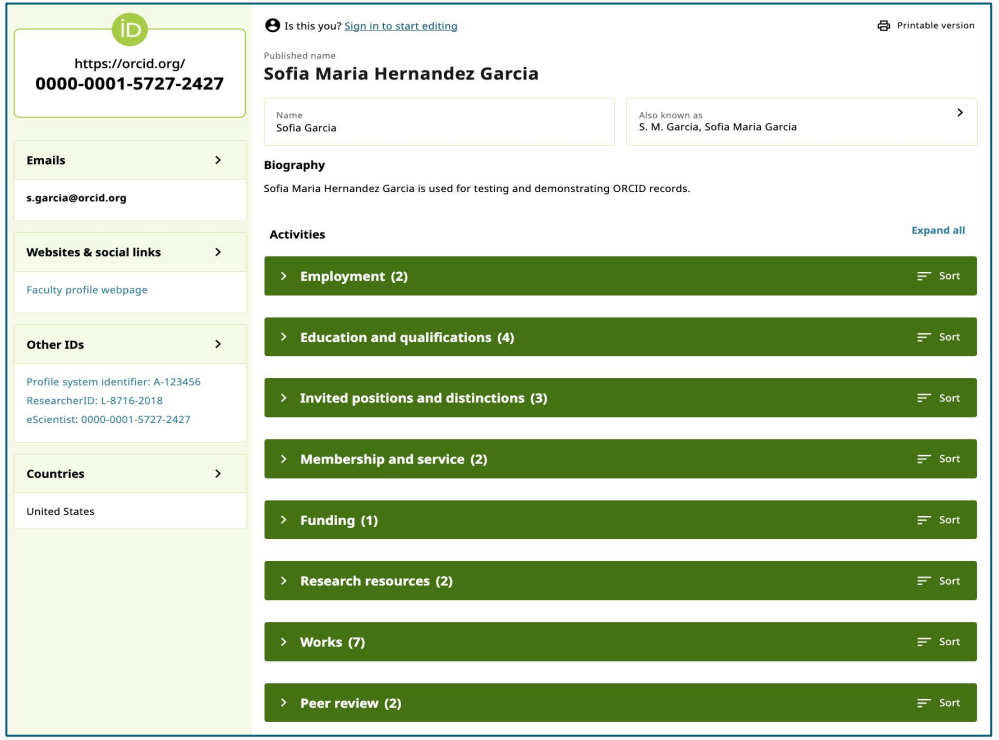
By contributing authoritative data, ORCID member organizations can increase trustworthiness for all

- **Validated affiliations** added by **universities**, **awards** by **funders** and **publications** by **publishers** allow researchers to demonstrate their track records with trusted data
- **Better populated ORCID records** increase **data reuse** and **reduce admin burden** for researchers
- **Researchers** always **remain in control** of the data included in their records
- **Our goal is to create the conditions to allow this to happen**



Information on ORCID records can help with decision making

- Affiliations
- Professional activities
- Funding information
- Publications
- Other outputs
- Peer reviews
- Website URLs

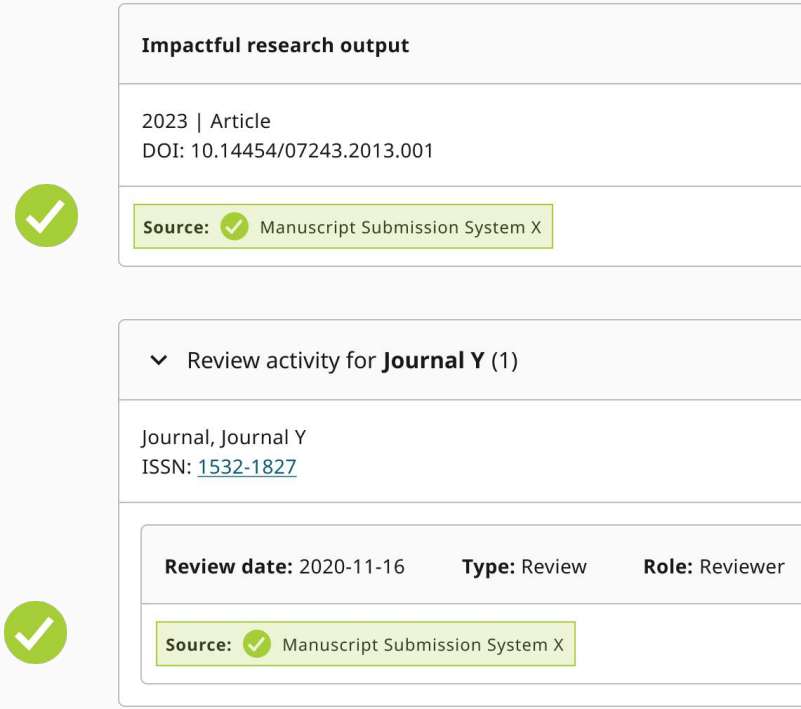


Validated information is even more useful

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

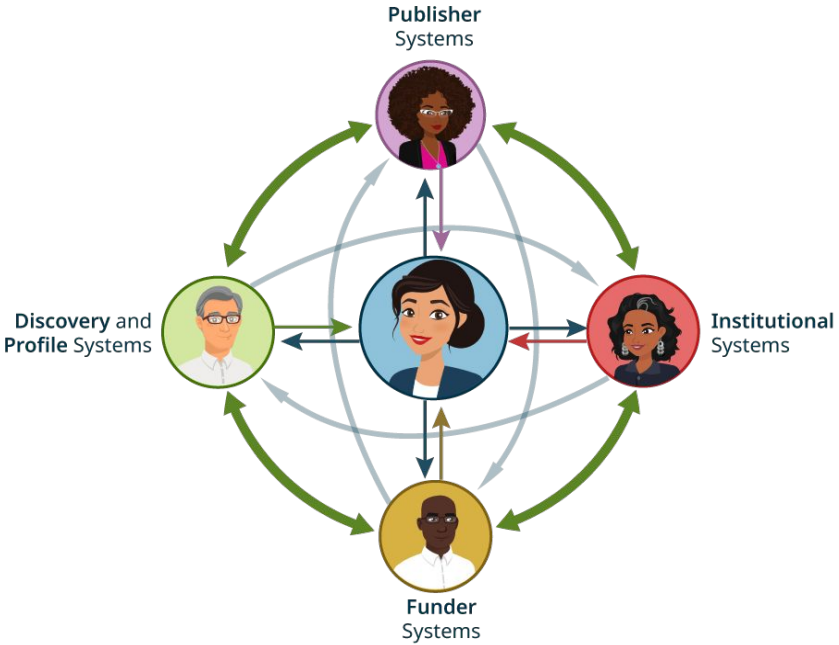
- **Research organizations** add **affiliations**
- **Publishers** add **outputs** and **reviews**
- **Funders** add **funding awards**

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



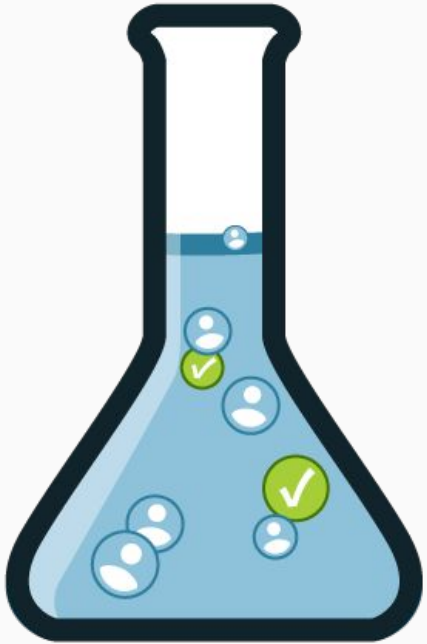
Think of ORCID as a *hub* of research-related data that gets propagated throughout scholarly systems

The more **fully-populated ORCID records** and integrated systems there are, the more value that all stakeholders can gain from adopting ORCID.



https://youtu.be/1Z7eR7Hnds0?si=ggxYHgTTPAHUEQ5e

Propagating trust markers throughout the research ecosystem can have a positive effect on research integrity



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 Show more detail View

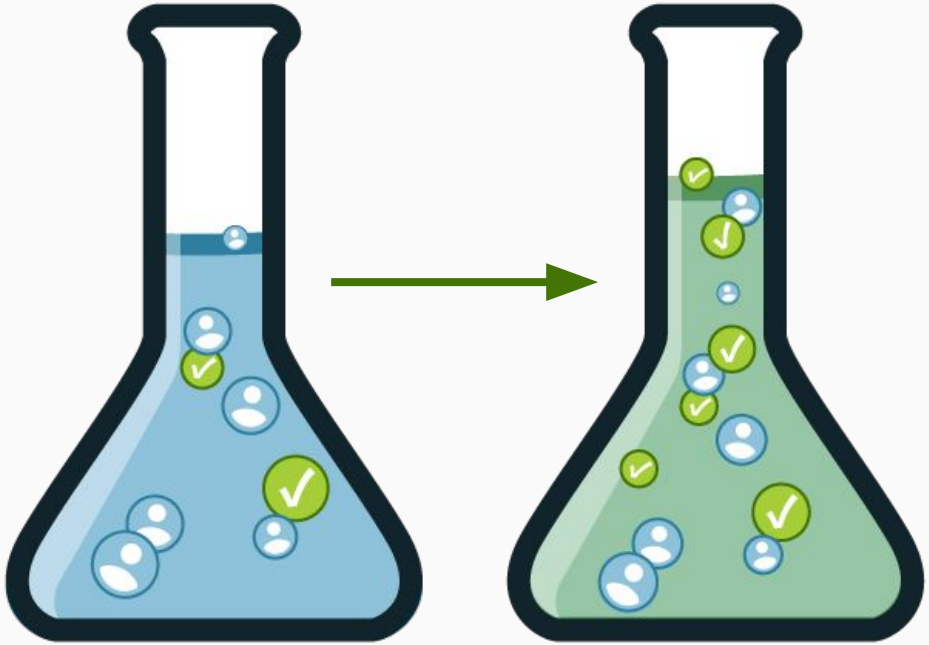
Source: Nature Publishing Group

Grant for ORCID

2014 to present | Grant
Wellcome Trust (London, GB) Show more detail

Source: Sofia Maria Hernandez Garcia

More Trust Markers = More Trustworthiness



WORKS

3 Validated works

4 Self-asserted works

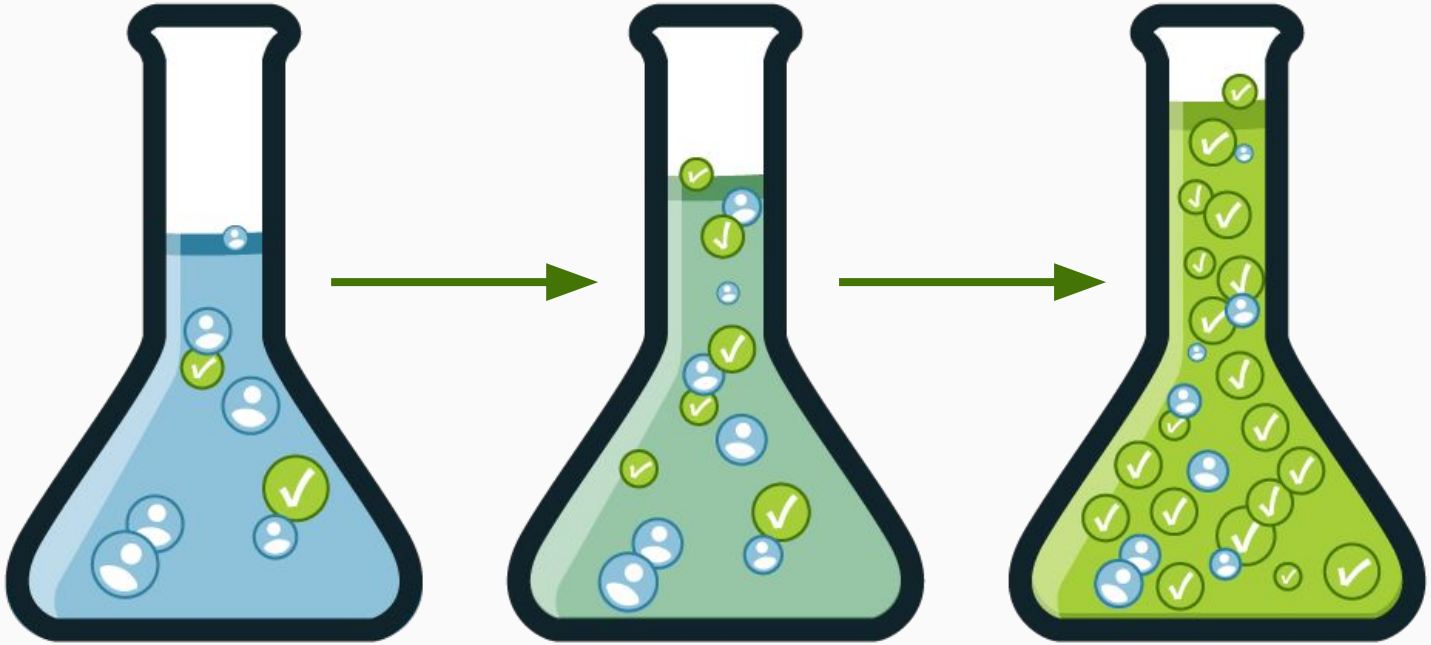
PEER REVIEWS

2 reviews for **2** publications/grants

FUNDING

1 Self-asserted funding

As more ORCID members add data (and trust markers) to records, the more robust the entire scholarly record becomes

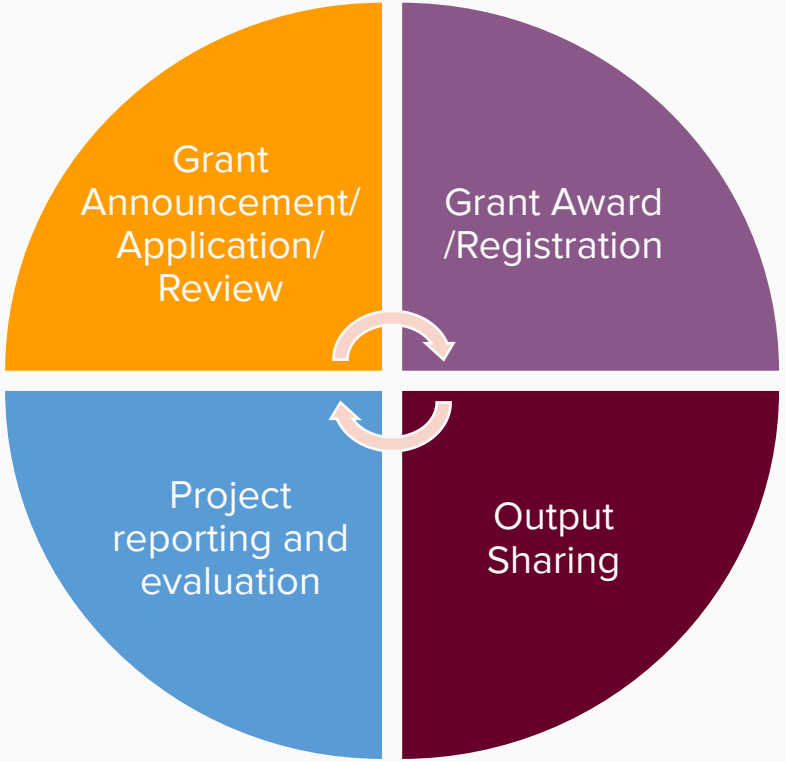


PID-enabled data from Funders enhances trust and transparency in Czech research

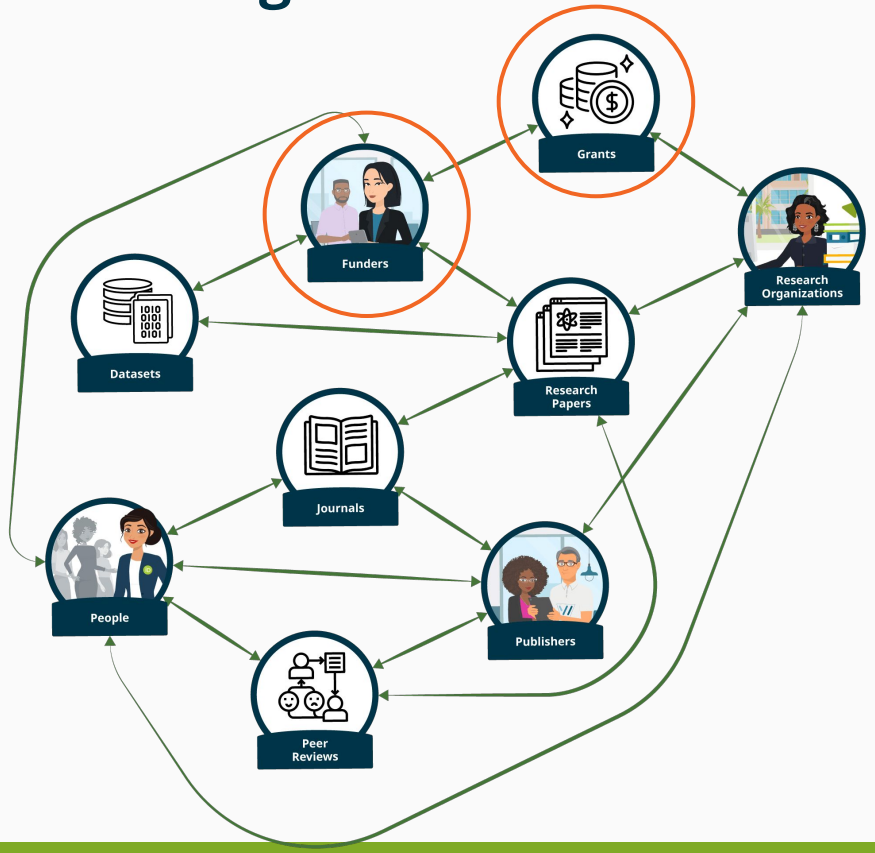
Funders play an integral role in adding trust markers

We're working with funders and other PID providers around the world to **PID-enable** the entire **funding workflow**

From Europe PubMed Central: *"..when the funder provides the ORCID - any name changes or institution changes are trivial"* (otherwise they create difficulties)

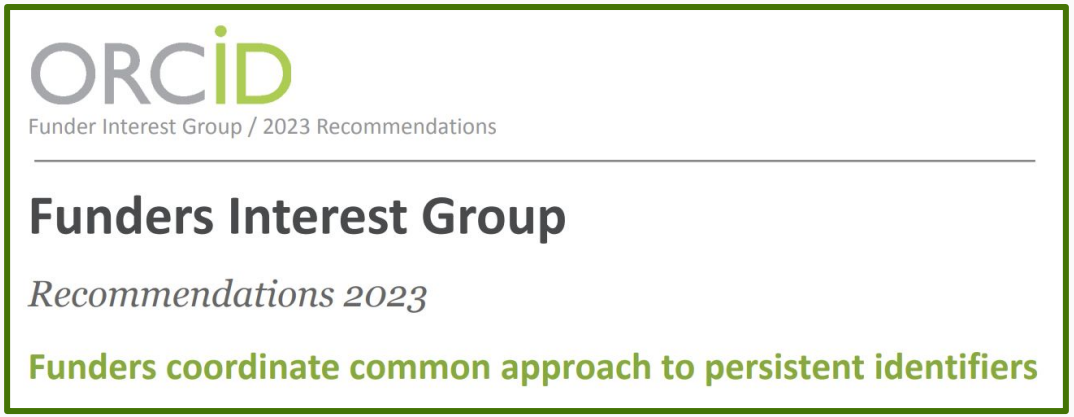


Goal: An Integrated Research Data Ecosystem

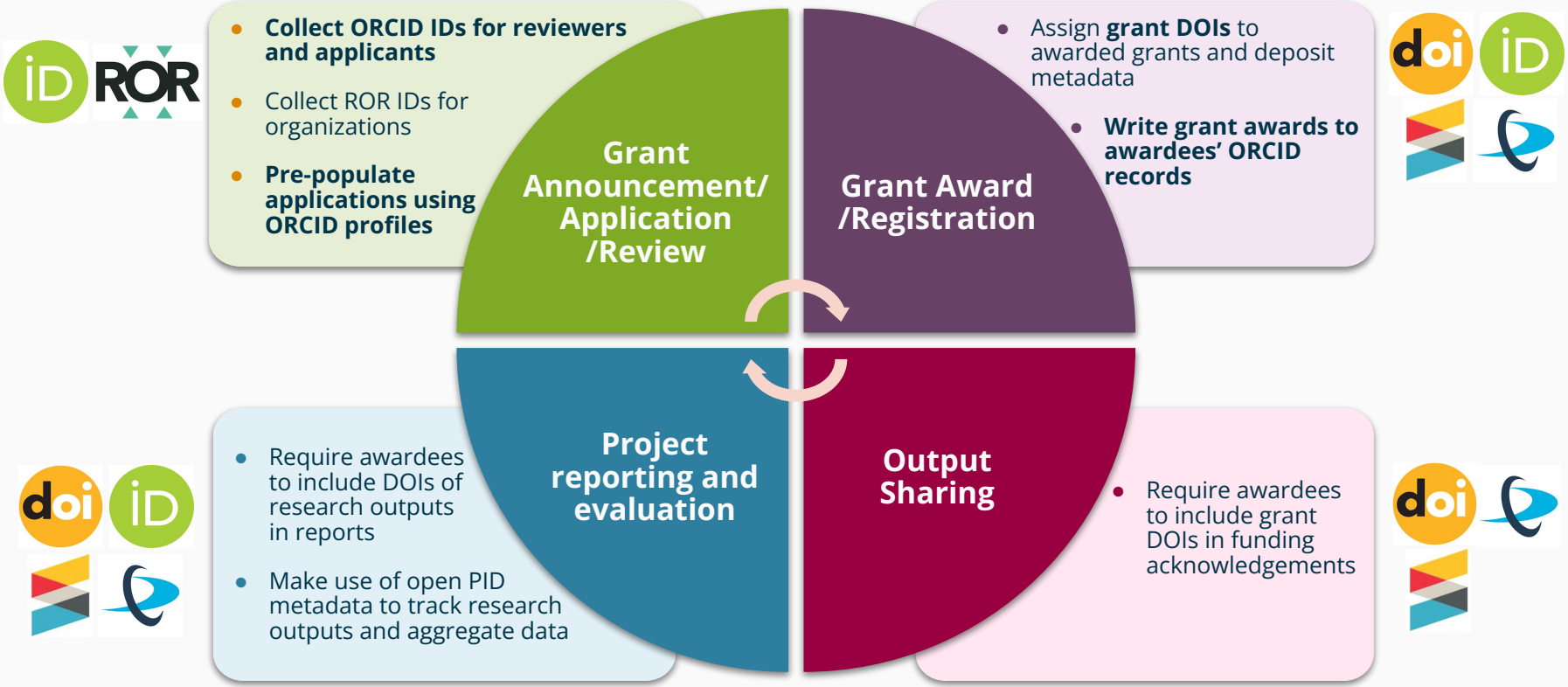


- Better **tracking** of research outcomes
- Accurate **attribution** and enhanced **discoverability** of awards and awardees
- **Reduced administrative burden** for both funder staff and researchers
- Alignment with **FAIR Data Principles** and **Open Research** practices

Aligning on best practices between Funders globally in our Funder Interest Group



Funders can make use of PIDs at every stage…



Adapted from: Guide for funders to support FAIR workflows & enable research tracking by Chen, et. al.

US agencies and funders are adopting PIDs as part of their research & security policies

White House OSTP Memos

"Nelson" Public Access Memo
Ensuring Free, Immediate, and Equitable Access to Federally Funded Research [1]

> "metadata should include at minimum: all author and co-author names, affiliations, and sources of funding, referencing digital persistent identifiers, as appropriate"

NSPM-33
Presidential Memorandum on United States Government-Supported Research and Development National Security Policy [2]

> "… 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."

Agency Policies

National Science Foundation
Proposal and Award Policies and Procedures Guide [3]

> "**NSF adopts ORCID** as the persistent identifier for researchers, first included in the NSF PAPPG in 2024."

National Institutes of Health
Requirement for ORCID iDs for Individuals Supported by Research Training, Fellowship, Research Education, and Career Development Awards [4]

> "By way of this Notice, NIH, AHRQ, and CDC announce that individuals supported by research training, fellowship, research education, and career development awards will be **required to have ORCID iDs** (Open Researcher and Contributor Identifiers) beginning in FY 2020."

[1] Section 4(a)(i): https://www.whitehouse.gov/wp-content/uploads/2022/08/08-2022-OSTP-Public-access-Memo.pdf
[2] Section 4(b)(v): https://trumpwhitehouse.archives.gov/presidential-actions/presidential-memorandum-united-states-government-supported-research-development-national-security-policy/
[3] Effective May 20, 2024 NSF 24-1: https://nsf-gov-resources.nsf.gov/files/nsf24_1.pdf
[4] Beginning in FY 2020, https://grants.nih.gov/grants/guide/notice-files/NOT-OD-19-109.html

Other countries and funders are adopting ORCID as part of their research strategies

Australian National Persistent Identifier (PID) Strategy and Roadmap [1]

"Adoption of ORCID in Australia has already demonstrated the value of PIDs. Incentives estimates that by using ORCIDs to populate research grant applications, the Australian Research Council (ARC) has saved researchers up to 3 or 4 days per grant application."

Netherlands: NWO Persistent Identifier Strategy [2]

"Recommendation 1: Implement ORCID iD for researchers into grant application, peer review, and project reporting workflows:

Italy: National Open Science Plan [3]

"Encourage the full use of ORCID-ID for each researcher, in its functionality of enabling and connect services, including those related to citations"

France: 2nd National Plan for Open Science [4]

Promote the adoption of the ORCID identifier by researchers, in order to consolidate their digital identity and the visibility of their work, and propose the feeding of ORCID data into research information systems in order to limit double entries.

[1] Australian Research Data Commons https://zenodo.org/doi/10.5281/zenodo.10656275
[2] NWO Persistent Identifier Strategy, https://zenodo.org/doi/10.5281/zenodo.4674512
[3] Translated from: https://www.mur.gov.it/sites/default/files/2022-06/Piano_Nazionale_per_la_Scienza_Aperta.pdf
[4] Translated from: Deuxième Plan National Pour La Science Ouverte https://www.enseignementsup-recherche.gouv.fr/sites/default/files/content_migration/document/2e-plan-national-pour-la-science-ouverte-2021-2024-7794.pdf

The benefits of implementing ORCID iD in the Czech Funder environment

- Strategic Goal 1 of the National Research, Development, and Innovation Policy 2021+
  - Implementing ORCID iD helps reduce administrative burden in R&D
  - project proposal submissions and reporting
  - unified methodological framework

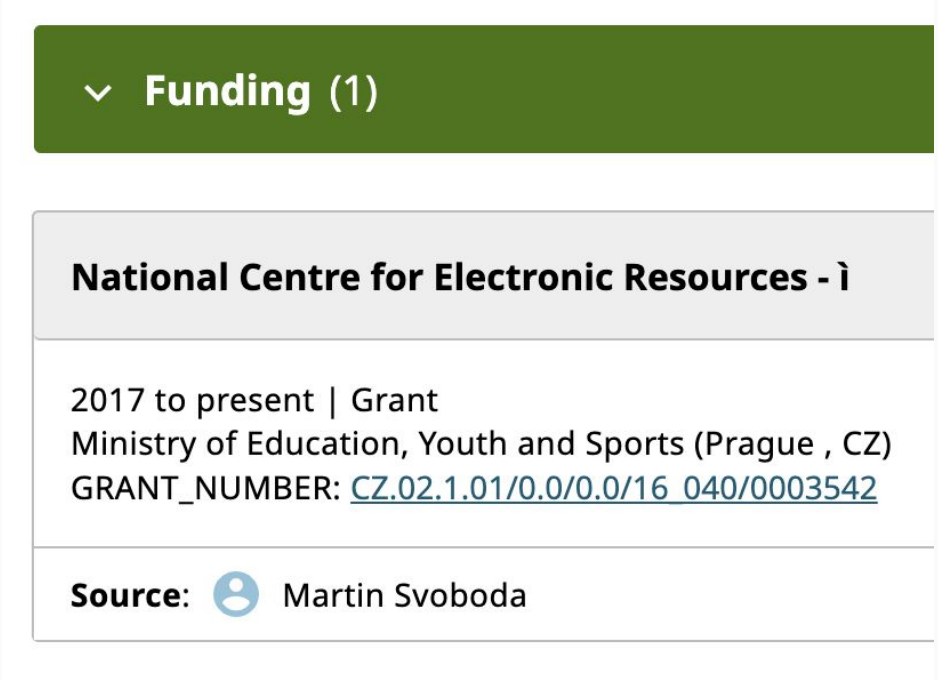
- ORCID iD could replace Czech citizen ID in reporting of research results
  - ID VEDIDK is used in IS VaVaI (Czech CRIS system) built based on the citizen personal ID

- Better measurement of the impact of your research funding

- Benefit from the momentum of the ORCID consortium and the existing integrations

[1] Australian Research Data Commons https://zenodo.org/doi/10.5281/zenodo.10656275
[2] NWO Persistent Identifier Strategy, https://zenodo.org/doi/10.5281/zenodo.4674512
[3] Translated from: https://www.mur.gov.it/sites/default/files/2022-06/Piano_Nazionale_per_la_Scienza_Aperta.pdf
[4] Translated from: Deuxième Plan National Pour La Science Ouverte https://www.enseignementsup-recherche.gouv.fr/sites/default/files/content_migration/document/2e-plan-national-pour-la-science-ouverte-2021-2024-7794.pdf

The benefits of implementing ORCID iD in the Czech Funder environment



Current

- Information added by the individual, increasing work load
- Unverified links/identifier (Grant number)

With ORCID integrated

- Verified source
- Verified links/identifiers
- Trust Marker
- Enables data re-use!

In closing..

- **Funders are key for PID adoption in the Research Life Cycle**
  - Funders **incentivize and normalize** the adoption of PIDs within the wider community
- **ORCID & PIDs save time and money, build transparency & trust**

➢ **Adopt ORCID in your workflows wherever a researcher is involved**

➢ **Use 'log-in with ORCID' or ask them to connect their ORCID record**

➢ **Re-use trusted data, save the researcher time, reduce typing errors**

➢ **In return, add grant data to researcher records**

➢ **Talk to Hana! She'll get you started with anything you need**

glad you joined this session!

?

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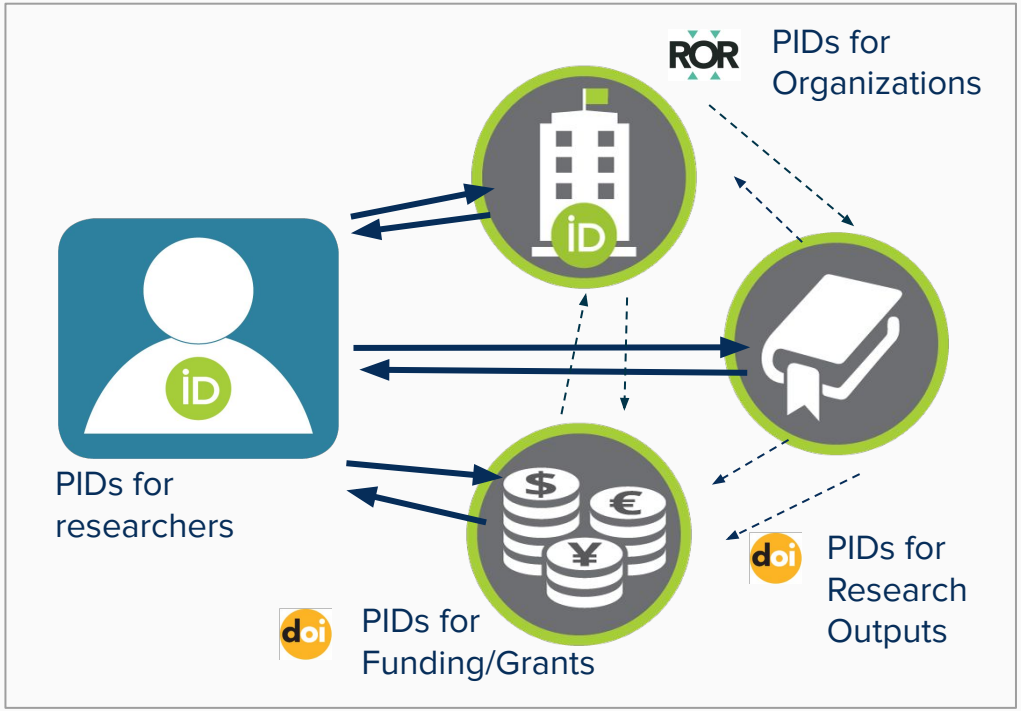
APPENDIX
Additional Information

Persistent IDentifiers and Open Science

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.



Persistent identifiers — what is a PID?

Globally unique

Each PID resolves to one entity, be it a dataset, person, journal article, project or book.

They uniquely identify things

Persistent

The ‘P’ in PID. Persistent identifiers stick around. They’re not reassigned, they’re well governed, and technically resilient.

They’re stable and reliable

Resolvable by humans and machines

PIDs are easily made into URLs, with landing pages and underlying metadata.

They’re Findable, Accessible, Reusable and Interoperable

Persistent identifiers — why is a PID?

PIDs provide clarity

Exactly which book, person, article do you mean? PIDs prevent confusion and solve this problem well.

They disambiguate

PIDs facilitate sharing, reuse and attribution

Making it easier for researchers to discover and give attribution to authors, organisations and funders in publication & reporting.

They provide a more accurate picture of activity

PIDs enable automation and interoperability

Automation saves time, disseminates information, facilitates trusted exchanges, enables aggregation and removes transcription errors

They save money.

There are PIDs for many entities and use cases

However the main priority PIDs center around “People, Places, and Things”,

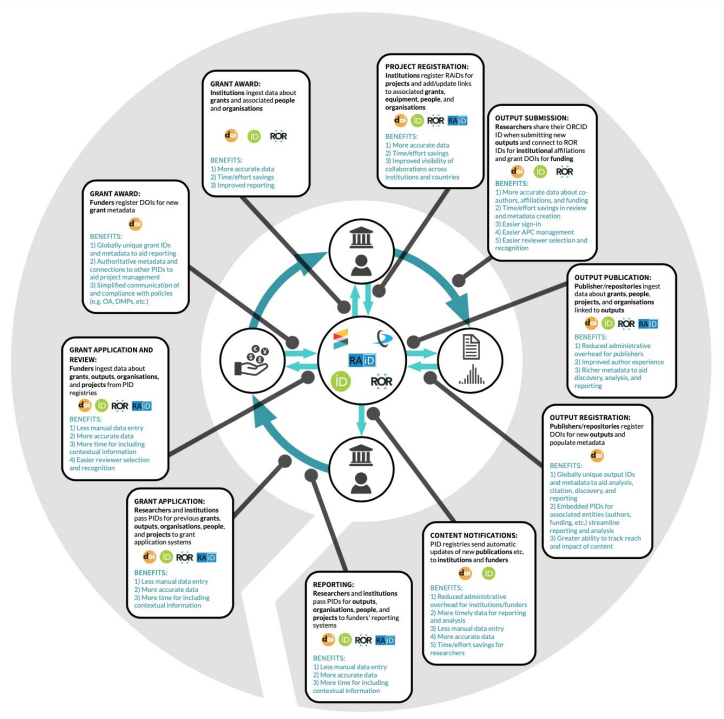
People (authors, editors, curators etc)	→	ORCID, Scopus ID, ISNI etc
Places (universities, funders etc)	→	ROR, RINGGOLD, GRID etc
Things (articles, datasets, books etc)	→	DOI, ISSN, ISBN, PMCID etc

as well as:

Grants	→	Crossref Grant IDs
Research Activities (projects)	→	RAiD

(and there’s a lot more where those came from)

The promise of PIDs - the PID optimized research cycle



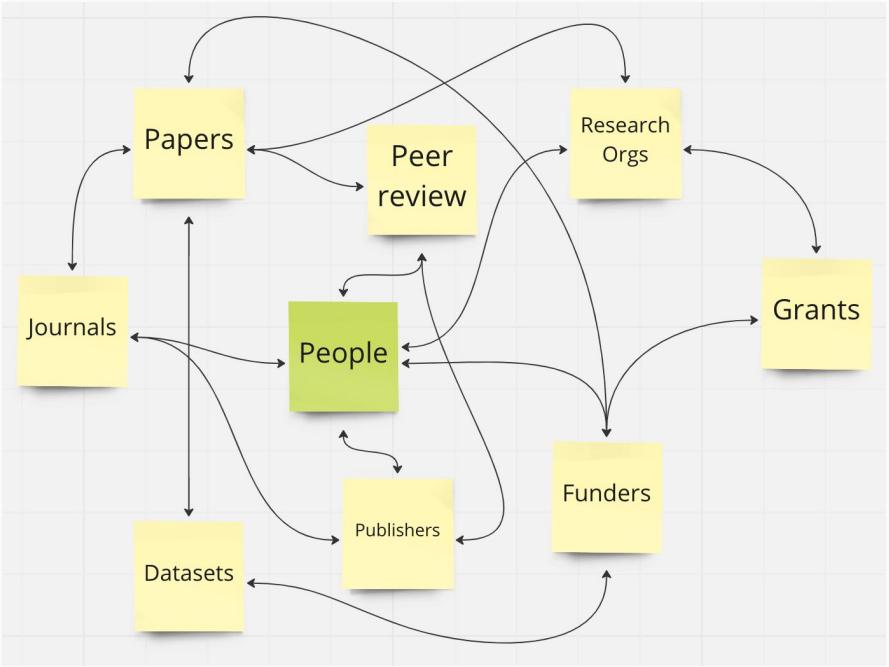
PIDs are used throughout the research lifecycle. From grant application, review and award, during the research phase, and all the way through to publication, reporting outcomes and reuse.

- PIDs delivers value at every stage… if implemented
- ORCID and DOIs are mature and ubiquitous… ROR, RAID, Grant IDs etc are trying to catch up
- We're on a journey… and our success depends on the community.

It's estimated that ubiquitous 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.

Credit: Brown, Josh, Jones, Phill, Meadows, Alice, Murphy, Fiona, & Clayton, Paul. (2021). UK PID Consortium: Cost-Benefit Analysis

Goal: An Integrated Research Data Ecosystem



- Better **tracking** of research outcomes
- Accurate **attribution** and enhanced **discoverability** of awards and awardees
- **Reduced administrative burden** for both funder staff and researchers
- Alignment with **FAIR Data Principles** and **Open Research** practices

We have placed considerable focus on increasing adoption in underrepresented communities

Membership Equity Program

Global Participation Fund

Global Participation Program (GPP)

Our Global Participation Fund provides grants aimed at underrepresented regions

- **Grants for Community Development and Outreach**,
  - Build ORCID Communities of Practice
  - Aimed at local outreach, training, and support

- **Grants for Technical Integrations**
  - Software development for open source platforms
  - Creation of technical documentation, outreach, and support

2 Grant cycles per year @ ~ $20K per awardee
$200K budgeted per year

We launched our Regional Consortium initiative to enable communities of practice in underrepresented regions

- Some countries may lack enough organizations to form a national consortium
- There may be no suitable candidate for a consortium lead organization
- **The first ORCID Regional Consortium was launched in Latin America and the Caribbean in August 2023!**

In 2023, we awarded nine grants from the Global Participation Fund

Eight Community Development and Outreach Grants

eKonnect

UVCI

Information Training and Outreach Centre for Africa

AfricArXiv

INFLIBNET Centre
सूचना एवं पुस्तकालय नेटवर्क केन्द्र
Information and Library Network Centre

University of Sri Jayewardenepura
ශ්‍රී ජයවර්ධනපුර විශ්වවිද්‍යාලය
ஸ்ரீ ஜயவர்த்தனபுர பல்கலைக்கழகம்

KLISC

PKP

One Technical Integration Grant

TUHH
Technische Universität Hamburg

4SCIENCE
Share your knowledge

We've made it easier to see validated information added by our member organizations in ORCID records

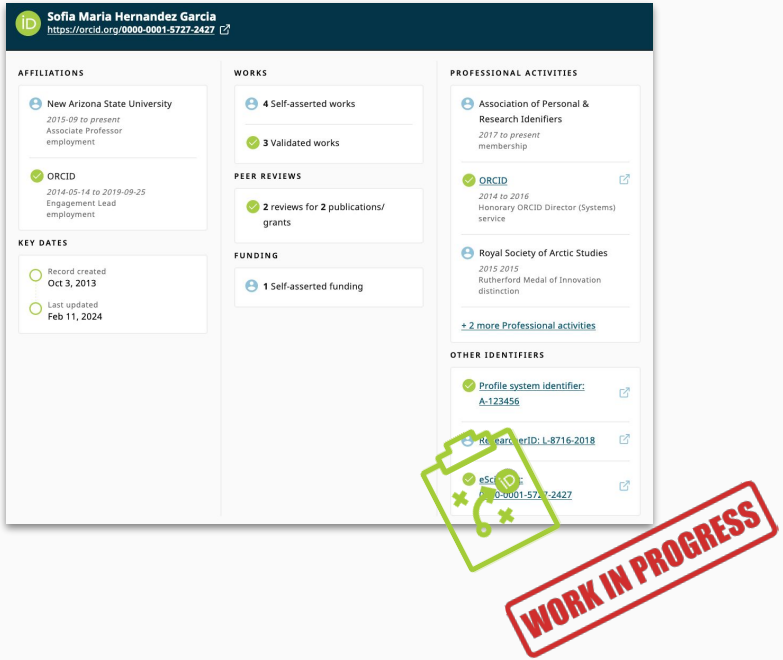
When an ORCID member updates an ORCID record, the source (provenance) of that update is captured for re-use:

- **Research organizations** add **affiliations**
- **Publishers** add **outputs** and **reviews**
- **Funders** add **funding awards**

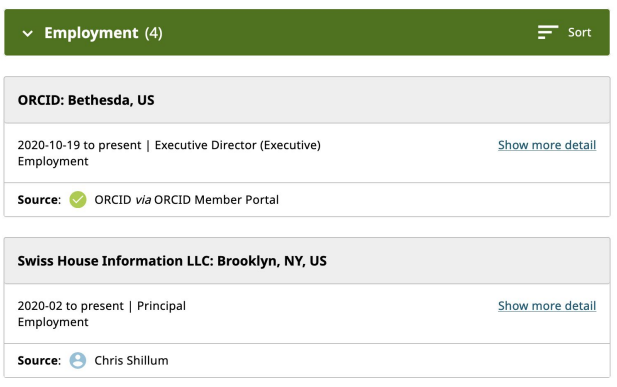
These provide **'trust markers'** that can be used to help in decision making.

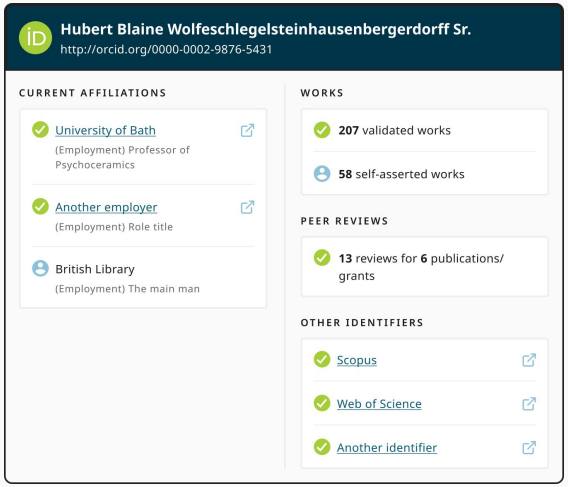
“Record Summaries” now provide a high-level overview of the Trust Markers in an ORCID record

- In 2023, we piloted use of record summaries in editorial workflows with several publishers
- In 2024, we will add the summary to the public record page and make the summarized data available in the Member API



We’re working hard to highlight trust markers in ORCID records





New source indicators in ORCID records

Trust summary pilot for review workflows

In the US, NSF and other agencies are making good progress adopting PIDs in the Common Forms

NSPM-33

NSPM-33 released by the White House focusing on research security

Guidance

Guidance document for implementing NSPM-33 published by the National Science and Technology Council (NSTC)

NIH and NSF lead group to define standard forms and data elements.

Comments

Draft forms published in the Federal Register by NSF for Public comment in August of 2022.

OMB

Final forms for BioSketch and Current and Pending (Other) Support (now referred to as the Common Forms) are finalized and submitted to the Office of Management and Budget (OMB) for Review and Approval

NSF goes live!

NSF goes live with the Common Forms in May!

ORCID iD is optional for senior/key person in both forms. When included, data will pre-populate from an ORCID record into the form

ORCID is increasingly part of the Research Security conversation

Policies require researchers to,

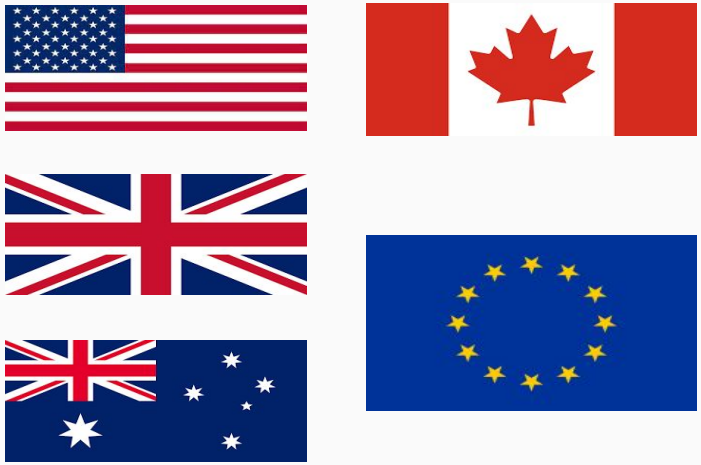
- Clearly **identify** themselves with an ORCID iD
- **Disclose** their affiliations
- **Disclose** their awards
  - Financial
  - In-Kind

Systems are starting to introduce ORCID to researchers,

- To pre-populate data into funder's forms, for the convenience of the researcher
- 80% share an ORCID iD in their NIH SciENcv, NSF BioSketch

G7 countries will have Research Security Hubs, that will also analyze the co-authors of their funded researchers, using tools like Scopus

Multiple G7 Countries are adopting ORCID and other PIDS as part of their Research Security strategies



Researcher's View of the Research Lifecycle

4. Research design

Researcher to develop research design, metadata model and experimental protocol.

3. Submit Data Management Plan

Researcher to develop and submit DMP, use DMP-ID in subsequent reporting.

2. Register Grant

Funder to register grant and assign Grant ID, provide instruction for usage.

1. Grant Application

Researcher to use relevant PIDs (team member, affiliation, funder) in the grant application process.

5. Experiment conducted

Researcher to conduct experiments proposed in pre-registration according to protocol.

6. Research code, data, other outputs deposited

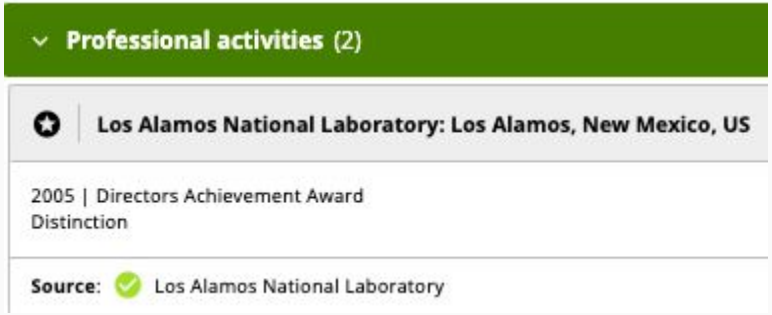
Researcher to deposit protocols, data, conference posters, etc.

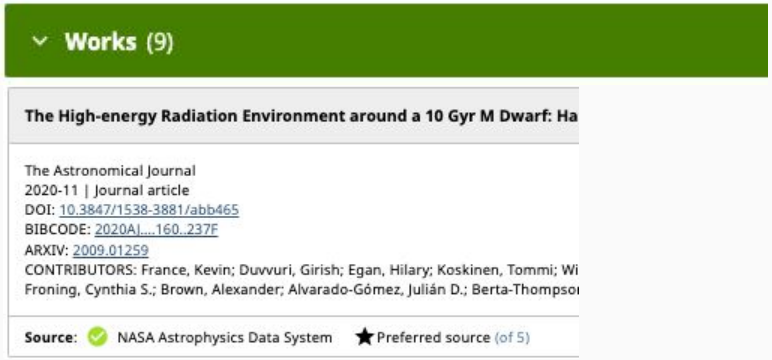
7. Preprint submitted

Researcher to share manuscript on preprint server.

8. Research article published

Researcher to select appropriate publishing channel and submit manuscript to journal, journal to register articles and submit metadata to Crossref





Examples of what US Federal agencies and labs are writing to ORCID records

Examples of what international agencies and labs are writing to ORCID records

Education and qualifications (1)

National Aeronautics and Space Administration: Washington, D.C, US

2023-12-12 to present
Qualification

Source: TOPS Open Science 101