



ORCID and Persistent IDentifiers In the Research Lifecycle

CUCRID Research Clinic Series for Researchers and Postgraduate

Students - Covenant University

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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

In the early days, we talked of “People, Places, 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	

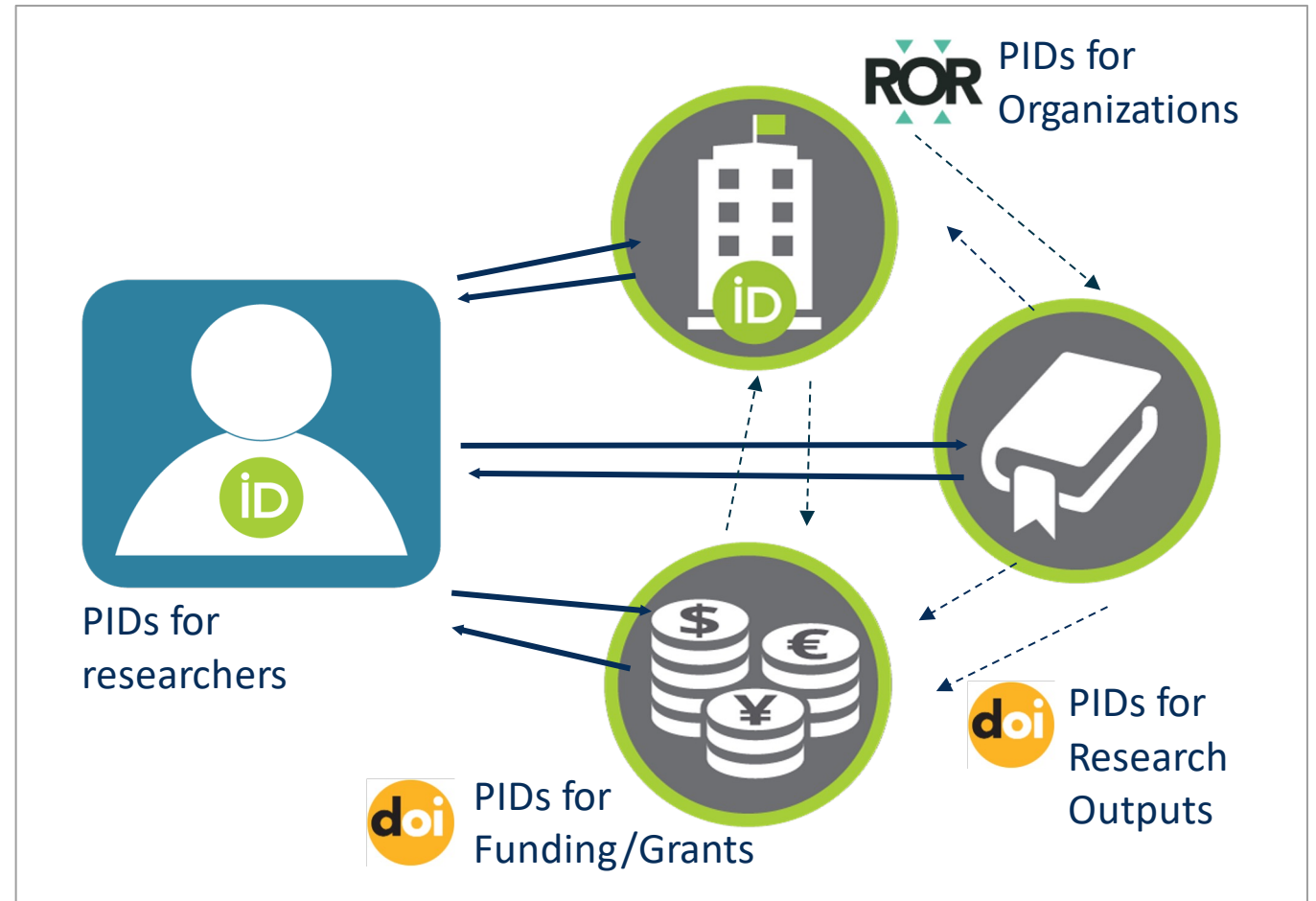
Now we include:

Grants	Crossref Grant IDs	
Research activities	RAID	

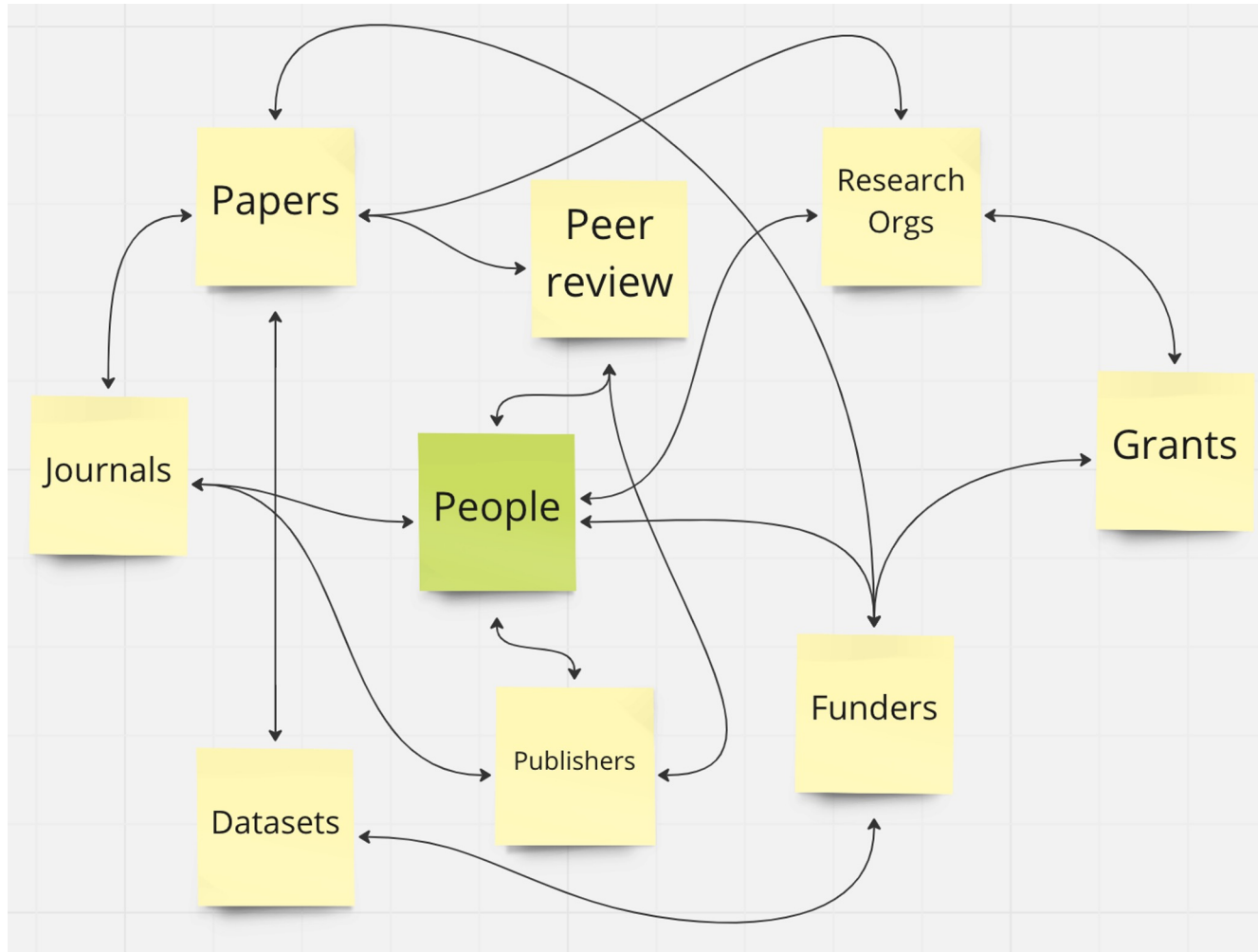
(and there's a lot more where those came from - shown here are the 'priority PID' entities)

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



PIDs are connected — the 'PID Graph'




Underlying metadata means that systems can exchange information about entities and link them together across infrastructures.

For example:

- Grants can be connected to Principal Investigators
- Peer reviews can be connected with papers
- Datasets can be connected with data management plans
- People can be connected with works

ORCID solves name ambiguity




Mark Burnley
@DrMarkBurnley

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"I'm the 38th author..."
"Wow, that sucks."
"I hadn't finished. I'm the 38th author called
"Wang"."
"Oh."
ncbi.nlm.nih.gov/pubmed/26799652

RETWEETS **611** LIKES **479**



7:47 AM - 9 Feb 2016

The ability to disambiguate researchers is critical for a trustworthy scholarly record

What's in a name?

Most names are not unique



Many people have the same or similar name, and names may change through marriage or other circumstances.



Individuals and organizations can use different alphabets, abbreviations, or naming conventions.



People use different versions of their names during their career.

RESEARCH ARTICLE

Peta-electron volt gamma-ray emission from the Crab Nebula

The LHAASO Collaboration*,†, Zhen Cao, F. Aharonian, Q. An, Axikegu, L. X. Bai, Y. X. Bai, Y. W. Bao, D. Bastieri, X. J. Bi, Y. J. Bi, H. Cai, J. T. Cai, Zhe Cao, J. Chang, J. F. Chang, B. M. Chen, E. S. Chen, J. Chen, Liang Chen, Liang Chen, Long Chen, M. J. Chen, M. L. Chen, Q. H. Chen, S. H. Chen, S. Z. Chen, T. L. Chen, X. L. Chen, Y. Chen, N. Cheng, Y. D. Cheng, S. W. Cui, X. H. Cui, Y. D. Cui, B. D'Elterre Piazzoli, B. Z. Dai, H. L. Dai, Z. G. Dai, Danzengluobo, D. della Volpe, X. J. Dong, K. K. Duan, J. H. Fan, Y. Z. Fan, Z. X. Fan, J. Fang, K. Fang, C. F. Feng, L. Feng, S. H. Feng, Y. L. Feng, B. Gao, C. D. Gao, L. Q. Gao, Q. Gao, W. Gao, M. M. Ge, L. S. Geng, G. H. Gong, Q. B. Gou, M. H. Gu, F. L. Guo, J. G. Guo, X. L. Guo, Y. Q. Guo, Y. Y. Guo, Y. A. Han, H. H. He, H. N. He, J. C. He, S. L. He, X. B. He, Y. He, M. Heller, Y. K. Hor, C. Hou, X. Hou, H. B. Hu, S. C. Hu, X. J. Hu, D. H. Huang, Q. L. Huang, W. H. Huang, X. T. Huang, X. Y. Huang, Z. C. Huang, F. Ji, X. L. Ji, H. Y. Jia, K. Jiang, Z. J. Jiang, C. Jin, T. Ke, D. Kuleshov, K. Levochkin, B. B. Li, Cheng Li, Cong Li, F. Li, H. B. Li, H. C. Li, H. Y. Li, Jian Li, Jie Li, K. Li, W. L. Li, X. R. Li, Xin Li, Xin Li, Y. Li, Y. Z. Li, Zhe Li, Zhuo Li, E. W. Liang, Y. F. Liang, S. J. Lin, B. Liu, C. Liu, D. Liu, H. Liu, H. D. Liu, J. Liu, J. L. Liu, J. S. Liu, J. Y. Liu, M. Y. Liu, R. Y. Liu, S. M. Liu, W. Liu, Y. Liu, Y. N. Liu, Z. X. Liu, W. J. Long, R. Lu, H. K. Lv, B. Q. Ma, L. L. Ma, X. H. Ma, J. R. Mao, A. Masood, Z. Min, W. Mitthumsiri, T. Montaruli, Y. C. Nan, B. Y. Pang, P. Pattarakijwanich, Z. Y. Pei, M. Y. Qi, Y. Q. Qi, B. Q. Qiao, J. J. Qin, D. Ruffolo, V. Rulev, A. Saiz, L. Shao, O. Shchegolev, X. D. Sheng, J. Y. Shi, H. C. Song, Yu. V. Stenkin, V. Stepanov, Y. Su, Q. N. Sun, X. N. Sun, Z. B. Sun, P. H. T. Tam, Z. B. Tang, W. W. Tian, B. D. Wang, C. Wang, H. Wang, H. G. Wang, J. C. Wang, J. S. Wang, L. P. Wang, L. Y. Wang, R. N. Wang, Wei Wang, Wei Wang, X. G. Wang, X. J. Wang, X. Y. Wang, Y. Wang, Y. D. Wang, Y. J. Wang, Y. P. Wang, Z. H. Wang, Z. X. Wang, Zhen Wang, Zheng Wang, D. M. Wei, J. J. Wei, Y. J. Wei, T. Wen, C. Y. Wu, H. R. Wu, S. Wu, W. X. Wu, X. F. Wu, S. Q. Xi, J. Xia, J. J. Xia, G. M. Xiang, D. X. Xiao, G. Xiao, H. B. Xiao, G. G. Xin, Y. L. Xin, Y. Xing, D. L. Xu, R. X. Xu, L. Xue, D. H. Yan, J. Z. Yan, C. W. Yang, F. F. Yang, J. Y. Yang, L. L. Yang, M. J. Yang, R. Z. Yang, S. B. Yang, Y. H. Yao, Z. G. Yao, Y. M. Ye, L. Q. Yin, N. Yin, X. H. You, Z. Y. You, Y. H. Yu, Q. Yuan, H. D. Zeng, T. X. Zeng, W. Zeng, Z. K. Zeng, M. Zha, X. X. Zhai, B. B. Zhang, H. M. Zhang, H. Y. Zhang, J. L. Zhang, J. W. Zhang, L. X. Zhang, Li Zhang, Lu Zhang, P. F. Zhang, P. P. Zhang, R. Zhang, S. R. Zhang, S. S. Zhang, X. Zhang, X. P. Zhang, Y. F. Zhang, Y. L. Zhang, Yi Zhang, Yong Zhang, B. Zhao, J. Zhao, L. Zhao, L. Z. Zhao, S. P. Zhao, F. Zheng, Y. Zheng, B. Zhou, H. Zhou, J. N. Zhou, P. Zhou, R. Zhou, X. X. Zhou, C. G. Zhu, F. R. Zhu, H. Zhu, K. J. Zhu, X. Zuo

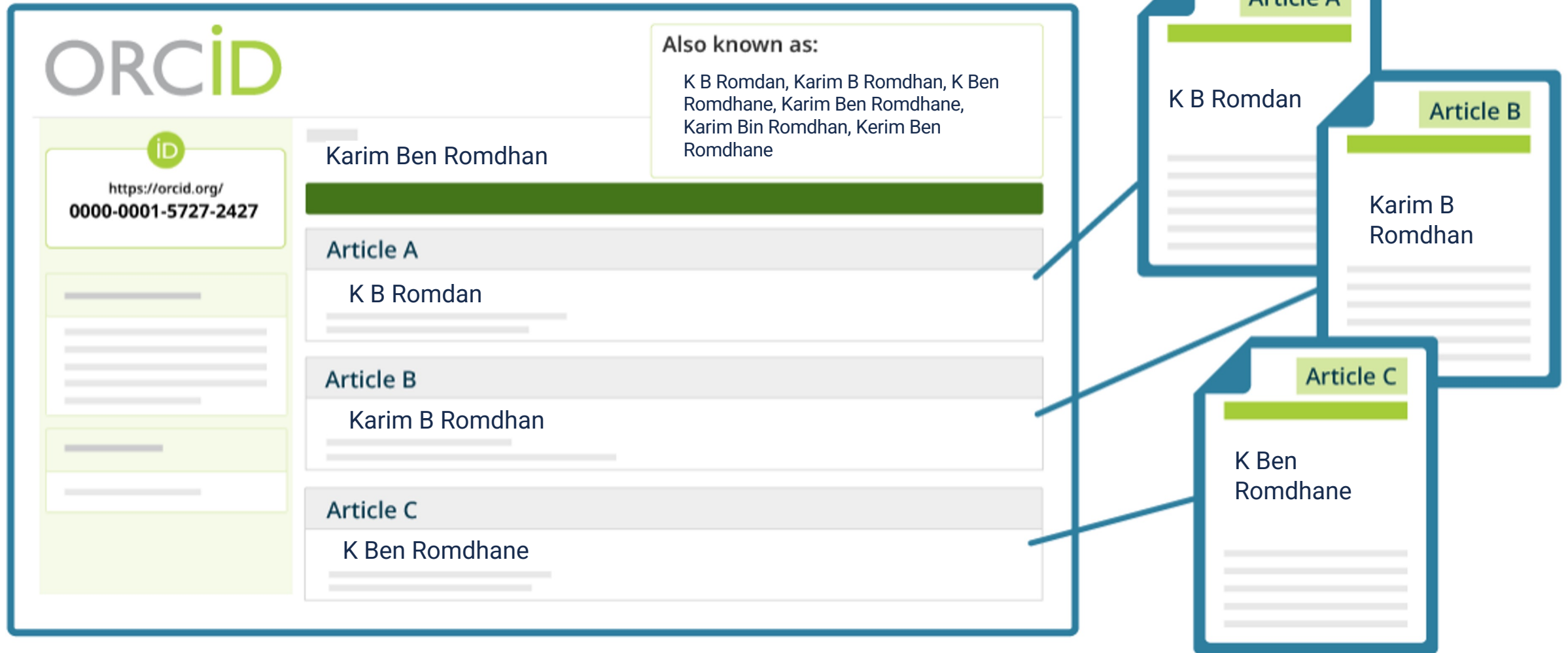
Virology | Research Article | 06 June 2022

Trivalent NDV-HXP-S Vaccine Protects against Phylogenetically Distant SARS-CoV-2 Variants of Concern in Mice

Authors: Irene González-Domínguez, Jose Luis Martínez, Stefan Slamanig, Nicholas Lemus, Yonghong Liu, Tsoi Ying Lai, Juan Manuel Carreño, Gagandeep Singh, Gagandeep Singh, Michael Schotsaert, Ignacio Mena, Stephen McCroskery, Lynda Coughlan, Florian Hammer, Adolfo García-Sastre, Peter Palese, Weina Sun

SHOW FEWER | AUTHORS INFO & AFFILIATIONS

ORCID solves name variation



ORCID facilitates automation and reuse with PIDs

People PIDs



Et al.

A screenshot of an ORCID iD profile page. The left sidebar contains sections for 'Websites & social links' (Faculty profile webpage), 'Other IDs' (Profile system identifier: A-123456, ResearcherID: L-8716-2018, eScientist: 0000-0001-5727-2427), and 'Countries' (United States). The main 'Activities' section lists categories with counts and sort options: 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). An 'Expand all' link is in the top right. At the bottom, it says 'Record last modified Sep 30, 2022, 12:38:28 PM UTC'. Orange arrows point from the 'Other IDs' and 'Works (7)' sections to external PID logos on the right.

Place PIDs



RINGGOLD

Et al.

Thing PIDs



Et al.

A brief overview of ORCID

First, A Few ORCID Facts...

- Independent not-for-profit open to participation by all
- Registry launched in 2012
- Guided by our [values and founding principles](#)
- [Committed to making FAIR Open data available](#) via our Public API and Annual Public Data File
- [Ensures transparency by allowing any member to nominate a candidate for the board](#)



ORCID provides three main services



The ORCID iD

A unique, persistent identifier free of charge to researchers



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

Researchers are at the centre of everything we do

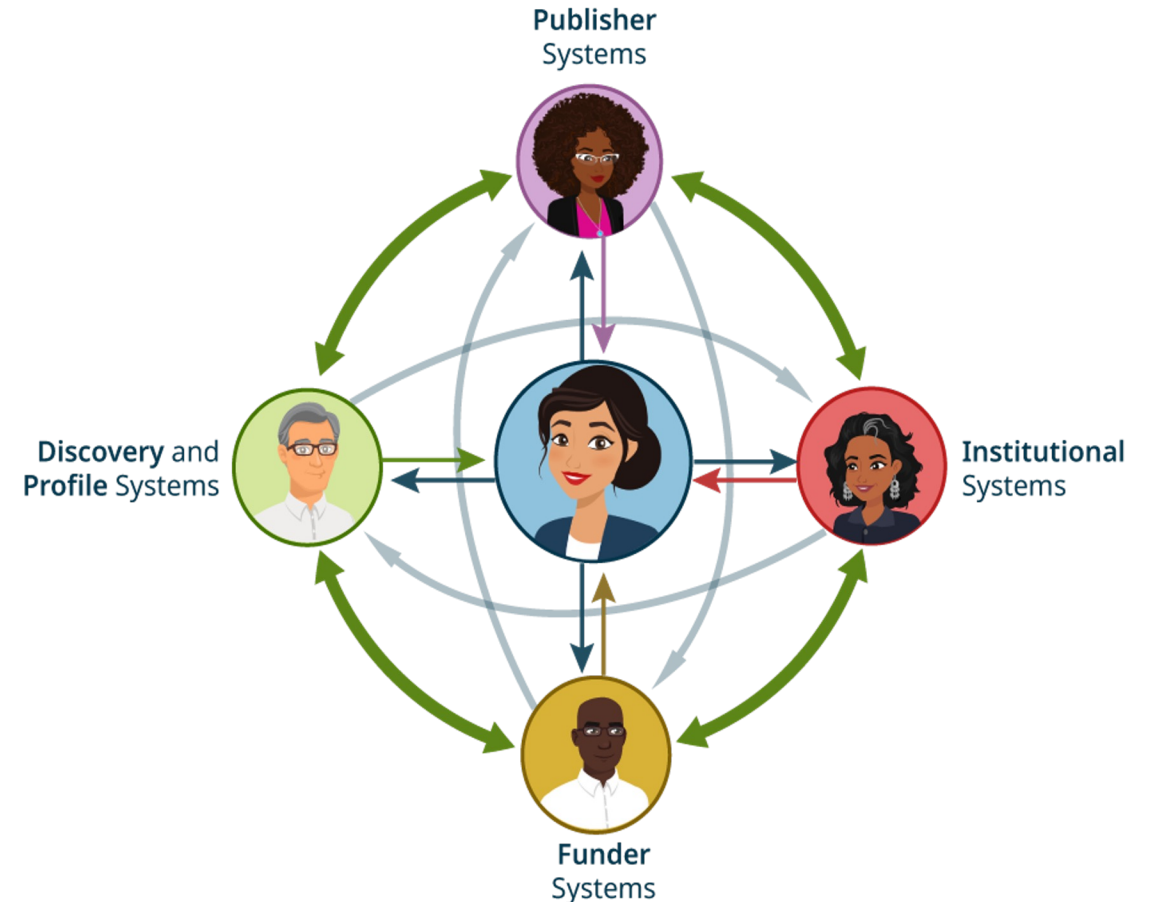
In a nutshell:

Researchers securely share their IDs with the systems they interact with, providing them with their ID, and providing additional information.

These systems share information about researcher activities, creating a chain of validated and trusted assertions about researcher activity.

In these assertions, [Persistent Identifiers](#) (PIDs) are key.

The right person gets credit for the right research activities and is associated with the right institutions. *And it's automated.*



Our model strikes a balance between researcher control and data quality



Researcher control

Researchers ...

- Own their own records
- Control who accesses their information
- May change access preferences *at any time*

Organizations may only add information to ORCID records with the researcher's permission, and may only update or delete information that was added by them

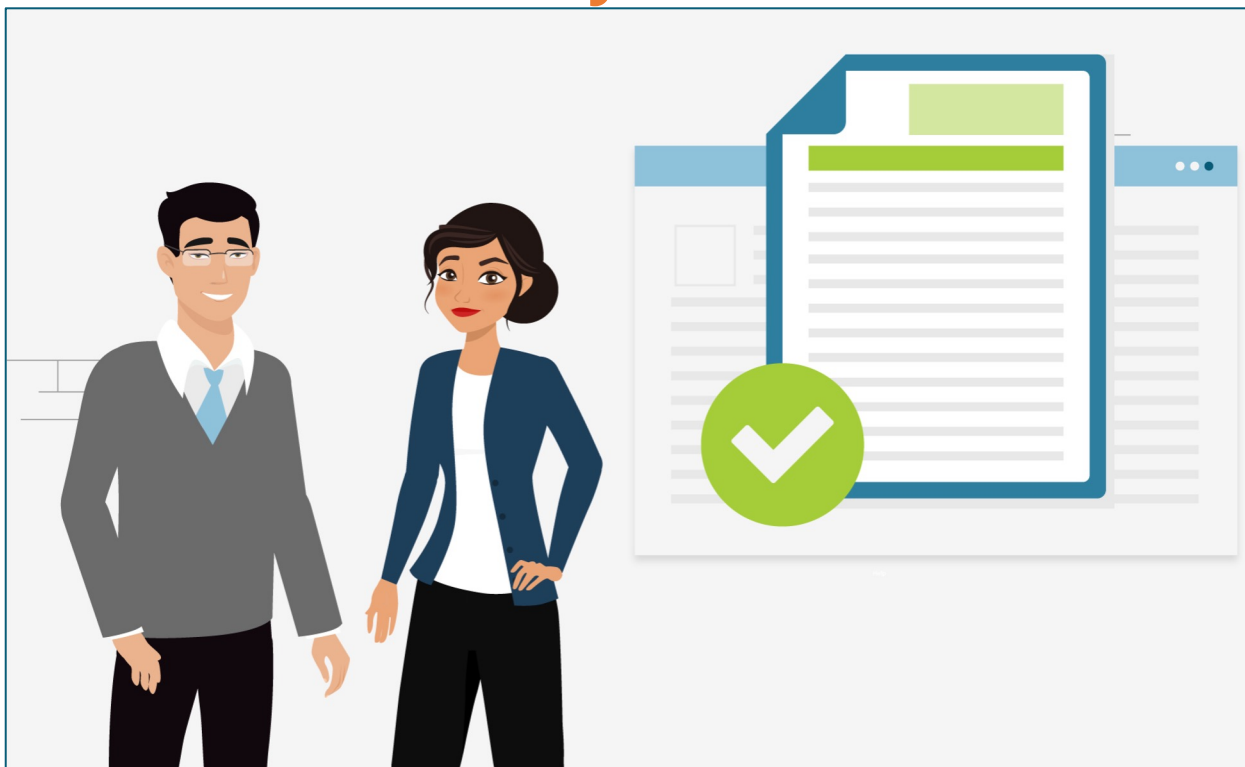


Data quality

- Terms of use prevent misrepresentation
- False data in records may be disputed by anyone in the community
- Machine-learning algorithm detects obvious spam
- Disputed and spam records are removed from use, pending correction or withdrawal

Trust in an ORCID record accumulates over time as reliable and trustworthy data sources add information (with the record holder's permission)

All your research information accessible via your own unique profile, to be used wherever you need it.



Uniquely yours. Distinguish yourself and claim credit for your work while controlling access to your data, no matter how many people have your same (or similar) name.



Name flexibility. ORCID helps reduce the negative consequences of name changes so you will no longer be limited to the name you used when you began your career.



More time for research. When you allow trusted organizations to add data about your affiliations or other research outputs to your ORCID record, you can spend more time conducting your research and less time managing it!



Reduced administrative burden. Experience greater ease as an increasing number of manuscript submission and grant application forms can be auto-populated when you log into their systems with your ORCID. Spend less time re-entering your data!

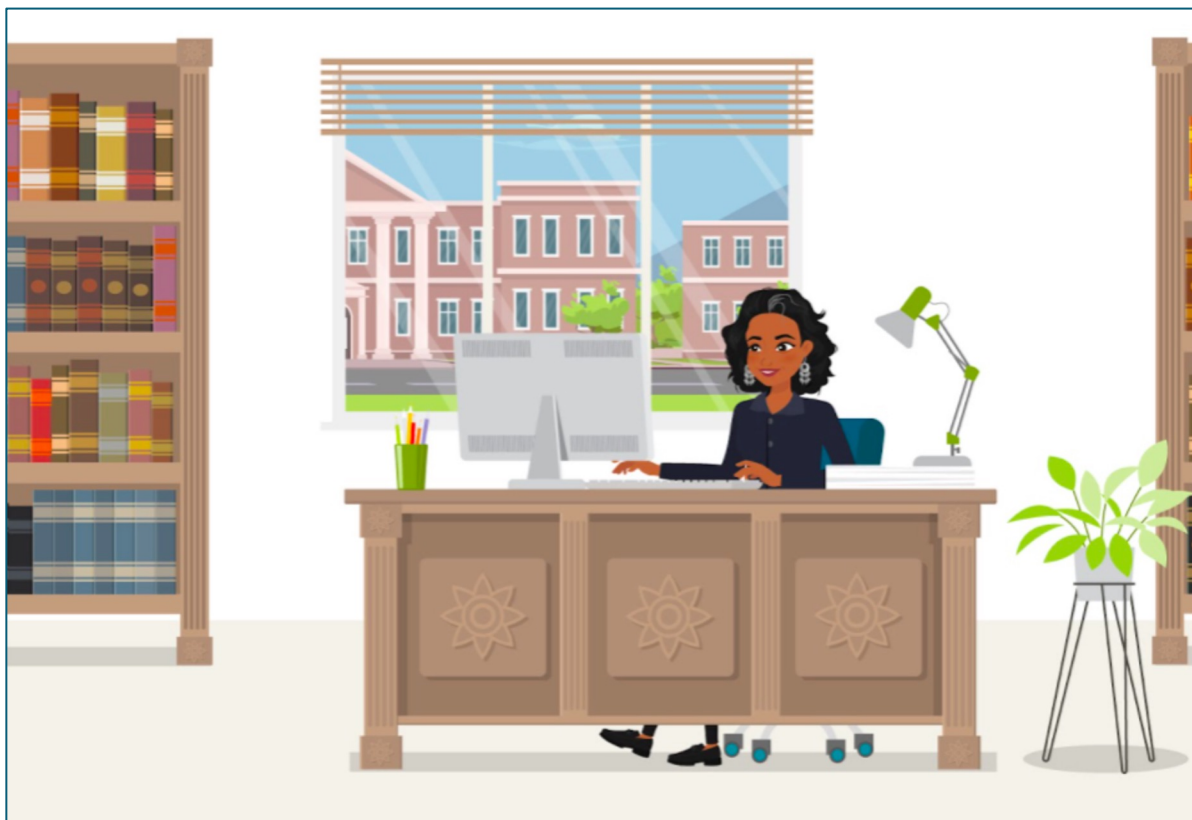


Control your visibility and discovery. ORCID links all your research together, while you control the visibility of each piece of data. Easily see links to your research activities in one place—affiliations, funding, publications, and other contributions.



Portable profile data. Easily share the data in your record with an increasing number of funders, publications, data repositories, and other research workflows.

When you integrate your systems with ORCID, you can more easily stay up to date with the research that comes from your scholars – while making their lives easier.



Name disambiguation. Have confidence that you have correctly identified contributions from your researchers, regardless of the popularity or variability of their names.



Better research connections. Follow your researchers' careers even after they leave your institution. Keep better track of collaborators and peers at other institutions.



Easier assessment. Effectively track the research that comes from your institution by automatically accessing authoritative trusted publication and funding data from your researchers' ORCID records.



Improved visibility of outputs. Improve the visibility of your researchers' outputs and ensure they get the recognition they deserve by automatically adding authoritative, trusted affiliation data via integration with the ORCID registry.

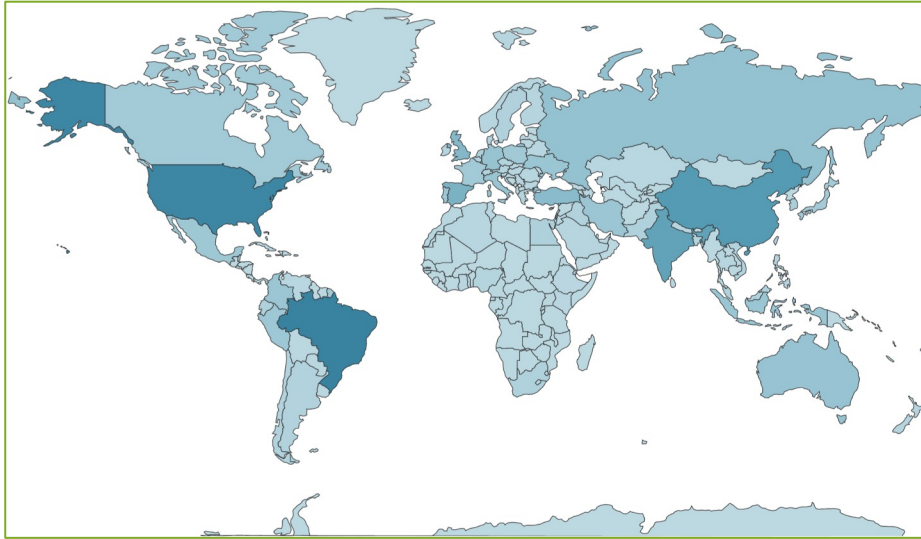


Reduced administrative burden. Increase both efficiency and quality in critical processes like assessment exercises. Avoid time spent re-entering data during submission, review, and reporting. When your researchers have more time to spend on research, you save money!



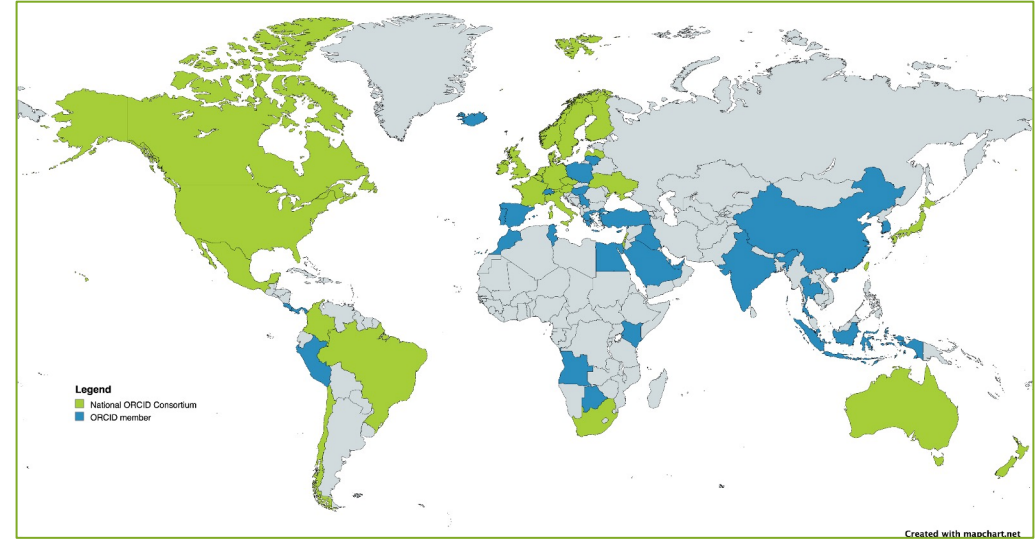
Strengthen research integrity. Improve the trustworthiness of researchers' ORCID records—and contribute to the global community trust model espoused by ORCID—by adding validated data to their records.

We continue to make great progress on global adoption



Users in 250 countries

That's every country on the planet!



Member organizations in 58 countries

27 national consortia and 1 regional consortium

Yearly Active Researchers

8.4 Million

Active Integrated Systems

5,693

Organizational Members

1,392

**What is the Global
Participation Program
(GPP)?**



Global Participation Program (GPP)

The ORCID Global Participation Program is an initiative launched in response to the needs of the community in partnership with our generous partners.

ORCID's Global Participation Program (GPP) is a two-pronged approach to achieving equity in participation



Global Participation Program (GPP)

Membership Equity Program

Global Participation Fund

More about the MEP and the GPF



Membership Equity Program (MEP)

- Discounted membership fee structure for consortium members:
 - 80% discount for low-income countries*
 - 50% discount for lower-middle income countries*
- Lower threshold of 3 members for the initial year
- Fully funded by ORCID

Global Participation Fund (GPF)

- Two grant programs:
 - **Community Development and Outreach** to fund local partners to build ORCID communities of practice in the Global South
 - **Technical integration** to fund development of systems that are likely to drive participation in the Global South
- Made possible by the generosity of ORCID's founding lenders (admin costs funded by ORCID)

The structure of the program supports a diversity of grantees to spread the risk and increase the chance of positive outcomes



2

Grant cycles per year

~5

Grants per cycle

\$5–20k

Funding award per grant

Other Grantee Benefits

- Dedicated ORCID staff contact
- Invitation to participate in the ORCID grantee forum and community
- Invitations to Grantee community events
- Invitations to ORCID virtual and in-person events
- Inclusion in ORCID's ongoing communications program

The focus and goals of the Fund align with ORCID's strategic objective to increase global participation



Focus Communities

Organizations engaged in research and scholarship in low- and lower-middle-income countries, particularly in the Global South, where ORCID participation to date has been low.

Goals

Remedy ORCID participation gaps in the focus communities area by providing grants to:

- Develop ORCID Communities of Practice in low- and lower-middle-income countries
- Build understanding and use of ORCID in local contexts
- Create and enhance technical integrations to support these burgeoning communities



Thank you very much!

