

Visualizing Global Collaborations: Democratizing Access to Persistent Identifier Metadata and Analysis

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BACKGROUND

This project is based on a 2022 partnership between the ORCID US Community (administered by Lyrasis) and the Drexel University LIS Education And Data Science Integrated Network Group (LEADING) program. As LEADING fellows, we developed a suite of open tools for visualizing research collaborations at the organizational and individual level using public ORCID and Crossref data. While researcher collaborations are complex and difficult to define, and the data are imperfect, the visualizations can identify useful patterns and trends. These tools reduce the barrier to accessing and using ORCID and Crossref data. We also hope this dashboard will be useful for developing talking points and outreach materials about the value of ORCID profiles.

Access the materials:

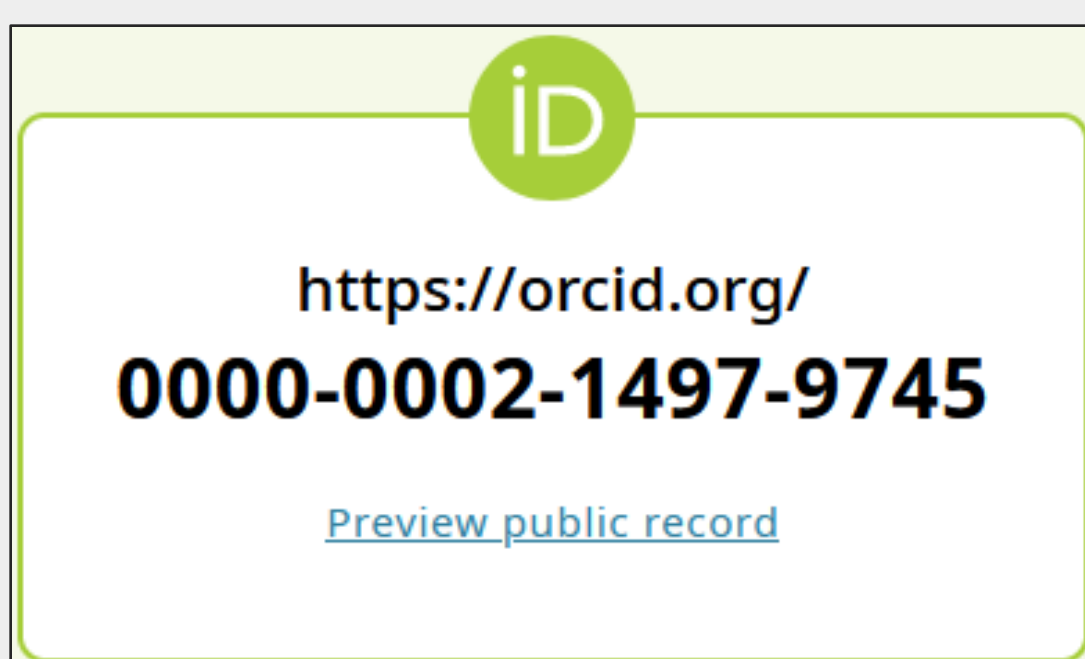
github.com/lyrasis/ORCID-Data-Visualization

VALUE OF PIDs

Persistent Identifiers (PIDs) help show connections between research and researchers. Researcher PIDs help researchers overcome the ambiguity of name changes and common names to build a reliable, persistent digital identity and receive credit for their contributions throughout their careers.

Researcher PID registration helps researchers from all parts of the globe, including under-resourced regions, raise the visibility of their research, its impact, and their organizations (Abba & Anene, 2022; Meadows, 2018). Researcher PIDs can also benefit those whose contributions go beyond traditional journal articles, allowing credit to be accurately assigned for developing curricula, recommending policy, and peer-reviewing (Denker, 2015). Beyond tracking authors and published output, PIDs can also make research more efficient by automating manual processes (Meadows, 2018).

ORCID provides a free and unique persistent identifier for individual researchers, and Crossref assigns Digital Object Identifiers (DOIs) to published works.



SUMMARY

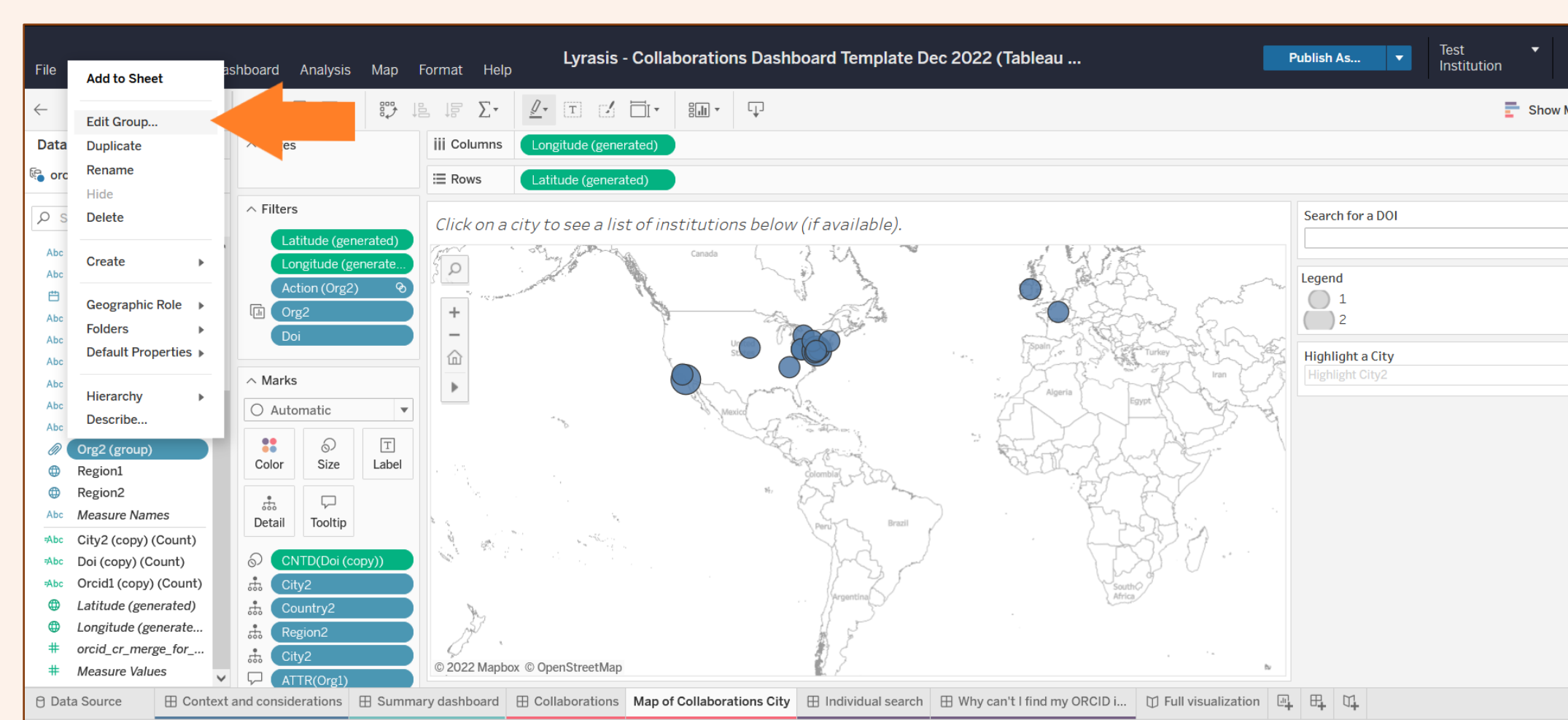
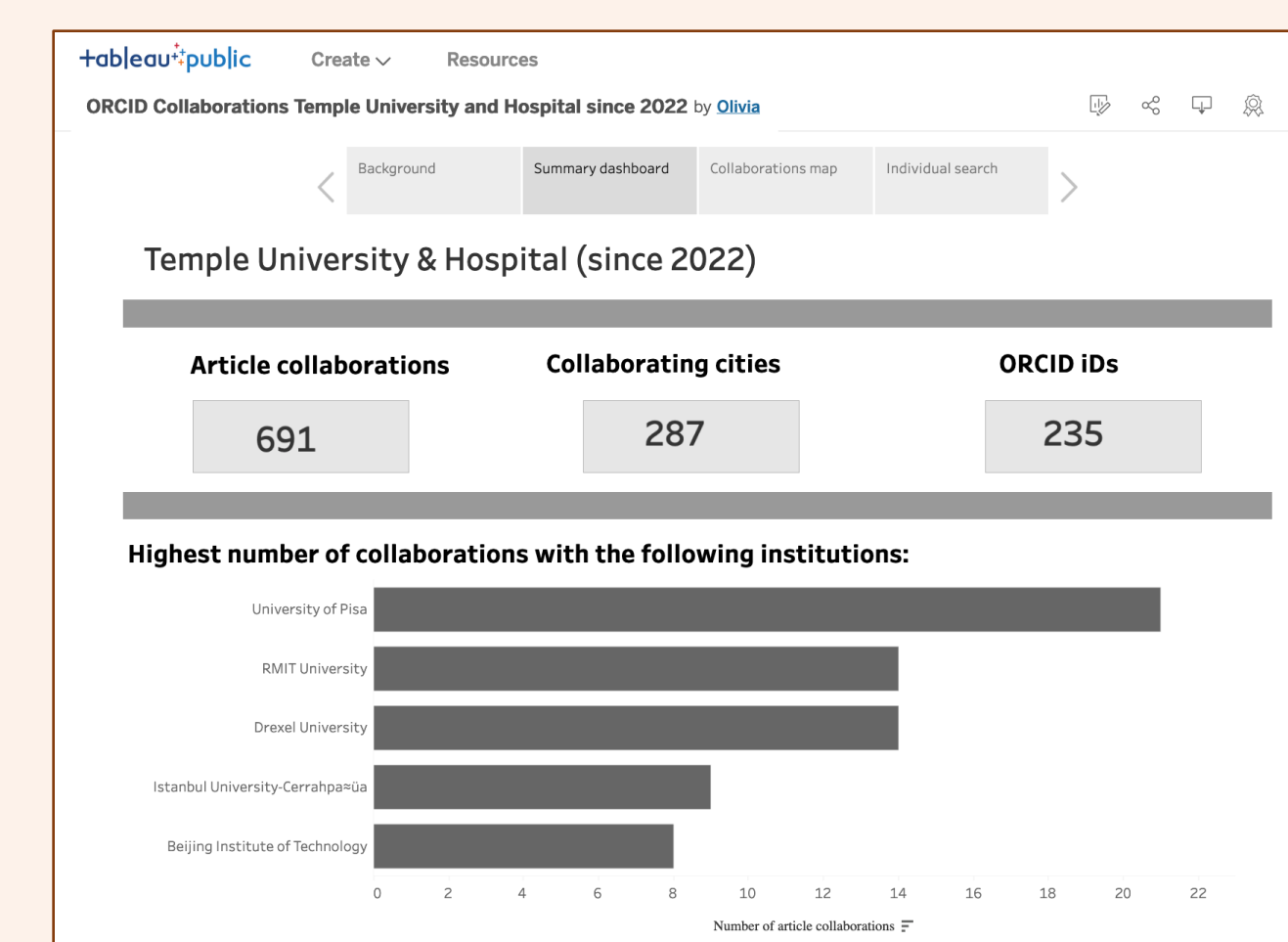
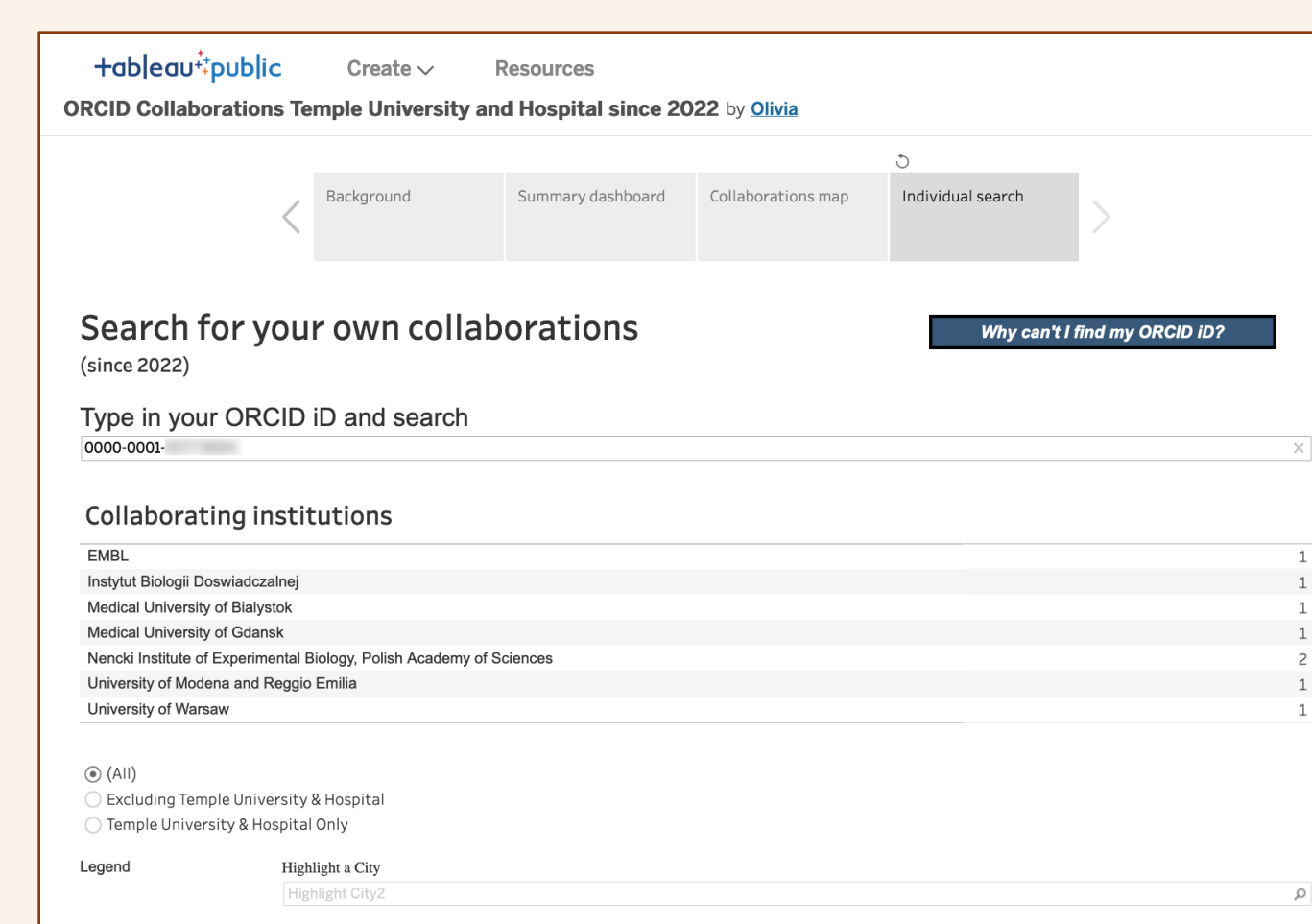
- 2022 LEADING Fellows created a research collaboration visualization dashboard.
- The dashboard uses public ORCID profile and CrossRef DOI data.
- Customize it with any organization's data.
- Access these freely available tools and the documentation on GitHub.
- No coding or technical staff needed.

CUSTOMIZING YOUR DASHBOARD

We developed an R script ([available on GitHub](#)) that retrieves information about publishing collaborations between researchers at a home organization and other collaborating organizations across the globe. The R script outputs a .csv file for upload to a Tableau Public dashboard template. Users can run the R script themselves or contact Lyrasis staff at orcidus@lyrasis.org to request the .csv file for their organization.

The dashboard template is available on Tableau Public. Users can copy and customize it with their organization's .csv file. Documentation and instructions for customizing the dashboard are on GitHub. The dashboard contains visualizations that may be shared with stakeholders to show researcher activity, an organization's global collaborative footprint, and opportunities for expanding and diversifying research partnerships.

Dashboard demonstration:
tinyurl.com/iassistdashboarddemo

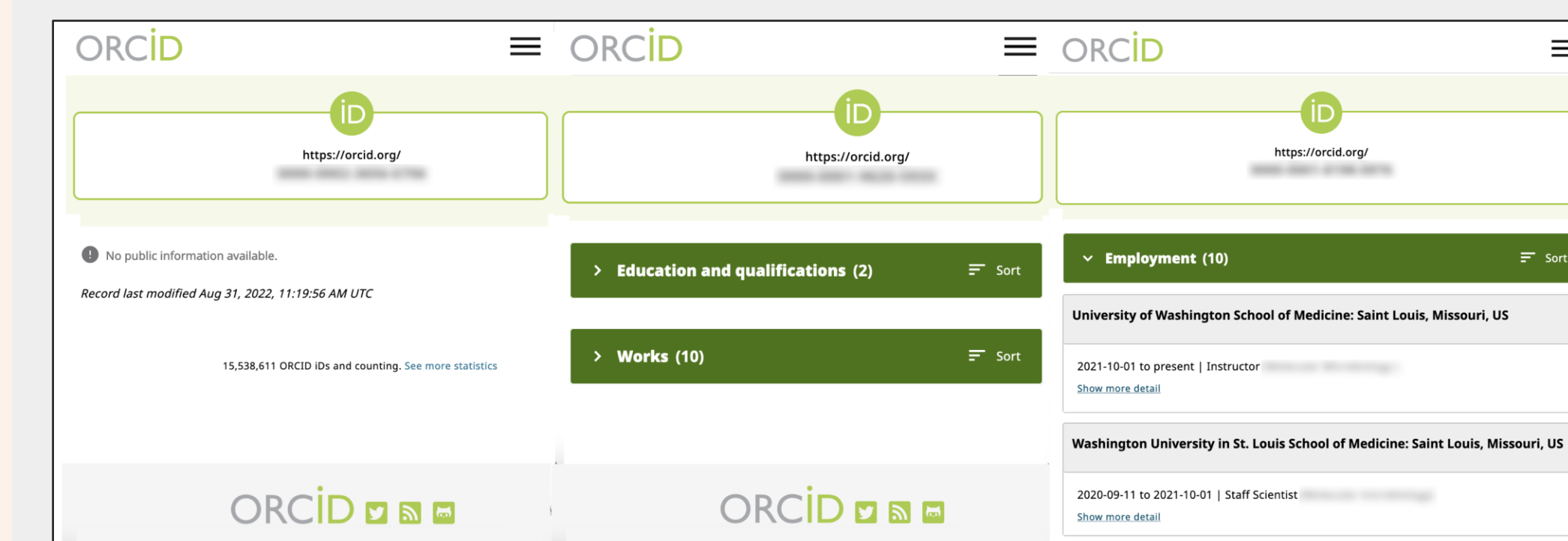


DATA GAPS AND OPPORTUNITIES

Though the R script attempts to fill in blank ORCID profile data for known researchers where possible, there are sources of gaps in the data:

- Authors may not have an ORCID profile, or their profile may not be public
- Crossref data may lack co-author ORCID iDs
- ORCID profiles may lack Employment or Works data
- ORCID profiles may contain errors
- Crossref may not have issued the DOI

Despite these gaps, the data show the pervasiveness of ORCID and DOI adoption. We hope that any researchers who cannot find themselves in the data will be motivated to create and maintain a robust ORCID profile.



DEMOCRATIZING ACCESS

While the numbers are not perfect, the dashboard can be used in many ways: to visualize collaborations, promote ORCID adoption and profile completion, and advocate for institutional use of the ORCID Member API and machine actionable ORCID integrations.

To reduce barriers to accessing and using this data in meaningful ways, we created a customizable dashboard that can be set up via a web browser with minimal steps. There is robust documentation and anyone can use the scripts and dashboard since both R and Tableau Public are free tools.

The dashboard also allows individual researchers to filter to their own data, which could provide support for highly and widely collaborative researchers' tenure and promotion.

These tools can help individuals and organizations without in-house technical staff to advance research connections, explore an organization's collaborative reach, and show opportunities for improving global partnerships.

Comments or questions? Email the authors: negeena@uw.edu, olivia.castello@temple.edu

References: tinyurl.com/iassistposterrefs

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