

Alice Meadows

# Everything you ever wanted to know about ORCID

... but were afraid to ask

**O**RCID (Open Researcher and Contributor ID) is a nonprofit organization launched as a community effort to solve the name ambiguity problem in research and scholarly communications.<sup>1</sup> Name ambiguity is a problem for several reasons:

- Shared names. More than one researcher—often in the same field and/or institution—may have the same name. In some countries this is a major problem. For example, in Korea, more than half the population share the same five last names.
- Different versions of a name. For example, the use of a full name versus initials.
- Transliteration. Even if a researcher's name is unique, it can be difficult to connect it with their transliterated name, and sometimes a name may be transliterated differently over time.
- Accents and other diacritics. These are notoriously hard to express consistently as digital characters.
- Name changes. This can occur as a result of marriage or for other legal reasons.
- Multiple family names. This is especially an issue in Spanish-speaking countries.

ORCID provides unique, persistent identifiers for researchers. Individuals may register for free, and use the tools developed by ORCID and implemented by the research community to connect their ORCID identifier with their other identifiers, affiliations, and creative and scholarly works. These connections help improve the research discovery process by unambiguously associat-

ing individual researchers with their works. They reduce reporting burdens by enabling automated updating of a researcher's records in research information or profile systems. Validated connections may help to lay the foundation for improved trust in digital research information, e.g., when a university asserts an employer-employee affiliation connection with an individual.

## What is ORCID (and what is it not)?

Unlike a researcher profile system, CV system, research management system, or reporting interface, ORCID's mission is to provide a registry of unique persistent identifiers for researchers. We work with the community to enable identifier "collection and connection points" in systems frequently used by researchers—such as manuscript submission systems, grant application systems, and thesis deposit systems—and also to enable auto-updates of a researcher's record when their creative and scholarly works are published.

Researchers own their ORCID identifier and control what may be connected and the privacy settings on their account. Registration

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is independent of membership, which means one may use the identifier throughout one's career, irrespective of changes in discipline, location, name, or affiliation. ORCID records contain minimal data, simply describing connections between identifiers and pointers to the source items.

ORCID is committed to being a fully open organization.<sup>2</sup> We have a public API (applications programming interface) that is openly available for all to use. It enables anyone to build applications that:

- get a user's authenticated ORCID identifier;
- retrieve a machine-readable version of a user's public ORCID record;
- perform a machine-generated search of the public data in the ORCID registry; and
- allow users to sign in to a non-ORCID application with their ORCID username and password.

We also take an annual snapshot of the data registrants have made public and make it openly available.<sup>3</sup> Our documentation and presentations are published under a completely open license (Creative Commons Zero) with no rights reserved.<sup>4</sup> Our software code is made available on an open repository under an MIT-style, open-source license.<sup>5</sup>

We are equally committed to facilitating recognition for all forms of research contributions. In October 2015, Springer Nature became the first publisher to integrate ORCID identifier collection and connection points into their books workflow.<sup>6</sup> Researchers may connect their identifier to their grants, affiliations, or thesis, for example. In September 2015, we launched functionality that enables connections with peer review activities.<sup>7</sup> The first three early adopters of this new functionality either have launched (or are about to launch) their implementations. Faculty of 1000 (F1000) has implemented the functionality for F1000Prime and F1000Research reviewers.<sup>8</sup> The American Geophysical Union (AGU) is working with eJournal Press (eJP), its manuscript submission system, to implement it across all 19 of its journals. Publons is connecting verified reviews on its platform

with reviewers' ORCID records.<sup>9</sup>

In addition, we are working with Mozilla, BioMedCentral, PLOS, Wellcome Trust, and Digital Science to enable contributorship roles to be connected to works at the time of publication and then displayed in an ORCID record.<sup>10</sup> Based on the Project CRediT recommendations, these roles reflect and enable recognition of the varied contributions a researcher may make to a publication, ranging from conceptualization, data curation, and analysis to writing and editing.<sup>11</sup> The collect and connect workflow is based on a badge tool developed by Mozilla that is used to issue and store contributor role badges. It also enables an authentication process that allows an author to connect to their ORCID identifier.<sup>12</sup>

### **How's it going?**

ORCID is growing fast, and in many dimensions including users, members, staff, and community adoption.

More and more researchers are actively engaging with ORCID. Three years after going live in October 2012, more than 1.7 million researchers have registered. These ORCID identifiers are associated with more than 4.5 million digital object identifiers (DOIs) for papers and datasets. These connections are searchable both in the ORCID registry and in discovery databases, including Europe PubMed Central, the Modern Language Association (MLA) International Bibliography, Scopus, and Web of Science.

Registering for an ORCID identifier is, and always will be, free for researchers. ORCID's ongoing sustainability is dependent on member organization dues. As of late 2015, ORCID has more than 350 organizational members, including national consortia agreements in Australia, Denmark, Italy, and the United Kingdom, and regional consortia in Spain and the United States. Two-thirds of our members are research organizations, and one third are publishers, repositories, funders, and scholarly societies.

Many researchers register and use their identifier as they go about their regular

professional activities. Our members have completed about 200 ORCID integrations—points where researchers may connect their identifier—and more are in development. Organizations with ORCID connection points include CrossRef, MLA International Bibliography, ResearcherID, Scopus, and UberResearch. Members use an authentication process known as OAuth to collect and validate the researcher's ORCID identifier and obtain opt-in permissions before enabling connections to data in the member system.

While we are building our membership base, a generous grant from The Leona M. and Harry B. Helmsley Charitable Trust in April 2015 has allowed us to hire ten additional staff members this year, including regional directors and support team members in Asia-Pacific, Latin America, and the Middle East/Africa.<sup>13</sup> This distributed representation helps us to better connect with research communities around the world, and provide timely technical and user support.

### **How ORCID can help**

Researchers are being asked for more information about their scholarly activities by their employer, funders, and numerous research profile and collaboration platforms. To address this issue, in October 2015, we launched our auto-update functionality with CrossRef and DataCite, nonprofit organizations that issue DOIs for papers and datasets.<sup>14</sup>

Now, researchers using their identifier when they submit a paper or a dataset can authorize CrossRef or DataCite to formalize the ORCID identifier-DOI connection when the work is published, and to update their ORCID record. In turn, member systems can be alerted when an ORCID record of interest is updated via the ORCID notification API service.<sup>15</sup> Auto-update functionality has the potential to transform the way researchers manage their scholarly record, reducing the amount of time they have to spend manually keying, connecting, and updating their research information.

Researchers have been enthusiastic in their support. In the first few days after launch

alone, 2,500 authors gave CrossRef permission to update their record in this way.

Research funders are starting to look to ORCID to help with reporting. At least five major funders are requiring that researchers include their ORCID identifier in their grant application: FCT (Portugal), FWF (Austria), National Institute of Health Research (UK), Swedish Research Council, and the Wellcome Trust (UK).

Interestingly, our recent community survey (~6,000 respondents) indicated substantial support for ORCID mandates.<sup>16</sup> Seventy-two percent of respondents agreed or strongly agreed that mandates would benefit the global research community, with 21% neutral and only 7% disagreeing or disagreeing strongly. Similarly, between about two-thirds and three quarters of respondents thought it would be useful for their publisher (75%), funder, institution (both 67%), or scholarly society (64%) to mandate ORCID. While we welcome community mandates, we also feel strongly that researchers must benefit from using their ORCID identifier through reduced reporting burdens and increased discoverability. To this end, we are working closely with the community to provide technical and engagement guidance on effective collection and connection strategies.

### **What's next? Key challenges for ORCID**

In 2016 we'll be focusing on consolidating our services, and ensuring they can support a growing user base. We'll also be working on clarifying our communications, and, in particular, adding an engagement element to our extensive technical documentation.

*Enabling connections.* We need to do more to ensure that ORCID identifiers are collected using appropriate, validated methods, and are published with research activities and affiliations. In 2016 we are launching a "Levels Program" to clearly articulate how organizations can and should be collecting and connecting ORCID identifiers. Our goals are to clarify goals and expectations across sectors and improve the trust in connections between researchers and their professional

affiliations and activities. We will be enhancing our current guidance by defining priority implementation scenarios by sector and developing streamlined communications and technical documentation.<sup>17</sup> ORCID is a community effort: to benefit, all must participate. Publishers should be collecting identifiers for authors and connecting them with their publications; research institutions should be collecting identifiers for their employees and connecting them with the organization affiliation; funders should be collecting identifiers for applicants and connecting them with awarded grants; scholarly associations should be collecting and connecting identifiers for their members and meeting attendees; and, above all, researchers must register and use their identifier. In addition to clarifying community priorities, we will work with members to map their current integration level and discuss options for deeper participation.

*Privacy.* A fundamental principle of ORCID is researcher control of privacy.<sup>18</sup> ORCID adheres to a very strict opt-in privacy policy, but researchers are often unaware of this.<sup>19</sup> We just launched ORCID Inbox, which helps users manage how and when they receive notifications from ORCID.<sup>20</sup> We will be building on the successful ORCID video to develop short videos on how to manage privacy settings and connect to works and affiliations.<sup>21</sup> We will also continue to assess our privacy policy and go through an annual external certification process.

*Explaining what we do.* Communicating what we do (and don't do) is an ongoing challenge. There is confusion in the community about whether ORCID is a profile system (we are not) or who controls an ORCID record (the researcher). Our survey showed that, while most people know (and like) the fact that ORCID identifiers are free, most don't know much about how ORCID works. In 2016, we will be launching communications webinars and providing specific library guide examples to support librarians and others responsible for engaging and providing tools training to researchers. We realize that in-person interactions are critical

for fostering trust and understanding, and will be hosting 12 workshops around the world and three Outreach meetings. Check our events site for details and join us.<sup>22</sup>

You can learn more about what we've got planned on our public Trello board.<sup>23</sup>

## How you can help

We are hugely appreciative of the wonderful support we receive from the community. Librarians and scholarly communication professionals, in particular, understand the value of standards and persistent identifiers in creating a strong, sustainable digital research infrastructure, and you've really helped get the word out about ORCID. You can continue to help by emphasizing the roles that ORCID plays in the community—to reduce name ambiguity, to foster connections between research and researchers, and to increase trust in digital information. We encourage you to engage with our communications webinars and resources, and contact us if you have any questions or suggestions.<sup>24</sup>

## Notes

1. ORCID: <http://orcid.org/>.
2. <https://members.orcid.org/api/introduction-orcid-public-api>.
3. <https://orcid.org/content/download-file>.
4. <https://creativecommons.org/about/cc0>.
5. <https://github.com/ORCID/ORCID-Source>.
6. <https://www.springer.com/gb/about-springer/media/press-releases/corporate/springer-nature-implements-orcid-unique-digital-identifiers-for-books-and-chapters/6489300>.
7. <http://orcid.org/blog/2015/07/31/orcids-early-adopter-peer-review-program-progress-report-0>.
8. <http://orcid.org/blog/2015/10/01/opening-peer-review-process>.
9. <http://orcid.org/blog/2015/10/12/publons-partners-orcid-give-more-credit-peer-review>.

*(continues on page 30)*

## Science and Technology Section

**Vice-chair/Chair-elect:** *Edward Lener*, Associate Director for Collection Management and College Librarian for the Sciences, Virginia Tech; *Kara Whatley*, Head, Science and Engineering, New York University.

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**Member-at-Large:** *Jane Nichols*, Instruction and Emerging Technologies Librarian and Associate Professor, Oregon State University. ♪

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*"Everything you ever wanted to know about ORCID . . ." (continues from page 26)*

10. <http://orcid.org/blog/2015/08/11/contributor-recognition-update-orcid-project-credit-and-contributorship-badges>.

11. [http://dictionary.casrai.org/Contributor\\_Roles](http://dictionary.casrai.org/Contributor_Roles).

12. <https://www.mozillascience.org/contributorship-badges-for-science-view-them-now>.

13. <http://orcid.org/blog/2015/04/07/orcid-receives-3-million-grant-build-international-engagement-capacity>.

14. <http://orcid.org/blog/2015/10/26/auto-update-has-arrived-orcid-records-move-next-level>.

15. <http://members.orcid.org/api/tutorial-webhooks>.

16. <http://figshare.com/s/c6dd960c918111e59d6806ec4b8d1f61>.

17. <http://members.orcid.org/>.

18. <http://orcid.org/about/what-is-orcid/principles>.

19. <http://orcid.org/content/orcid-privacy-policy>.

20. <http://support.orcid.org/knowledgebase/articles/665437-the-orcid-inbox>.

21. <https://vimeo.com/97150912>.

22. <http://orcid.org/about/events>.

23. <https://trello.com/b/iuJwm8A6/orcid-current-development>.

24. <http://orcid.org/help/contact-us>. ♪