

# ORCID: Using API Calls to Assess Metadata Completeness

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## ABSTRACT

The aim of this poster is to demonstrate the importance of adequate metadata in ORCID profiles to ensure name disambiguation. It is only through more complete metadata that ORCID will ensure success in terms of interoperability with institutional scholarly, publishing and funding bodies. We ran queries against the public ORCID API to get a better sense of how many ORCID records have only minimal information.

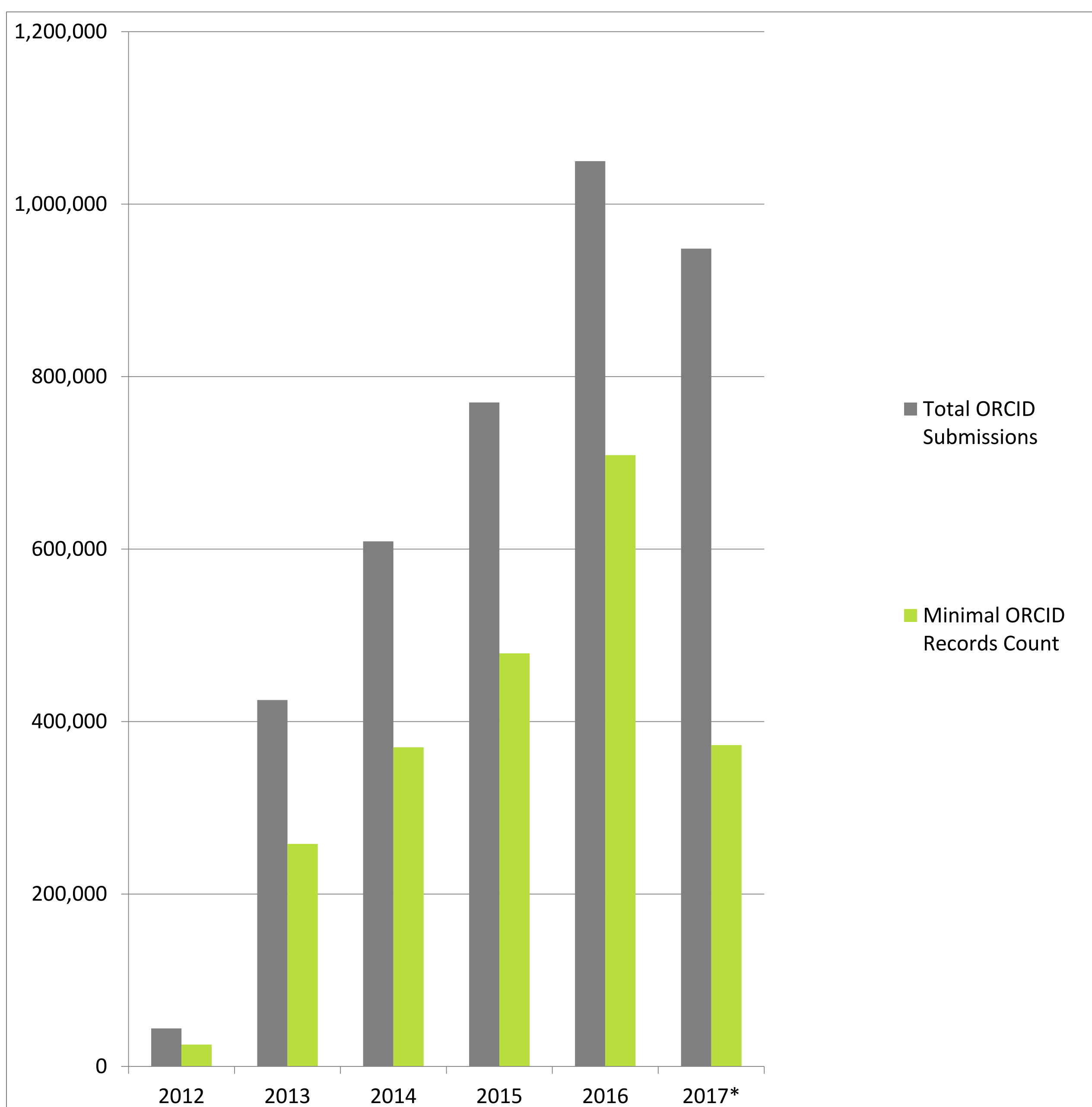
## ORCID

ORCID (Open Researcher and Contributor ID) is a non-profit persistent digital identifier open registry offered to researchers across disciplines. Their mission is to provide an identifier in the form of a unique alphanumeric code to provide persistent identity for researchers. There are three easy steps to receive a persistent ID and distinguish oneself from other researchers: register, add your info, and use your ORCID ID.

## METHODOLOGIES

To get a sense of the big picture in terms of records with only the minimal required information, i.e., name and email, we searched records created between 2012-2017 that did not include affiliation / organization name, Ringgold ID, and any work titles. Results were gathered by year as well as an overall API call to search the entire ORCID database.

Year	API Calls	Count
2012	<b>ORCID records with any given names, without any affiliation, Ringgold ID, work titles, and submitted between January 1st to December 31st, 2012:</b> <code>https://pub.orcid.org/v2.0/search/?q=given-names:[* TO *]+AND+-affiliation-org-name:[* TO *]+ AND+-ringgold-org-id:[* TO *]+AND+-work-titles:[* TO *]+AND+profile-submission-date:%5B 2012-01-01T00:00:00Z%20TO%202012-12-31T00:00:00Z%5D</code>	25,351
2013	<b>ORCID records with any given names, without any affiliation, Ringgold ID, work titles, and submitted between January 1st to December 31st, 2013:</b> <code>https://pub.orcid.org/v2.0/search/?q=given-names:[* TO *]+AND+-affiliation-org-name:[* TO *]+AND+-ringgold-org-id:[* TO *]+AND+-work-titles:[* TO *]+AND+profile-submission-date:%5B2013-01-01T00:00:00Z%20TO%202013-12-31T00:00:00Z%5D</code>	258,182
2014	<b>ORCID records with any given names, without any affiliation, Ringgold ID, work titles, and submitted between January 1st to December 31st, 2014:</b> <code>https://pub.orcid.org/v2.0/search/?q=given-names:[* TO *]+AND+-affiliation-org-name:[* TO *]+AND+-ringgold-org-id:[* TO *]+AND+-work-titles:[* TO *]+AND+profile-submission-date:%5B2014-01-01T00:00:00Z%20TO%202014-12-31T00:00:00Z%5D</code>	370,074
2015	<b>ORCID records with any given names, without any affiliation, Ringgold ID, work titles, and submitted between January 1st to December 31st, 2015:</b> <code>https://pub.orcid.org/v2.0/search/?q=given-names:[* TO *]+AND+-affiliation-org-name:[* TO *]+AND+-ringgold-org-id:[* TO *]+AND+-work-titles:[* TO *]+AND+profile-submission-date:%5B2015-01-01T00:00:00Z%20TO%202015-12-31T00:00:00Z%5D</code>	479,144
2016	<b>ORCID records with any given names, without any affiliation, Ringgold ID, work titles, and submitted between January 1st to December 31st, 2016:</b> <code>https://pub.orcid.org/v2.0/search/?q=given-names:[* TO *]+AND+-affiliation-org-name:[* TO *]+AND+-ringgold-org-id:[* TO *]+AND+-work-titles:[* TO *]+AND+profile-submission-date:%5B2016-01-01T00:00:00Z%20TO%202016-12-31T00:00:00Z%5D</code>	709,046
2017 to 05/17/17	<b>ORCID records with any given names, without any affiliation, Ringgold ID, work titles, and submitted between January 1st, 2017 to May 17, 2017:</b> <code>https://pub.orcid.org/v2.0/search/?q=given-names:[* TO *]+AND+-affiliation-org-name:[* TO *]+AND+-ringgold-org-id:[* TO *]+AND+-work-titles:[* TO *]+AND+profile-submission-date:%5B2017-01-01T00:00:00Z%20TO%202017-12-31T00:00:00Z%5D</code>	372,709
2012 to 05/17/17	<b>All ORCID records with any given names, without any affiliation, Ringgold ID, and work titles:</b> <code>https://pub.orcid.org/v2.0/search/?q=given-names:[* TO *]+AND+-affiliation-org-name:[* TO *]+AND+-ringgold-org-id:[* TO *]+AND+-work-titles:[* TO *]</code>	2,216,944



**Examples of ORCID dummy accounts**

ORCID ID	First/given name	Last/family name	Other names
0000-0001-5429-1577	John	Doe	Jonathan Doe
0000-0001-6599-8818	John	Doe	
0000-0001-7295-1671	John	Doe	
0000-0001-7786-8180	john	doe	
0000-0002-7155-7311	John	Doe	
0000-0002-0365-8743	John	Doe	
0000-0001-7580-2137	John	Doe	
0000-0001-5393-1421	John	Doe	
0000-0003-4488-8251	John	Doe	
0000-0002-9187-455X	John	Doe	
0000-0003-2118-5887	John	Doe	
0000-0002-9509-7620	Jane	Doe	
0000-0001-5442-5838	Jane	Doe	

**J. Doe**  
Biography  
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Cras id enim auctor, condimentum metus in, vestibulum erat. Integer ultrices diam vitae luctus egestas. Praesent vitae odio euismod, ultrices augue ac, gravida nibh. Ut nec nisi euismod, volutpat sem eu, tincidunt sem. Vivamus pharetra blandit purus ut consequat. Pellentesque convallis risus id leo pellentesque, a rutrum neque feugiat. Sed in metus quis sapien congue luctus. Nullam venenatis dui odio, quis molestie mauris posuere nec.

**Education (1)**  
Universiteit van Amsterdam: Amsterdam, Noord-Holland, Netherlands  
2010-02-01 to 2014-02-04  
Master (Engineering)  
Source: J. Doe Created: 2014-07-28

**Funding (2)**

Awards-R-Us  
NIH Clinical Center (Forsythe, MD, United States)  
2001 to 2016 | Award  
Source: John Doe Preferred source

Grants-R-Us  
NLM (Bethesda, United States)  
2000 to 2016 | Grant  
Grant: 1234-5678  
Source: John Doe Preferred source

**Works (1)**

Writing for Scientists  
2005-01-05 | book-chapter  
Source: John Doe Preferred source

**Employment (1)**

Google Inc: Mountain View, CA, United States  
2010-02-03 to 2013-01-02 | Head (search)  
Source: J. Doe Created: 2014-07-28

**Funding (1)**

Red ant in Somalia  
European Space Agency (Amsterdam, France)  
2013-03 to 2015-01 | Grant  
Source: J. Doe Preferred source

**Works (4)**

Red ant in Somalia: a case study  
2012-02-06 | conference-paper  
ARKV: arkv:056985:4564  
Source: J. Doe Preferred source

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## CHALLENGES

Missing data such as affiliations or work titles poses a major challenge on one hand to gather appropriate data and on the other to consider PID service adoption. From the preliminary results we noticed that the problem of orphan (empty) records is very common. Many records used random placeholder names such as John/Jane Doe to keep their true identity unknown, filler text such as lorem ipsum, fictitious funding, works, and institution names for employment and education.

## FUTURE WORK

In order to address a large number of ORCID records missing critical metadata fields the following solutions are proposed:

1. Advocacy and education
2. Continued ORCID outreach
3. Increased system interoperability

## CONCLUSIONS

ORCID IDs are very useful, specifically when most names are not unique. However, many records lack critical elements required to perform the main function of a personal identifier, namely the name disambiguation. It is hoped that this poster draws attention to the problems associated with a lack of identifying metadata in ORCID records and highlights the value of more complete metadata in disambiguating researcher names and identifiers.

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