



Connecting Research  
and Researchers

# Persistent Identifiers in Research Management: People, Places, and Things

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**ALERT:** This presentation is all  
about **PLUMBING!**

... not a “sexy” topic but I am sure  
we can all agree that flushing toilets  
and running water are critical  
components of modern civilization



# What are persistent identifiers?

- Numeric or alpha-numeric **persistent** designations associated with (resolvable to) a single entity
- Entities can be an **organization, person**, or piece of **content (artifact)**



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PERSPECTIVE

## Home Blood Pressure Monitoring: New Evidence for an Expanded Role

Mark Caulfield

Published: January 21, 2014 • DOI: 10.1371/journal.pmed.1001592

**Toshihiro Tanaka**

<http://orcid.org/0000-0001-6201-9784>

Other IDs:

Scopus Author ID: 55531687900

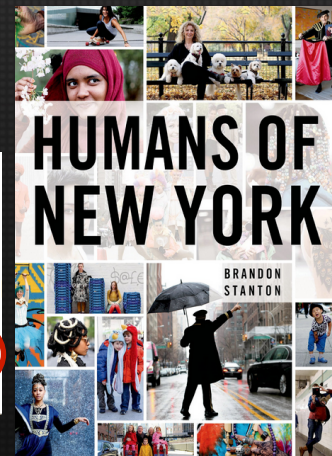


ISNI: 0000 0000 9203 8970  
Name: Saint Martin's Press (For Profit Corporation)  
St. Martin's Press  
Creation class: Language material  
Creation role: originator

Ringgold

### Product Details

Hardcover: 304 pages  
Publisher: St. Martin's Press;  
Language: English  
ISBN-10: 1250038820  
ISBN-13: 978-1250038821



# What do IDs do, exactly?

- ① Enable machine readability
- ② Disambiguate and enforce uniqueness
- ③ Enable linking and data integration

In other words,  
persistent identifiers provide a  
*simple basis for digital data governance*



Let's take one use case:  
**publishing research findings**



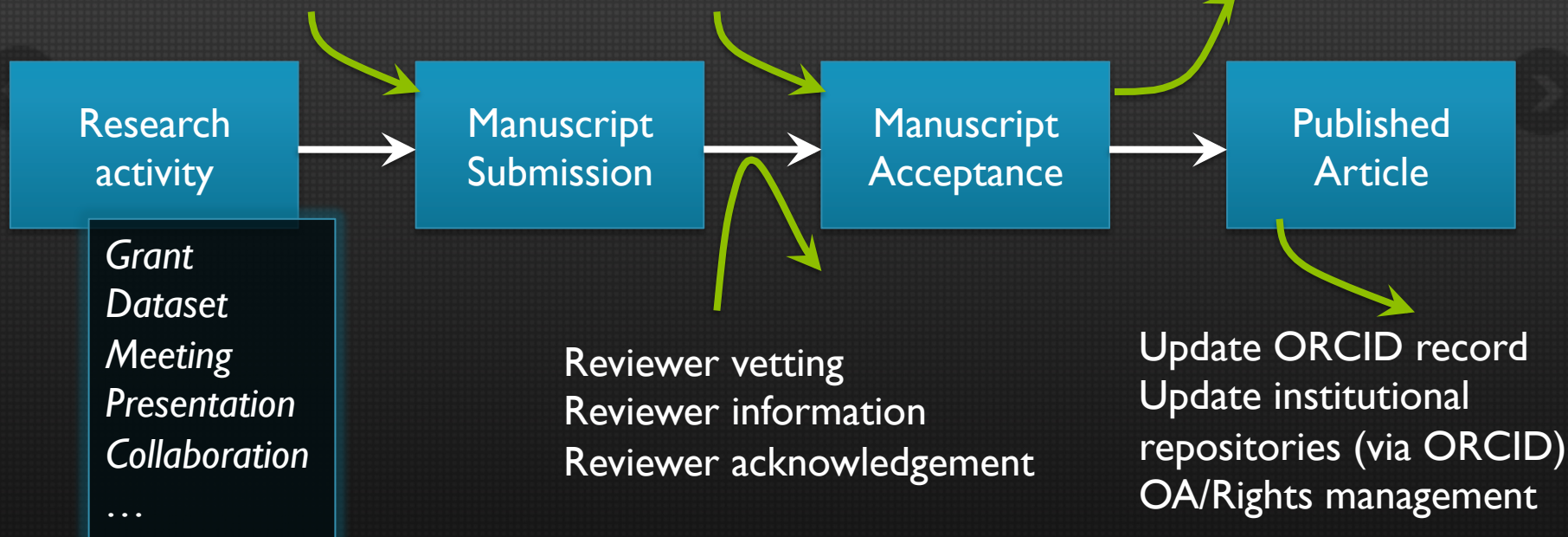
*Simple, Right?*

# Where do identifiers fit in?

ORCID iD?  
Dataset?  
Organization iD?  
Funder ID?  
Grant ID?  
Sample ID?  
Resource ID?  
Protocol ID?

Co-Author information

Article metadata  
submitted to CrossRef  
(including all identifiers)





Similar issues of tracking (credit!) and trust (verify!) exist throughout the research ecosystem:

*Datasets*

*Annotation*

*Collaboration*

*Metrics and Evaluation*

*Review Processes*

## Back to **plumbing (standards):**

- We agree it is desirable, even necessary
- We all love to graze at the local home improvement store

**BUT**

- It requires design
- It requires cooperation
- It requires work to implement

*Standards take time  
and who has the  
patience for that??*



So why do it?

# Name Ambiguity Is a Problem

Of the more than 6 million authors in a major journal citations and abstracts database, more than two-thirds of them share a last name and single initial with another author, and an ambiguous name in the same database refers on average to eight people.

[http://ands.org.au/newsletters/share\\_issue18.pdf](http://ands.org.au/newsletters/share_issue18.pdf)



**Julie Banfield** @42jkb

2h

I've started my @ORCID\_Org ID. My publications are in different names so this is a perfect solution. Well done and thanks!

Details



**Declan Fleming** @declan

7h

YOU try googling for an old friend from 30 yrs ago named "Dave Jackson"... We need ORCID IDs for EVERYONE! ;)

Details

J. Å. S. Sørensen

J.Aa. S. Sørensen

J. Åge S. Sørensen

J.Aage S. Sørensen

J. Åge Smærup Sørensen

J.Aage Smaerup Sørensen



**Sumit Gupta** @drsumitgupta

41d

If you have a name that is not that uncommon like me and pubmed search returns with 10092 results - ORCID is for you! #ORCID #publications

@ **Julie van der Hoop** mentioned you



**Julie van der Hoop** @jvanderhoop

3h

Ok @carlystrasser, you convinced me: "get an @ORCID\_Org if your last name is spelled weird." #dutchproblems



# ORCID is a registry and hub

ORCID provides a free, non-proprietary registry of persistent unique public identifiers for researchers

ORCID APIs enable exchange between research data systems to connect researchers, works, organizations, and other identifiers

**Laurel L Haak**  
id <http://orcid.org/0000-0001-51>

**Also known as:**  
L Haak, Laure Haak, L. L. Haak

**Country:**  
US

**Keywords:**  
persistent identifiers, research, oligodendrocytes, circadian rhythms

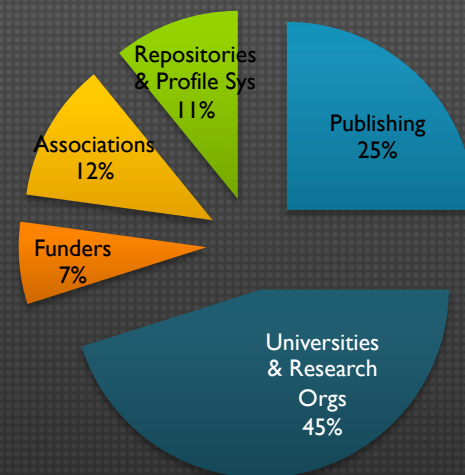
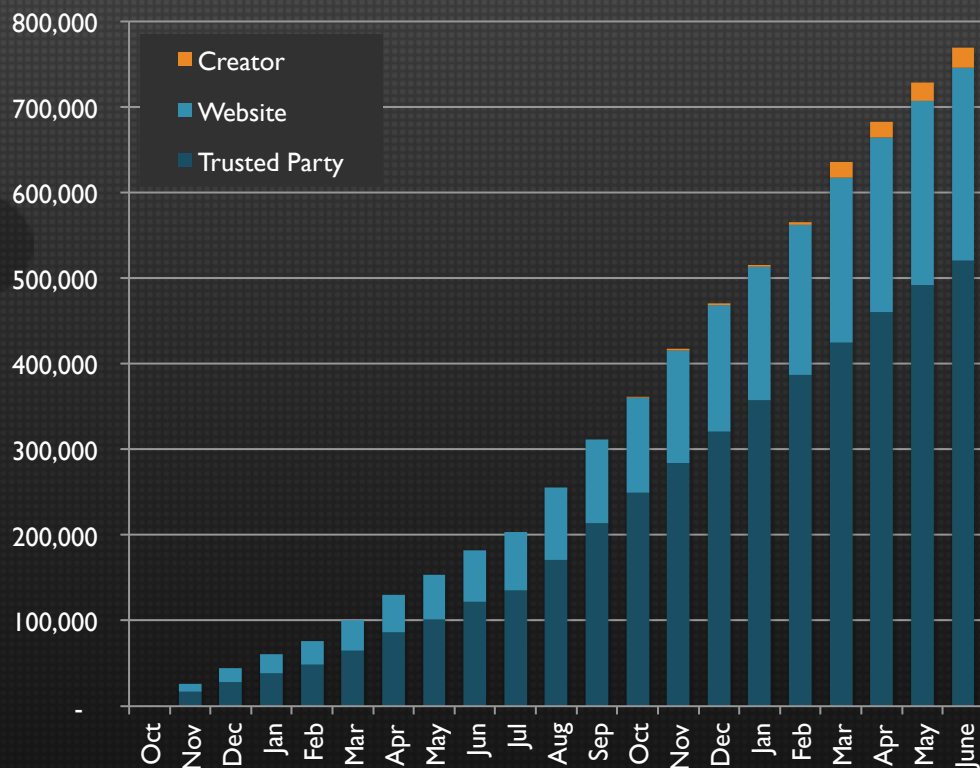
**Websites:**  
[LinkedIn](#)

**Other IDs:**  
ISNI 0000000138352317  
ResearcherID C-4986-2008  
Scopus Author ID 6602258586

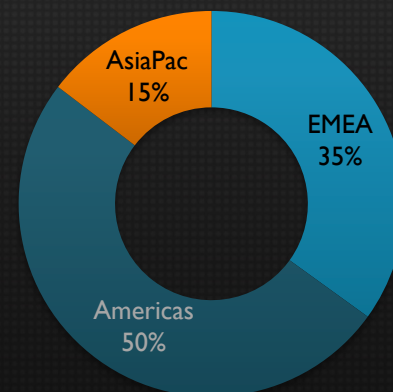


# Adoption and Integration

ORCID has issued over 860,000 iDs since our launch in October 2012. Integration and use is international.



Over 140 members, from every sector of the international research community





# A rose by any other name...

In addition to person names, there are ambiguity issues with content (artifacts) and organizations, too.

# Wellcome Trust Open Access Study

“No naming authority was imposed on the file, so entities have a variety of names. For instance, the American Chemical Society is referred to in a number of ways — ACS, ACS Publications, American Chemical Society, and The American Chemical Society, among others. PLOS ONE is listed in a similar variety of ways, as are most of the publishers and journals with multiple entries.....By allowing authors to freestyle the name of the payee, we are creating a very loose data source for analysis.”

<http://scholarlykitchen.sspnet.org/2014/03/21/wellcome-money-in-this-example-of-open-access-funding-the-matthew-effect-dominates/>



We cannot solve problems of  
data ambiguity alone. We must  
take a community approach.

# Interoperability requires intentional collaboration

- **CASRAI:** ORCID metadata reflects the standard terms and record formats advanced in the CASRAI dictionary. In addition to a Research Personnel Profile specification CASRAI is also advancing additional person-related profiles (CVs, Funding Applications, Impact Reports, etc.) that can be associated with an ORCID identifier.
- **DataCite:** ORCID (through the ODIN Project) has implemented a search and link tool to associate data in DataCite with ORCID records; DataCite has updated their metadata standard to include ORCID for contributors.
- **euroCRIS:** ORCID metadata structure is consistent with EuroCRIS CERIF ontologies, and CERIF includes an ORCID identifier.
- **Force11:** ORCID supports the Force11 Resource Identification initiative to create a data exchange standard identifiers for research resources.
- **Global Alliance for Genomics and Health:** ORCID supports the GAPHG initiative to promote the ethical use, exchange, and citation of clinical and genomics data.
- **ISNI:** ORCID supports interoperability with ISNI, uses ISNI organization identifiers, and has implemented a search and link tool (through the ODIN Project) to associate person identifiers. Cooperation and dialog between the organizations is ongoing.
- **Research Data Alliance:** ORCID is participating as a member of the Research Data Alliance Persistent Identifier Interest Group, and on the Federated Identity Initiative.



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## ORCID & CASRAI Kick-off New Standards Project on 'Peer Review Services'

Further, we are pleased that CHORUS and SHARE have included ORCID identifiers as a key component of their systems to facilitate public access to research funded by US government research agencies. ORCID actively supports organizations that promote integration of ORCID iDs. Some ORCID Board members are independently involved in both projects in a variety of capacities. For more on ORCID integration into these systems, see the [CHORUS](#) and [SHARE](#) Websites.

The screenshot shows the ISNI website with a blue header and a navigation bar. The main content area features a news article titled "ORCID to begin using Ringgold as Registration Agency". The article text states: "ORCID is to begin using Ringgold as Registration Agency for ISNI Institutional Identifiers to support the accurate and persistent identification of researcher institutional affiliations." Below the article, there is a section titled "crossref & orcid" with text from CrossRef announcing its participation in the ORCID initiative.

### crossref & orcid

CrossRef is pleased to announce that it is participating in the recently launched Open Researcher and Contributor ID (ORCID Inc.) initiative to create an unambiguous identifier for scholarly and professional researchers.

Our members will be aware that CrossRef has been exploring the possibility of creating an "author DOI" or "contributor ID" system. In doing so, it has become clear that the issues and use-cases involved in identifying researchers span a broad collection of stakeholders including libraries, institutions, funders, publishers and, of course researchers themselves. In short, this is not primarily "a publisher problem." As such, we believe that the ORCID approach to creating an inclusive and open organization representing all the stakeholders in the scholarly communications process represents the best chance of creating a successful contributor identification system.

For ten years the CrossRef DOI has allowed researchers, librarians and publishers to unambiguously identify published scholarly literature. We believe that the next step toward creating a robust and persistent scholarly record is to develop a similar mechanism for unambiguously crediting researchers for their scholarly contributions. We look forward to working with the ORCID members to make this happen.



# The Integrator's “To-Do” List

- ① **Integrate data fields** for persistent identifiers for people, places, and things into your systems
- ② **Collect** persistent identifiers during transactions (using authenticated login, not typing!) AND use APIs to help autofill forms
- ③ **Incorporate** identifiers into published metadata

# Who is Integrating and How?

- Publishers
- Research Funders
- Professional Associations
- Universities and Research Orgs
- Repositories, CRIS, Metrics Sites

For a list of organizations and integrations see  
<http://orcid.org/organizations/integrators>





**R. Soc. Publishing**  
@RSocPublishing



Our first paper including an author's  
**#ORCID @ORCID\_Org** has now been  
published in **@OpenBiology** [bit.ly/OBorcid](http://bit.ly/OBorcid)

09:24 AM - 15 Apr 14

**open  
Biology**

[rsob.royalsocietypublishing.org](http://rsob.royalsocietypublishing.org)

Research



Cite this article: Macqueen DJ, Wilcox AH.  
2014 Characterization of the definitive classical  
calpain family of vertebrates using phyloge-  
netic, evolutionary and expression analyses.  
*Open Biol.* 4: 130219.  
<http://dx.doi.org/10.1098/rsob.130219>

Characterization of the definitive  
classical calpain family of  
vertebrates using phylogenetic,  
evolutionary and expression  
analyses

Daniel J. Macqueen and Alexander H. Wilcox

Institute of Biological and Environmental Sciences, University of Aberdeen, Tillydrone  
Avenue, Aberdeen AB24 2TZ, UK

**ID** DN, 0000-0001-8050-7722

Retweeted by ORCID Organization

**CrossRef** @CrossRefNews · Jun 2

Good stuff! MT @mfenner 8-step program for publishers to integrate  
with @ORCID\_Org - presentation from #sspboston [ow.ly/xteXl](http://ow.ly/xteXl)



[View summary](#)

**ORCID Organization** @ORCID\_Org · Jun 12

ORCID IDs display now on **#Scopus**  
**#author** profile page [bit.ly/1i7daSO](http://bit.ly/1i7daSO)



Retweeted by ORCID Organization



**Harriett Green** @greenharr · Jun 28

Awesome news: the MLA IB will start including ORCIDs and will be the  
database for pulling humanities pubs for @ORCID\_Org #alaac14



**ORCID Organization** @ORCID\_Org · 20h

@DoctorZen Most publishers listed already asking authors for ORCID  
ID at time of submission. Round trip back to ORCID by end of 2014.



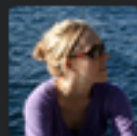
[View conversation](#)

# Acknowledge Reviewers

## ORCID and CASRAI: Acknowledging Peer Review Activities

A number of publishers and funders have been integrating ORCID identifiers into their review workflows. They are now asking us how to post review activity information to ORCID records. We are pleased to announce a community collaboration, managed by CASRAI, to answer that question.

Read the rest of this post at <http://orcid.org/blog/2014/04/08/orcid-and-casrai-acknowledging-peer-review-activities>



**Carly Strasser** @carlystrasser

1d

.@F1000Research will soon have @ORCID\_Org integration for referees in their open peer review process! #alm13 #openscience

Details



**Michael Eisen** @mbeisen

22h

question on whether it matters for promotion if you serve as a reviewer - unanimous answer: no

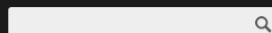
Details



**theWinnower**  
@theWinnower

.@mbeisen This will change as peer review becomes open.  
[orcid.org/blog/2014/04/0...](http://orcid.org/blog/2014/04/0...)

2:28pm · 10 Apr 14 · web



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## BRINGING PEER REVIEW TO THE FOREFRONT OF SCIENCE

GIVING PEER REVIEWERS CREDIT FOR THEIR WORK

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Sign up using Mendeley



1702 REVIEWERS

3241 REVIEWS

15760 MERIT AWARDED



NIH National Institutes of Health  
Office of Extramural Research

Glossary & Acronyms

## Biomedical Research Workforce

Develop a simple and comprehensive tracking system for trainees


### D. Encourage adoption of unique persistent researcher IDs

To measure the output of individual researchers, it is important to reduce the ambiguity associated with commonly occurring names. An international, non-profit organization called the Open Researcher and Contributor ID (ORCID) now provides a persistent digital identifier that can be associated with author names in publications. The ORCID system also will allow individuals to identify their research output and create a registry of IDs. SciENcv will include a utility that will make it easy for users to obtain an ORCID and to link it to their publications and grants. A broadly used researcher ID also will facilitate the identification of scientific output from those who work outside federally funded research programs. The acquisition of ORCIDs will be facilitated by SciENcv.

<http://biomedicalresearchworkforce.nih.gov/tracking-system.htm#d>

“Where possible, it is also recommended that contributors be uniquely identifiable, and data uniquely attributable, through identifiers which are persistent, non-proprietary, open and interoperable (e.g. through leveraging existing sustainable initiatives such as ORCID for contributor identifiers and DataCite for data identifiers).”

European Commission H2020 Grantee Guidelines

 **Ulf Kronman**  
@UlfKronman

Follow


Good news from Swedish Research Council: **#ORCID** will be mandatory in their new application system PRISMA, to be released next spring!

Reply Retweet Favorite Share More

RETWEETS 30 FAVORITES 13

5:13 AM - 6 May 2014

Retweeted by ORCID Organization

 **Dolly Jørgensen** @DollyJorgensen · Jun 10

@rbthisted I have an ORCID (even without a common name!). On ERC grant application form, they even had a spot to enter the number.

1 2 View conversation

# Professional Associations

*“AGU is implementing ORCIDs in our member records, editorial databases, and papers. Having the ability to uniquely identify scientists helps the society, editors, authors, and members in many ways, from improving efficiency to providing services and support.”*

Brooks Hanson, Director of Publications,  
American Geophysical Union

<http://orcid.org/0000-0001-6230-7145>



<http://www.slideshare.net/ORCIDSlides/20131029-mcentee>



*“We want to use ORCIDs to simplify the life of Oxford’s researchers for working with institutional systems and publishers’ systems by re-using already available information for publication data management and reporting.*

*The motto is: Input once — re-use often.”*

Wolfram Horstmann, Assoc. Director, Bodleian Libraries,  
University of Oxford

<http://orcid.org/0000-0001-8673-6104>



**Alex Smith** @Alex\_Smith\_Ants

12m

Hour number 2 of entering and updating my publications to indicate that the were "published" and refereed. #CanadianCommonCV #wasteoftime

Details



**Terry Wheeler**

@ta\_wheeler

@Alex\_Smith\_Ants Meanwhile, in an alternate universe, another You just typed his Orcid, linked it all up & went for a run.

9:07am · 29 Jul 2014 · Twitter for iPhone

- DataCite
- DSpace (UMissouri)
- ePrints (UBern)
- EThOS (British Library)
- HUBzero (U Notre Dame)
- Hydra/Fedora (Purdue)
- InSPIRE (CERN)
- Vireo (Texas A&M)
- Reactome

More at  
<http://orcid.org/blog/2014/03/10/orcid-repositories-and-researchers>

### Got an ORCID? Import your publications

Good luck to all those who responded to the JISC call for ORCID pilot projects.

Looking for inspiration and/or code examples? EPrints Services developer Peter West has created an "Import from ORCID" plugin which is now available from the EPrints Bazaar.

<http://wiki.eprints.org/w/ImportFromORCID>



Table 3: Expanded DataCite Mandate

ID	DataCite-Property
1	Identifier
1.1	identifierType
2	Creator
2.1	creatorName
2.2	nameIdentifier
2.2.1	nameIdentifierScheme

Jon Tennant  
 @Protohedgehog

Follow

Science win! You can now integrate your thesis/dissertation with @ORCID\_Org #PhDchat orcid.org/blog/2014/03/2... #openscience #openaccess

01:41 PM - 27 Mar 14



**PLOS Biology** @PLOSbiology 23d  
 We want public archiving of all data, but how can we encourage this? @datadryad @figshare @orcid #PLOSbiology Persp plos.io/1iKAIXk



ORCID Organization @ORCID\_Org · May 21

Presentation by Jared Lyle on cool integration of ORCID w/n self-published @ICPSR repository incl ORCID sign-in, data population #orcid12

2.2.1	nameIdentifierScheme	1	The name of the name identifier scheme.	If nameIdentifier is used, nameIdentifierScheme is mandatory. Examples: ORCID <sup>12</sup> , ISNI <sup>13</sup> ,
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## General information on ORCID:

<http://orcid.org>

- Technical documentation and code:  
<http://support.orcid.org/knowledgebase>
- Contact ORCID at [support@orcid.org](mailto:support@orcid.org)
- Register for your own ORCID identifier at  
<http://orcid.org/register>



**Dale Askey** @daskey  
@RrrichardZach yes. many uses, not  
least name disambiguation. painless to  
get one. orcid.org

View