ORCID
Connecting Research
and Researchers

2016 ANNUAL REPORT

REFLECTING ON THE JOURNEY TOWARD ORCID'S VISION

OUR VISION

ORCID's vision is a world where **all who participate** in research, scholarship, and innovation are **uniquely identified** and **connected to their contributions and affiliations across disciplines, borders, and time.**

OUR MISSION

ORCID provides an identifier for individuals to use with their name as they engage in research, scholarship, and innovation activities. We provide open tools that enable transparent and trustworthy connections between researchers, their contributions, and affiliations. We provide this service to help people find information and to simplify reporting and analysis.

OUR VALUES

ORCID is a not-for-profit organization, sustained by fees from our member organizations. Our work is open, transparent, and non-proprietary. We are guided by the principles of privacy and researcher control, and the vision of identifier-enabled research information infrastructure. We make decisions collaboratively, involving our staff, Board, those who support our mission, and the researchers and community that are the purpose of our work.

We take a global view. We have a diverse team, deployed internationally in our "virtual office." We engage with a wide range of organizations and people to ensure broad viewpoints. We strive to be a trusted component of the research infrastructure with the goal of providing clarity in the breadth of research contributions and the people who make them.

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MESSAGE FROM THE EXECUTIVE DIRECTOR
LAURE HAAK

Our mantra for 2016 was Sustain, Lead, and Mature. It was another year full of listening, activity, growth, and progress. We continued our work to become financially self-sustaining, meaning that all operational costs are derived from membership fees.

We welcomed 1M more researchers, 165 new members, including eight new consortia, and received Phase II funding from the Leona M. and Harry B. Helmsley Foundation. Our members have launched over 300 integrations with 200 more in the pipeline; researchers are benefiting from automated record update; and we launched a new program, Collect and Connect, to help guide our community on effective practices for implementation: Use the API! Authenticate! Involve the researcher and ask for permission to interact with their record!

This year we have made substantial progress maturing to the next phase after start-up, while still keeping it fun, agile, and creative. We have improved scalability of our operations, reorganizing our teams for seamless support and communications, putting in place a dedicated QA team and 24/5 support, and starting to work on our longer-term strategy. We also held our first all-member election. We took a fresh look at our mission statement, and decided to strip away the jargon and create vision and values statements. We also examined and updated our organizational success metrics. This has helped us focus our work on our values and principles. We have organized this annual report along our values, and have integrated metrics into each section (see Focus on Impacts, page 24, for a full list). You may also see a pull-out of the images here.

I still feel lucky every day to be a part of the ORCID team. Thank you for being a part of our journey!

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MESSAGE FROM THE CHAIR OF THE BOARD
ED PENTZ

ORCID had an impressive range of achievements in 2016 as Laure outlines in her message. I want to highlight in particular that Laure has rapidly built a professional, dedicated team who are driving the organization forward.

As ORCID continues to mature and grow, the Board has been looking at how governance, and its own role, needs to change. We focused on financial and strategic oversight in 2016 — you can see this in the summary of the Board meetings. The new election process in 2016 worked very well thanks to the hard work of staff and the Nominating Committee. The inclusive and thoughtful election process ensures that there is diversity on the Board in terms of skills, geographic location, organizational representation, and gender.

In January 2013 I took over from ORCID's first Chair, Howard Ratner, and it's been a fantastic four years. A healthy Board also needs new officers so I decided to step down as Chair and I'm pleased to say that the Board voted in Veronique Kiermer as ORCID Chair at its February 2017 meeting. Veronique is an excellent choice as she has been involved with ORCID for many years, serving on the Board representing both Nature and PLOS, and acting as an advocate and champion of ORCID and its mission and values.

I'll finish by saying a very big thank you to Laure, the Board, and the staff — it's been a privilege to play a part in helping the ORCID organization and community develop and fulfill its mission — and I look forward to staying involved for many years to come!
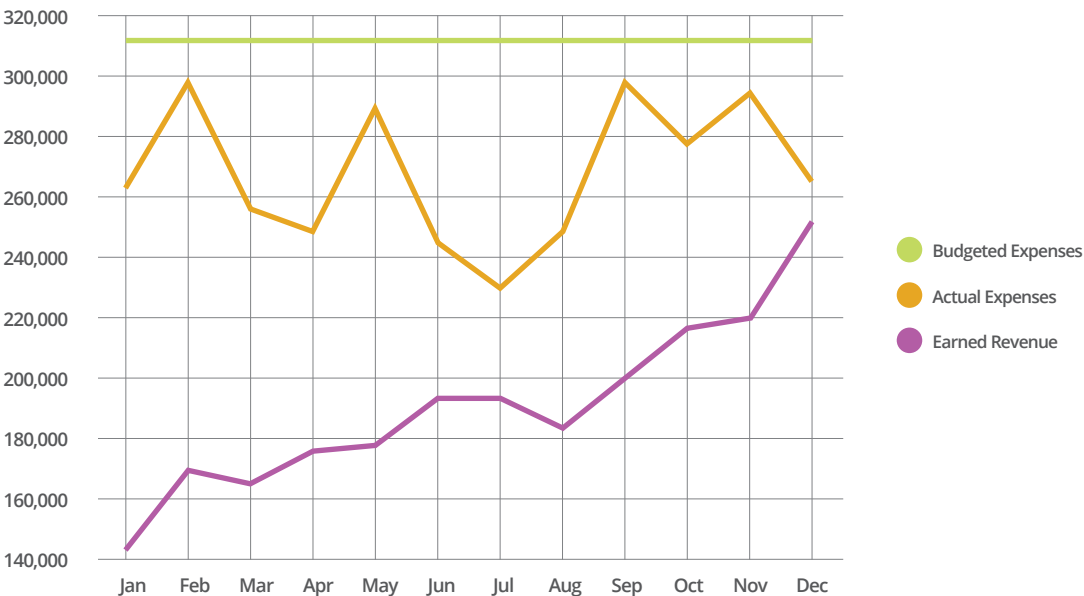
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MESSAGE FROM THE TREASURER
EDWARD WATES

Having completed the transition from cash to accrual accounting at the beginning of the year, ORCID continues to consolidate the management of its financial reporting during 2016 and made progress towards financial sustainability. Expense management has been well controlled throughout, ending the year $535K positive to the revised forecast ($3,211,424 versus $3,746,049), while total revenues (excluding grant income) were also marginally positive to the revised forecast ($2,334,380 vs $2,288,146). As a result, the year closed with a shortfall of $877,044 (income vs expenditure) against a revised forecast shortfall of $1,457,903.

Progress towards sustainability: ORCID has been reporting during the course of the year against three key metrics to track progress towards financial sustainability: (i) new memberships signed (see Not-for profit membership organization, Page 10), (ii) earned revenue, and (iii) cash-on-hand.

Legend:
- Budgeted Expenses
- Actual Expenses
- Earned Revenue

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Earned revenue. As a result of holding costs well below budget, earned revenue has shown steady progress during the course of the year towards meeting the organization's expenses, as shown in the chart, with budgeted (green) and actual (orange) monthly operating expenses, and earned revenue from new and continuing members (purple).

Cash on hand. Cash on hand on December 31 was $3,653,504, which includes $1.8M from a second Helmsley grant. While ORCID has yet to achieve financial sustainability in terms of membership revenues, the grant has enabled the organization to cover expenses well into 2017, thus providing a secure foundation for continued development of the organization's offering. It is noted that the organization has outstanding loans worth $2.1M, due for repayment by 2021.

Other income. The organization is pleased to report on a grant totalling $1.84M, which was received in full from the Helmsley Trust in October 2016. The Board would like to recognize the significant efforts of our Director, Laurel Haak, in obtaining this funding.

Cash Management. The Board agreed to establish an Task Force to research and recommend a policy for managing the organization's current cash balance.

Financial management. We received high marks from our external auditor for a fourth year. We transitioned to a new comptroller during 2016, and will continue our work to streamline our accounting processes.

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NOT-FOR-PROFIT MEMBERSHIP ORGANIZATION
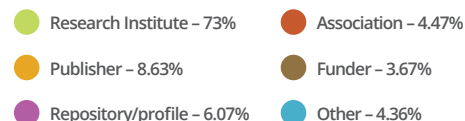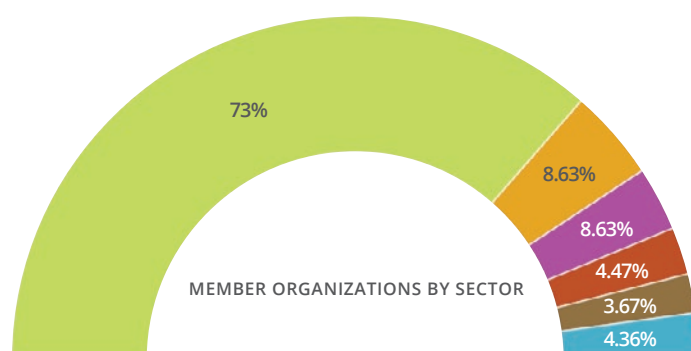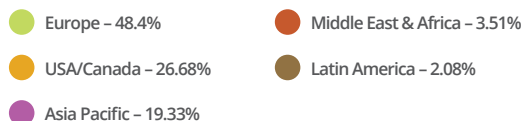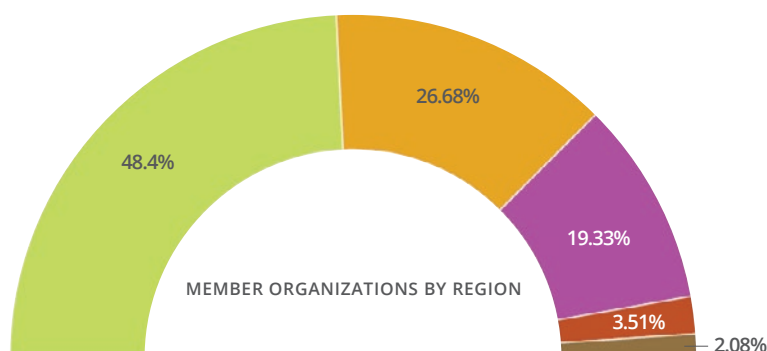
VALUE:

ORCID is a not-for-profit organization, sustained by fees from our member organizations.

Reaching financial sustainability through membership fees is a key focus for ORCID. In 2016, we continued to grow our membership globally through direct outreach, workshops, and partnering with national and regional consortia. We also engage closely with existing members to help them make the most of their membership.

MEMBERSHIP OVERVIEW

Our financial sustainability depends on the quality of support we provide to our community, one indicator of which is our annual renewal rate. In 2016, we retained 95% of our existing members. All 11 cancellations were from members that had not yet integrated with ORCID, demonstrating the importance of encouraging members to integrate ORCID iDs in their own systems and provide the best value for their constituents.

MEMBER ORGANIZATIONS BY REGION AND SECTOR

MEMBER ORGANIZATIONS BY REGION

48.4%
26.68%
19.33%
3.51%
2.08%

- Europe – 48.4%
- USA/Canada – 26.68%
- Asia Pacific – 19.33%
- Middle East & Africa – 3.51%
- Latin America – 2.08%

MEMBER ORGANIZATIONS BY SECTOR

73%
8.63%
8.63%
4.47%
3.67%
4.36%

- Research Institute – 73%
- Publisher – 8.63%
- Repository/profile – 6.07%
- Association – 4.47%
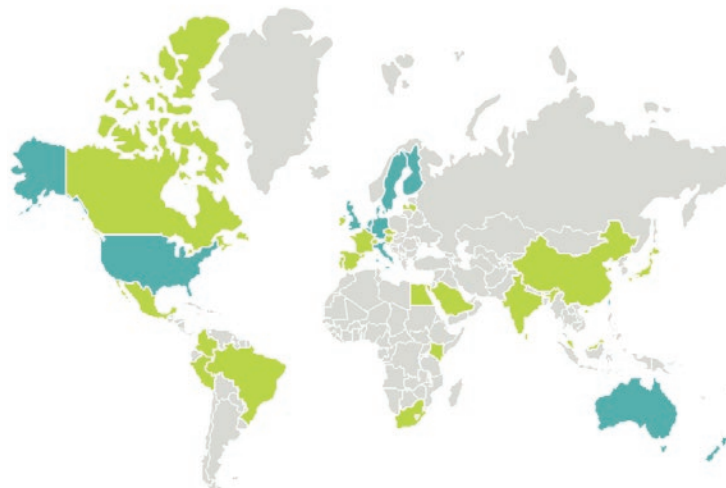- Funder – 3.67%
- Other – 4.36%

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NEW MEMBERS

In 2016 we grew our membership by 34% over 2015, including adding several new consortia. We are starting 2017 with a number of strong prospects, in particular from regional and national consortia. In addition, in 2017 we are developing programs for new user communities. We remain optimistic that we will reach financial break-even in the next 12-15 months.

CONSORTIA

Our consortia members play a substantial role in supporting the local adoption and integration of ORCID. Regional efforts to develop policies around persistent identifiers and researcher involvement have been inspirational — for us and for the broader community. In 2016 we welcomed

ORCID ACROSS 40 COUNTRIES

^ Countries in green have at least one ORCID member. Countries with ORCID consortia are indicated in blue.

eight new regional and national consortia members, bringing the total to 15 (see table below), collectively representing 61% of our members. We continue to work with our consortia members to provide training and outreach resources for researchers, and we will be rolling out enhanced communication tools for consortia in 2017.

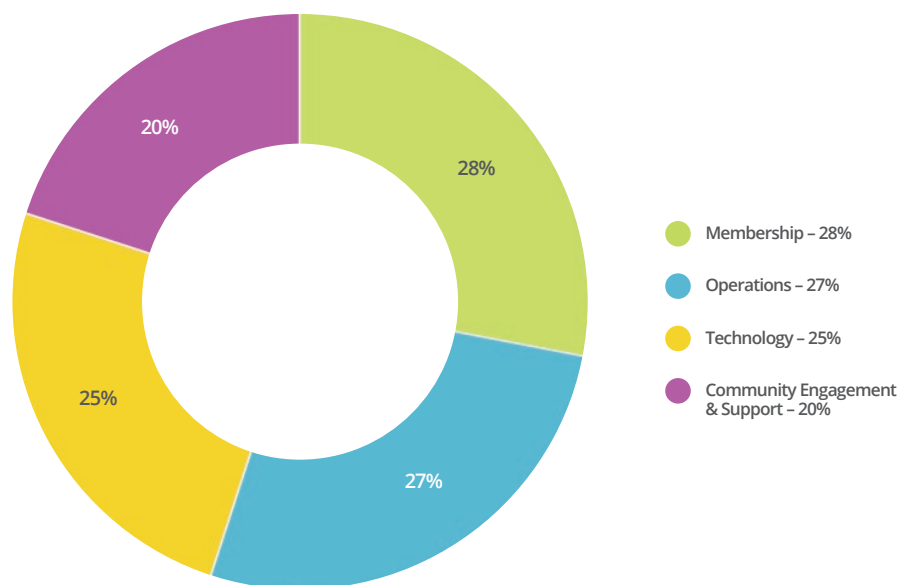| Consortium Lead Organization *(with links to 2016 announcements where available)*	Nation/Region	Number of members	Inception Year
Americas			
Lyrasis	US – Southeast	6	2016
Big 10 Academic Alliance (CIC)	US – Midwest	11	2015
Greater Western Library Alliance (GWLA)	US – West	37	2015
NorthEast Research Libraries (NERL)	US – Northeast	26	2015
Asia Pacific			
Australian Access Federation (AAF)	Australia	40	2016
Royal Society of New Zealand	New Zealand	42	2016
National Chiao Tung University	Taiwan	6	2016
Europe			
CSC IT Center for Science	Finland	12	2016
Elektron VZW	Belgium	6	2016
SURFMarket — Netherlands	Netherlands	7	2016
SUNET	Sweden	9	2016
TIB — Hannover	Germany	15	2016
CINECA	Italy	84	2015
Jisc	UK	74	2015
Denmark's Electronic Research Library (DEFF)	Denmark	8	2014

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GRANT FUNDING

In October 2016, ORCID was awarded follow-on funding by The Leona M. and Harry B. Helmsley Charitable Trust. This 18-month, $1.84M award follows our initial $3M award in 2015. These additional funds allow us to leverage the progress we have made engaging the community and increasing ORCID adoption and use over the last 18 months, and to ensure that our technical offering scales appropriately as we grow. This Phase II funding targets three areas of our operations: reliability, security, and privacy; engagement and sustainability; and communications and training. Our goals are to develop mature services and support training materials, and to reach our sustainability goals.

MEMBERSHIP AND GRANT SUPPORTED ACTIVITIES

During 2016, membership fees combined with grant support enabled us to undertake the wide variety of activities outlined in this report. This chart shows the breakdown of expenditure by activity type, which is split fairly evenly across our four main areas of focus. In addition to staff costs in each area, community engagement and support activities include communications, marketing, and user and member support: membership activities include our regional workshops program; operations includes the costs of running the organization, such as book-keeping, audits, and privacy certification; and technology includes infrastructure costs like Rackspace.

2016 EXPENSES

- Membership – 28%
- Operations – 27%
- Technology – 25%
- Community Engagement & Support – 20%

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OPEN AND RESEARCHER-CONTROLLED RESEARCH INFORMATION INFRASTRUCTURE

VALUE:

Our work is open, transparent, and non-proprietary. We are guided by the principles of privacy and researcher control, and the vision of an identifier-enabled research information infrastructure.

Helping build a trusted and trustworthy research information infrastructure — one that keeps researchers themselves at its heart — underpins everything we do. We are committed to meeting the need of all researchers to be able to connect themselves reliably with their works and affiliations, and we continue to work on new functionality to improve the user experience.

REGISTRATIONS

Over 1M registered for an ORCID iD during 2016 — an increase of around two thirds over 2015 — bringing the year end total to 2,939,592 registrants. Estimates of the number of researchers globally vary widely — UNESCO's 2013 report puts the number at 7.8M, while the OECD's report puts it at 8.051 per 1000 employees or around 25.5M, as of 2014.

Focus on impact:
All who participate

2,939,592 iDs

Estimated global researchers:
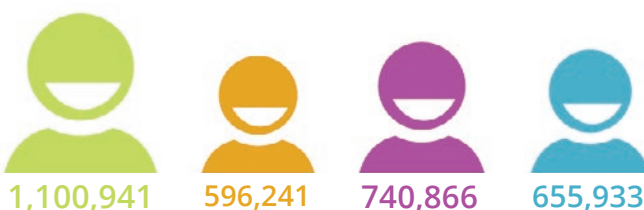UNESCO: 7.8 million
OECD: 25.5 million

ORCID USAGE

During the same period, usage of the ORCID Registry also increased significantly, with the number of unique visitors rising to over 2M in the last quarter of 2016, compared with 1.5M in Q4 2015. What's more, users are also doing more with their ORCID iD, with an increasing number now connecting their iD to their affiliations and works.

The information that users connect to their ORCID record is also increasingly being validated by the source organization — their employer, publisher, or funder. Being able to establish the provenance in this way means that anyone who looks at these connections can see how they were made, and who made them — essential to

Focus on impact:
Connected to contributions

| 1,100,941 | 596,241 | 740,866 | 655,933 |

- ● Connected to one+ activities
- ● Connected to works
- ● Connected to education
- ● Connected to employment

ORCID IDs found in other collections

⭐ **7.7M**
Web of Science Core Journal Collection items with iDs

⭐ **7.7M**
Europe PubMed Central articles with iDs

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building trust in ORCID iDs, other persistent identifiers and, ultimately, the whole research infrastructure.

And, by providing their organizations with long-lived permission to write to their record, users can benefit from their information being continually added and updated. ORCID's auto-update feature, currently implemented by Crossref and DataCite, is a great example.

Collectively, users have connected 18M works (~7.7M unique works), 1.1M employment affiliations (~58.9K unique organizations), and over 1.3M education affiliations (~37.5K unique organizations) to their ORCID record.

By the end of 2016, 1,100,941 ORCID records were connected to at least one activity:

- 596,241 with one or more connected works
- 740,866 with one or more connected education affiliations
- 655,933 with one or more connected employment affiliations

The ORCID Registry also contains ~1.375M Web of Science (WOS) User IDs, and the number of WOS items in their Core Journal Collection with at least one ORCID iD increased from 5.6M to 7.7M during 2016 (8M across all their Collections). There are ~1.2m PubMed IDs in the ORCID Registry, and 3.6M articles in Europe PubMed Central include at least one iD. The number of ORCID iDs associated with records in Elsevier's Scopus also continues to rise.

USER INTERACTIONS

This increase in usage of the ORCID Registry resulted in a corresponding increase in the number of researchers contacting support@orcid.org — from 9,933 tickets in 2015 to 24,449 in 2016. Even so, we were able to improve our response time. During 2016, we also put a full escalation process in place, including 24/5 coverage and emergency cover at weekends. The most common requests related to log-in (lost email or password), merging duplicate records, and registration problems. During 2017 we will be working on improving the user interface and self-service options for these types of issues.
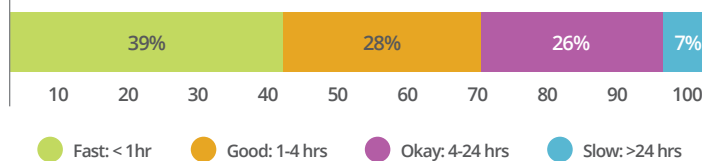
Focus on impact:
Connected across time

24,449 User and member support requests146% increase over 2015

9.1 hr Average wait time 26% faster than in 2015

User and member support response time

39%	28%	26%	7%

10 20 30 40 50 60 70 80 90 100

● Fast: < 1hr   ● Good: 1-4 hrs   ● Okay: 4-24 hrs   ● Slow: >24 hrs

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"WE AT ITHAKA S+R ARE IN LOVE WITH THE AUTO-UPDATING OF ORCID RECORDS

EVERY TIME WE DEPOSIT A NEW DOI. WONDERFUL TO SEE AN ALERT FROM ORCID
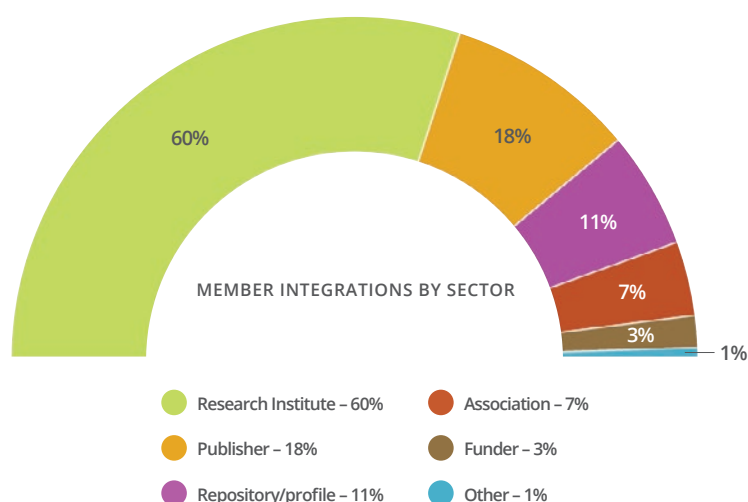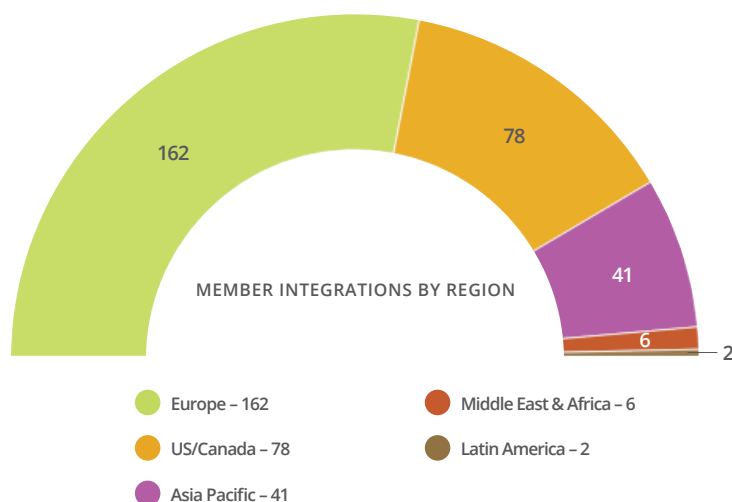
SOMETIMES COME IN EVEN BEFORE A REPORT IS PUBLISHED."

~ ROGER SCHONFELD, ITHAKA S&R

MEMBER INTEGRATIONS

Embedding ORCID iDs into the systems that researchers use in their day-to-day work is critical to achieving our vision of a researcher-centric information infrastructure. Our members have now built and launched ~300 integrations, providing collection — and often connection — points to ORCID iDs across all sectors and in all regions, with 200 more in progress.

The charts below show member integrations by region and sector, both of which broadly align with our membership breakdown (there are also ~100 non-member integrations using our public API). Notable new integrations in 2016 included Redalyc's Search & Link wizard, enabling Spanish-language authors to add works to their ORCID record; The Lens integration, making connections between iDs and patent data from the Lens; and OJS' integration, opening up ORCID to thousands more journals.

MEMBER INTEGRATIONS BY REGION AND SECTOR

MEMBER INTEGRATIONS BY REGION

162
78
41
6
2

- Europe – 162
- US/Canada – 78
- Asia Pacific – 41
- Middle East & Africa – 6
- Latin America – 2

MEMBER INTEGRATIONS BY SECTOR

60%
18%
11%
7%
3%
1%

- Research Institute – 60%
- Publisher – 18%
- Repository/profile – 11%
- Association – 7%
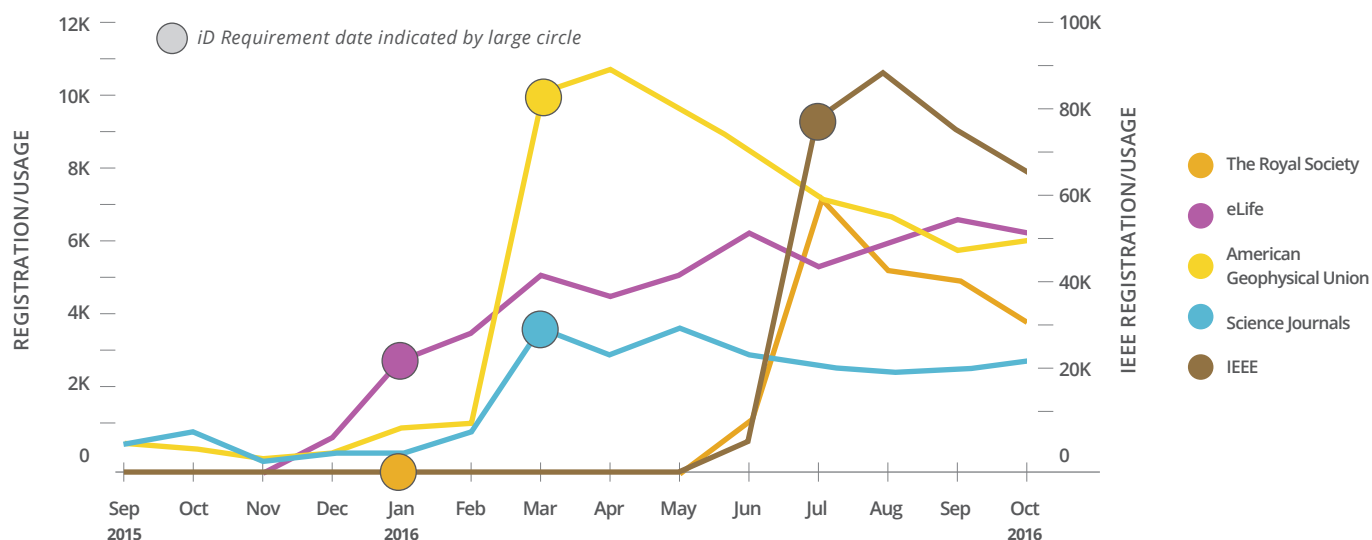- Funder – 3%
- Other – 1%

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PUBLISHERS OPEN LETTER

One of the most common ways that researchers get and use an ORCID iD — comprising three out of the top five most-used integrations — is during the manuscript submission process. In January, the use of ORCID in journals publication workflows got a boost when a group of eight publishers and associations posted an open letter committing their organizations to requiring ORCID iDs for authors of accepted papers. ORCID, at its core, is about researcher control and choice, and ensuring a good researcher experience is a primary

consideration. We worked with publishers to create a set of best practices, building on the the Collect & Connect program (see below). Over the course of the year, the number of signatories climbed to a total of 25; 18 publishers and societies, representing around 1,500 journals, have now gone live with their ORCID requirement.

Requiring ORCID iDs for authors resulted in an immediate uptick and ongoing increase in ORCID registration and usage. A full report on the first year of the open letter will be published in the first quarter of 2017.

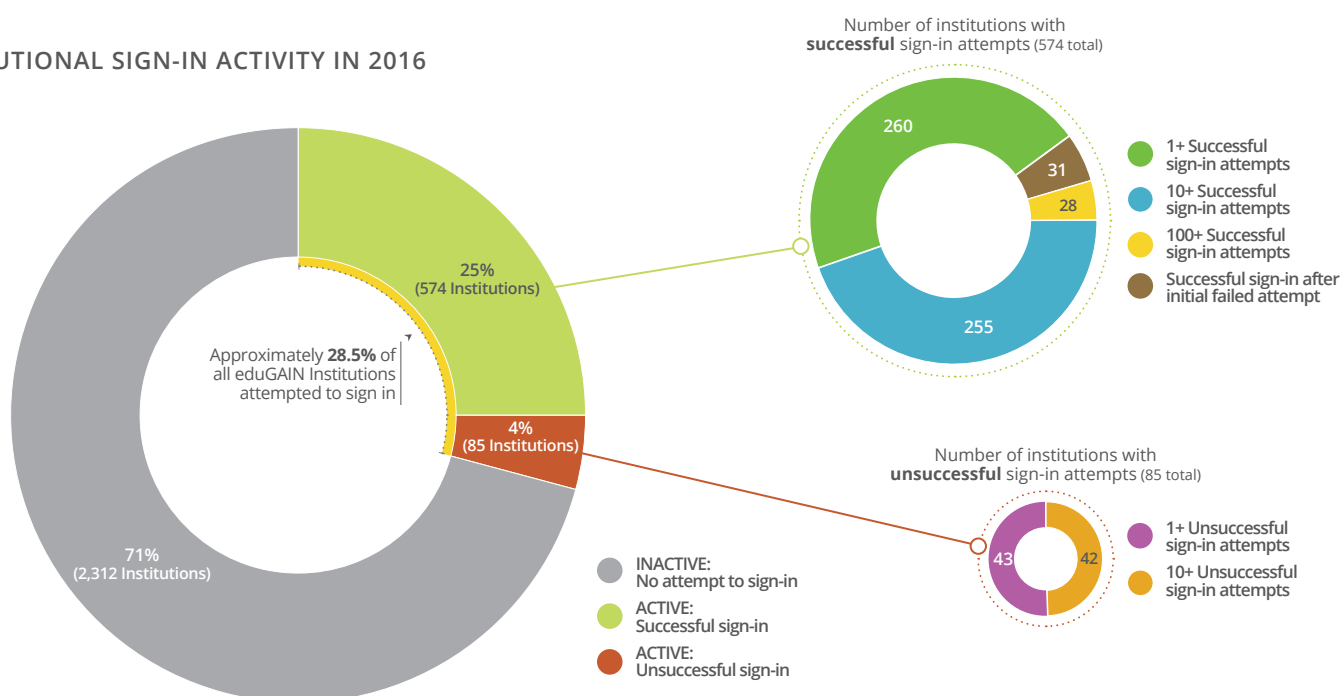**OPEN LETTER PUBLISHER ACTIVITY** (SEP 2015 – OCT 2016)

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INSTITUTIONAL SIGN-IN

An important part of enabling more usage of and connections to ORCID records is making it easy for users to sign into their ORCID record, for example, when giving permission for a trusted organization to access their record. In 2016 we took a big step forward by introducing social and institutional sign-in. Users can now sign into their ORCID account using their Facebook, Google, or institutional credentials, as well as their ORCID sign-in.

The chart below summarizes all institutional sign-in activity in 2016. By the end of the year, there had been 6,257 Google sign-ins, 5,688 via Facebook, and 13,847 (from 574 different institutions) via institutional credentials. From launch through the end of December 2016, we worked with 31 institutions that weren't set up to allow sign-in to ORCID for their researchers, to help them successfully enable this.

INSTITUTIONAL SIGN-IN ACTIVITY IN 2016

Number of institutions with **successful** sign-in attempts (574 total)

- 260
- 31
- 28
- 255

- 1+ Successful sign-in attempts
- 10+ Successful sign-in attempts
- 100+ Successful sign-in attempts
- Successful sign-in after initial failed attempt

25% (574 Institutions)

Approximately **28.5%** of all eduGAIN Institutions attempted to sign in

4% (85 Institutions)

71% (2,312 Institutions)

- INACTIVE: No attempt to sign-in
- ACTIVE: Successful sign-in
- ACTIVE: Unsuccessful sign-in

Number of institutions with **unsuccessful** sign-in attempts (85 total)

- 43
- 42

- 1+ Unsuccessful sign-in attempts
- 10+ Unsuccessful sign-in attempts

API 2.0

During 2016 we spent a lot of time working on the next version of our API — version 2.0. We pushed out four release candidates, and collaborated with API users to test and iteratively expand the scope of the upgrade. The primary goals for the new API are to add granularity, improve clarity, and remove as much implicit behavior as possible. Improvements include better handling of record data, particularly for individuals that have large numbers of

works connected to their record; updates to the way biographical data is managed in a record, including provenance information on names, country, keywords, and websites; editing of related external person identifiers; and individual visibility settings for each item included on lists such as keywords. Finally, in parallel with the API we have improved the user interface to clearly indicate source(s) and support bulk edit features.

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COLLABORATIVE DECISION-MAKING

VALUE:
We make decisions collaboratively, involving our staff, Board, those who support our mission, and the researchers and community that are the purpose of our work.

ORCID is a community-led organization. As well as benefiting from the guidance of a Board broadly representative of the research community, we also seek input and direction on specific initiatives through our community working groups.

ORCID BOARD ELECTIONS

Our Board plays a crucial role in guiding ORCID's strategy and evolution, and ensuring that the interests of our users and members are represented in the decision-making processes that shape our organization. In 2015 the Board voted to transition from elections by the Board to elections by a majority vote of all of our members, for terms of service starting in 2017.

The 2017 Nominating Committee, chaired by Robert Kiley (Wellcome Trust), reviewed community recommendations and created a slate that balanced Board needs for skills and ensuring representation by region and sector, while maintaining the required non-profit majority. The election — one member, one vote, for or against the proposed slate (or abstaining) — was conducted by proxy, using a certified, secure online voting platform. 582 member organizations were eligible to vote, and 224 (40.7%) did so. Two members voted against the slate, 11 abstained, and 224 (94.5%) voted in favor of the slate.

"IT IS SELF-EVIDENT FROM THE APPLICATION PROCESS THAT THERE IS HIGH-LEVEL SUPPORT AND INTEREST IN SUPPORTING ORCID, AND A WEALTH OF TALENT AVAILABLE TO SUPPORT ORCID AND ITS MISSION."

~ ROBERT KILEY, WELLCOME TRUST

COMMUNITY WORKING GROUPS

Organization IDs: Organization identifiers are essential for mapping connections between people, places and things, however, current identifiers don't fully meet all the demands that ORCID, and our community, have. So, during 2016 we worked with our partners in THOR, and with open identifier providers Crossref and DataCite, to explore other provision options for organization IDs. After developing a discussion document we incorporated community feedback

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into a case for further work. This was presented at PIDapalooza, where there was clear consensus that a community group should be established to take this initiative forward. ORCID, DataCite, and Crossref formed a Steering Group and launched a community task force in January 2017.

ORCID in books workflows: There is increasing demand from the community for guidelines on implementing ORCID in book publishing workflows. A small number of publishers, including Springer Nature and Cambridge University Press, recently started integrating ORCID in their books systems. Representatives from those organizations and other publishers (small and large) and service providers, volunteered for an ORCID-facilitated community task force to draft a set of best practice recommendations. The group met several times during 2016 and is now working with a consultant with expertise in all aspects of book publishing to complete this project in 2017. We expect to share a report with the community for comments and feedback by the end of Q2 2017.

Displaying iDs in journal articles: We first published guidelines for displaying ORCID iDs in journal articles back in 2013. In mid-2016, we set up a community task force to revisit the guidelines, update them to reflect current best practices, and address challenges such as displaying iDs in hyper-authored articles. Following a call for participation, a group of 15 volunteers from the community, along with two ORCID staff, have been working on this project. The ORCID Executive Committee reviewed their recommendations in December 2016, and the revised guidelines were posted for public comment in February 2017.

SAMPLE HYPER-AUTHORED ARTICLE DISPLAYING IDS

Lawrence N. Hudson[1]*
Tim Newbold[2,3]*
Sara Contu[1]
Samantha L. L. Hill[1,2]
Igor Lysenko[4]
Adriana De Palma[1,4]
Helen R. P. Phillips[1,4]
Tamera I. Alhusseini[5]
Felicity E. Bedford[6]
Dominic J. Bennett[4]
Hollie Booth[2,7]
Victoria J. Burton[1,8]
Charlotte W. T. Chng[4]
Argyrios Choimes[1,4]
David L. P. Correia[9]
Julie Day[4]
Susy Echeverría-Londoño[1,4]
Susan R. Emerson[1]
Di Gao[1]

Gilbert B. Adum[21,22]
Virginia Aguilar-Barquero[23]
Marcelo A. Aizen[24]
Belén Albertos[25]
E. L. Alcala[26]
Maria del Mar Alguacil[27]
Audrey Alignier[28,29]
Marc Ancrenaz[30,31]
Alan N. Andersen[32]
Enrique Arbeláez-Cortés[33,34]
Inge Armbrecht[35]
Víctor Arroyo-Rodríguez[36]
Tom Aumann[37]
Jan C. Axmacher[38]
Badrul Azhar[39,40]
Adrián B. Azpiroz[41]
Lander Baeten[42,43]
Adama Bakayoko[44,45]
András Báldi[46]

Jake E. Bicknell[66,67]
Jochen H. Bihn[68]
Robin J. Blake[69,70]
Kadiri S. Bobo[71,72]
Roberto Bóçon[73]
Teun Boekhout[74]
Katrin Böhning-Gaese[75,76]
Kevin J. Bonham[77]
Paulo A. V. Borges[78]
Sérgio H. Borges[79]
Céline Boutin[80]
Jérémy Bouyer[81,82]
Cibele Bragagnolo[83]
Jodi S. Brandt[84]
Francis Q. Brearley[85]
Isabel Brito[86]
Vicenç Bros[87,88]
Jörg Brunet[89]
Grzegorz Buczkowski[90]

ORCiD

GLOBAL AND DIVERSE TEAM

VALUE:

We take a global view. We have a diverse team, deployed internationally in our "virtual office."

ORCID is committed to diversity and inclusivity; our globally based staff, Board, Ambassadors, and working group members reflect this commitment.

ORGANIZATION CHANGE

At the start of 2016 we reorganized to better drive our objectives to sustain, lead, and mature our organization, including increasing our attention to longer-term strategic activities. These changes, which were made possible in part thanks to the support we've received from The Leona M. and Harry B. Helmsley Trust, allow us to leverage the progress we have made with engaging the community and increasing ORCID adoption and use over the last 18 months, and also to ensure that our technical offering scales appropriately as we grow. They included the formation of two new teams — Community Engagement & Support, led by Alice

Meadows, and Technical Operations, led by Robert Peters — and the creation of a new role for Laura Paglione as our Director of Strategic Initiatives.

Our staff, which grew from 22 to 26 colleagues during 2016 (including four who work for THOR, an ORCID EU partner project), continues to reflect our commitment to diversity in terms of nationality, background, gender, sexual orientation, age, and more. Based in nine countries, collectively we speak nine languages — English, Dutch, French, German, Italian, Japanese, Mandarin, Portuguese, and Spanish.

USAGE BY THE TOP 10 COUNTRIES:

1. United States 2,055,868
2. China 1,011,736
3. United Kingdom 888,478
4. India 666,593
5. Spain 658,542
6. Brazil 563,333
7. Italy 558,763
8. Australia 402,862
9. Portugal 392,785
10. Germany 391,433

ORCID USAGE BY REGION

- Europe (40%)
- US/Canada (18%)
- Asia Pacific (26%)
- Middle East & Africa (8%)
- Latin America (8%)

ORCiD

GLOBAL DIVERSITY IN ALL WE DO

The values of global inclusion and diversity help shape all our activities. We strive to ensure that our staff, Board, Ambassadors and community task force members represent a range of countries, sectors, types of organizations, and career levels.

We also work to ensure that the ORCID Registry is accessible to researchers in all regions of the world. Nearly half our users prefer a language other than English, with Chinese (11%), Spanish (7%), and Portuguese (5%) the top three languages after English as of December 2016. No new languages were added to the ORCID Registry during 2016, however, thanks to our Finnish and French volunteers we did add translations of outreach resources in those languages. We also introduced a new system to support future community translations (Transifex) — key to expanding our support for researchers internationally — as well as changing the font on our websites to be more readable and to support a much wider range of languages.

The map on the previous page shows regional usage of the ORCID Registry, while the chart below shows usage of the ORCID Registry by language.

Focus on impact:
Contributions across borders

ORCID USAGE BY LANGUAGE

- English (53%)
- Chinese (11%)
- Spanish (7%)
- Portuguese (5%)
- Russian (4%)
- Italian (3%)
- French (3%)
- German (3%)
- Others (Korean 2%, Japanese 2%, Turkish 1%, Polish 1%, all others 5%)

ORCiD

WIDE-RANGING ENGAGEMENT

VALUE:
We engage with a wide range of organizations and people to ensure broad viewpoints.

Community engagement is vital to ensuring that we understand the needs of our users and members and are able to respond to them. We do this via several channels including events (ORCID-hosted and others), publications (the ORCID blog, other blogs, journal articles, etc), and social media.
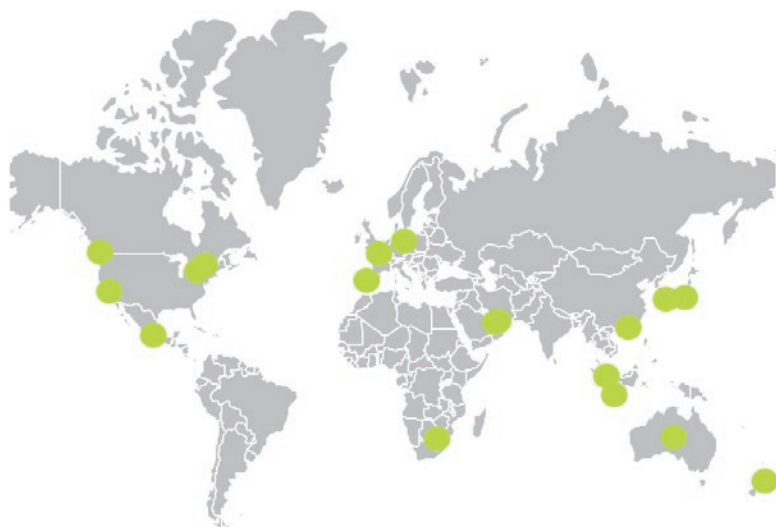
EVENTS

Workshops: ORCID workshops provide us the opportunity to connect with our users, as well as existing and potential members. Workshop topics in 2016 included ORCID basics, the role and importance of persistent identifiers in the digital age, ORCID API and integrations, ORCID user engagement, ORCID in research workflows, ORCID as a community initiative, and panel discussions with ORCID members. We hosted 14 ORCID workshops across all regions and also participated in numerous workshops hosted by partner organizations.

Town halls: In 2016 we held three member "town hall" meetings, to enable members to engage with Board members and staff, discuss the ORCID roadmap and progress towards sustainability. We also used the meetings as a way to introduce the nominations process and upcoming Board elections. We held one town hall in each geographical region — the Americas; Europe, Middle East & Africa; and Asia-Pacific — and all meetings were virtual, so that all ORCID members could attend. Two were also co-located with physical meetings attended by local members in person. Collectively the town hall meetings were attended by around 250 people from ORCID member organizations in their regions. A consolidated slide deck from the meetings is available.

Outreach meetings: 2016 saw our first outreach meeting in Australia. Held at the Australian National University on February 11-12, it attracted over 110 attendees. The meeting coincided with the official launch of Australia's national ORCID consortium, led by the Australian Access Federation.

Our second outreach meeting took place at the offices of the American Association for the Advancement of Science in Washington, DC on October 5. Attended by over 150 people, the meeting theme was Research Without Borders.

ORCID EVENTS 2016

Launch of Australia's national ORCID consortium

PIDapalooza: On November 9-10 we co-hosted PIDapalooza, the first festival of persistent identifiers, with California Digital Library, Crossref, and DataCite. Around 120 creators and users of persistent identifiers gathered in Reykjavik, Iceland, for two days focused exclusively on PIDs. Taking its cue from its namesake, Lollapalooza, this was a fun, energetic, and interactive event with very positive feedback from attendees.

Other events: As well as hosting our own meetings, we also engage via community conferences and other meetings. In 2016, ORCID staff spoke at around 60 conferences and other events worldwide — from Dublin to Durban and from Tokyo to Toronto, and across the whole ORCID community.

PUBLICATIONS

We also engage with our community through the ORCID blog and in a wide range of other publications. During 2016 ORCID staff-authored publications included articles on our peer review functionality in Learned Publishing and on ORCID and open access in Publications; and posts for Elsevier Connect, ChemVIews Magazine, and the LSE Impact blog. In addition, well over 50 posts
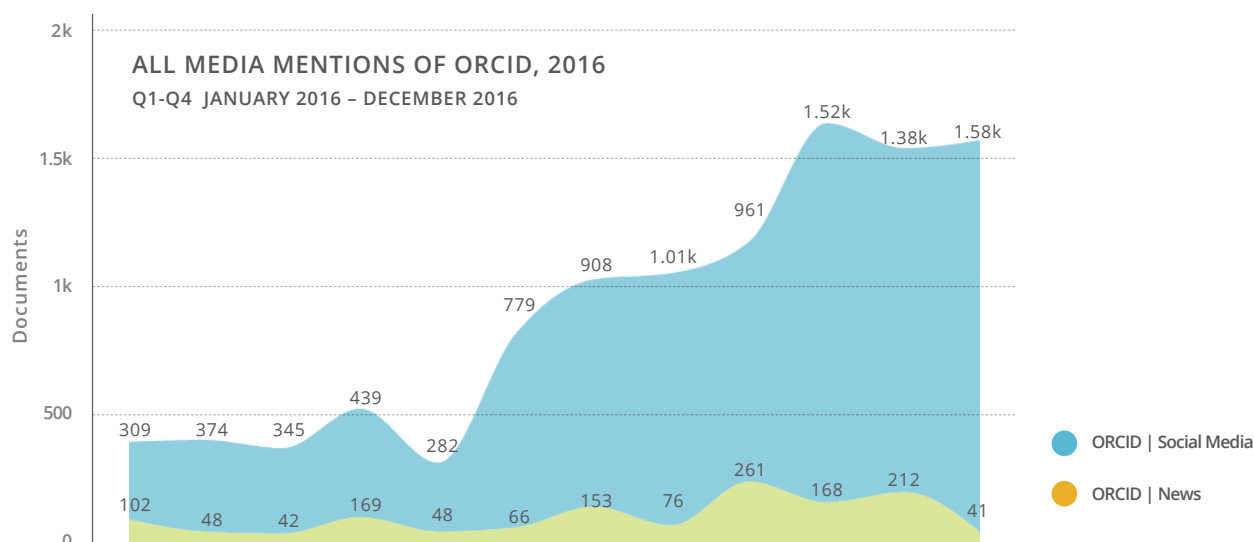
and articles about ORCID were published last year, in a range of publications from Science to Book Business, from the PLOS blog to the Internet2 blog.

ORCID garnered press and media coverage in over 30 countries last year — from Austria to Yemen. The top five countries in terms of coverage were (in order) the USA, China, Germany, the UK, and Brazil. The chart below shows all press, media, and social media mentions of ORCID during 2016.

SOCIAL MEDIA

Social media continued to be a valuable method of community engagement for ORCID in 2016:

- **Twitter:** 1.64M impressions, 5.6k mentions, 14.5k followers
- **LinkedIn:** 55k impressions, 389 interactions, 647 followers
- **Facebook:** 94k impressions, 611 likes, 2,401 fans

ALL MEDIA MENTIONS OF ORCID, 2016
Q1-Q4 JANUARY 2016 – DECEMBER 2016

Documents

2k

1.5k

1k

500

0

1.52k
1.38k
1.58k
961
908   1.01k
779
439
309   374   345
282
261
168   212
102
48   42   169   48   66   153   76   41

● ORCID | Social Media
● ORCID | News

ORCiD

TRUSTED RESEARCH INFRASTRUCTURE COMPONENT

VALUE:

We strive to be a trusted component of research infrastructure with the goal of providing clarity in the breadth of research contributions and the people who make them.

Helping to build trust in the research infrastructure, by providing transparent and trustworthy services and tools to the community, is central to everything we do. This includes ensuring that our technology is reliable; that our members build integrations that work for their users, their organizations, and the wider community; and that we continue to adhere to our core principles, including researcher control.

ORCID TRUST

In February, we started the process to develop a comprehensive data security policy and set of practices. This initiative was already planned for later in 2016, but was brought forward following a privacy incident in which data marked as private — specifically email addresses — for 46,823 users (~2.5% of ORCID records) were exposed for around 17 hours.

During 2016, therefore, we developed the ORCID Trust program. We surveyed a panel of organizations that handle personal data, and outlined a comprehensive program based on these findings. We formed a Trust Feedback Working Group, chaired by Board member Richard Ikeda, to solicit input from the community. Based on the input from this group, we developed the ORCID Trust framework, a comprehensive set of practices that contain all components of policy, tools, and practices that engender trustworthiness in ORCID and the tools and resources that we provide.

The ORCID Trust framework covers four broad areas: individual control, registry reliability, community accountability, and information integrity. In addition to descriptions of ORCID's practices and policies, the framework includes internal programs such as staff training, internal policy development, and informal internal audits of practices. Because of the ongoing importance of trust, in late 2016 we created a new position focusing on trust-related topics. In addition, the ORCID board has recommended an ongoing working group to provide feedback about trust-related topics. This Working Group will be formed in early 2017.

ORC**i**D

COLLECT & CONNECT

In May, we launched Collect & Connect, an ambitious initiative designed to provide a clear structure and set of practices for integrating ORCID iDs into systems. The program takes a sector-by-sector approach focused on the needs of researchers, their organizations, and the wider research community. Critically, the program emphasizes the need to combine outreach and training efforts with technical implementation, using digital badges to recognize effective integrations that do both.
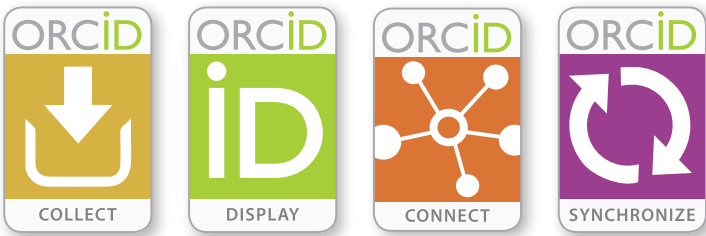
The key elements of Collect & Connect are:

Collecting validated ORCID iDs for individuals to ensure they're correctly associated with their affiliations and contributions

Displaying iDs to signal to researchers that an information system is plumbed to support their use of ORCID

Connecting information about affiliations and contributions to ORCID records, creating trusted assertions and enabling researchers to easily provide validated information to systems and profiles they use

Synchronizing between research information systems to improve reporting speed and accuracy, and reduce data entry burden for researchers and administrators alike

Since launching Collect & Connect at our Toronto workshop in May, we have been introducing members to the program, mapping their current integrations against the four elements; promoting it via the ORCID blog, our Washington, DC outreach meeting, and our consortia tech leads; incorporating it into our new API 2.0 documentation; and launching the Collect & Connect recognition program, with the first badges awarded in August to The Lens and ProQuest Pivot.

AUTO-UPDATE

Our auto-update functionality is a great example of how persistent identifiers can be used to automatically connect validated information to ORCID records — another way to ensure trust in the research infrastructure. Implementation of this feature enables registrants who use their iD when submitting a paper or dataset to a publisher or repository, to benefit from having their ORCID record automatically updated on publication.

As shown in this table, Crossref facilitated the update of just over 150,000 records with 300,000 works during 2016. DataCite reports updating around 25,000 records with 50,000 works. We are working with both organizations — and with many of our publisher members — to improve researchers' understanding and use of this process.

PUBLISHER CONNECTIONS FACILITATED BY CROSSREF

Month	Authors granting permission	Works added
January	41,913	63,224
February	10,342	11,508
March	20,444	35,914
April	6,996	10,828
May	13,171	24,286
June	6,708	12,605
July	12,415	22,060
August	7,995	16,470
September	9,259	41,533
October	6,415	12,077
November	7,175	14,279
December	7,671	15,556

ORCID

INFRASTRUCTURE IMPROVEMENTS/UPDATE

The most important infrastructure improvement of 2016 was restructuring the development team and software release cycle to provide focus on quality assurance (QA). This included migrating one software developer position to a QA position at the start of the year. Later we backfilled the software position and added an additional resource for QA automation. Throughout 2016 we continuously improved our automated testing, as well as developing an official manual test script, and putting in place web application security scanning and two-factor authentication for server access.

In 2016, we also upgraded our servers to ensure that our storage area was large enough to handle structural changes to our growing database. We updated our database to a newer version, and upgraded from a virtual (shared) machine to "bare metal" (dedicated) hardware.

ORCID SYSTEM RELIABILITY

Registry and API availability and reliability are essential to our success. The table below provides an overview of website and API availability for the year, highlighting ORCID's 99.9% availability throughout 2016.

The downtime and outages shown include all of the time throughout the year that the Registry and APIs were unavailable, including outages due to software releases, issues external and internal to our network, and even false positives. Approximately half of the downtime listed was due to planned releases or database migrations. The other half of the outages were due to server downtime or brownouts. During 2016, the software development team grew, enabling an increased number of releases, which contribute downtime. There were approximately 45 releases, plus software patches, throughout the year.

The frequency of outages decreased as the year progressed. The largest contributor to this improvement was a change in our release process to shift the focus to Registry and API availability. Another strong contributor to fewer outages was the deployment of a replicated database, which enables us to segregate requests via the public API from those via the Registry website or member API. This segregation helps us to insulate large or sudden increases in public API usage from affecting response times for the member API and Registry.

Report	Uptime	Downtime	Outages	Ave resp time	URL
Registry	99.94%	5h25m	35	974ms	full report
Member API	99.93%	6h21m	61	767ms	full report
Public API	99.92%	7h	70	734ms	full report

ORCID

FOCUS ON IMPACT:
INDEX TO ORCID KEY PERFORMANCE INDICATORS (KPIs)

All images are also available separately *and can be reused as required under a* CC-0 license

ORCID

WHO WE ARE

ORCID BOARD MEMBERS, 2016

MICAH ALTMAN *(2015-2017) Massachusetts Institute of Technology*

PATRICIA BRENNAN *(2014-2016) Thomson Reuters / Clarivate*

DANIEL FORSMAN *(2014-2016) Chalmers University*

LAUREL HAAK, *Secretary, ORCID ex officio*

THOM HICKEY *(2014-2016) Online Computer Library Center*

RICHARD IKEDA *(2016-2018) US National Institutes of Health*

VERONIQUE KIERMER *(2016-2018) PLOS*

ROBERT KILEY *(2016-2018) Wellcome Trust*

SALVATORE MELE *(2015-2017) CERN*

ED PENTZ, *Chair (2015-2017) Crossref*

BERNIE ROUS *(2016-2018) Association for Computing Machinery*

CHRIS SHILLUM *(2014-2016) Elsevier*

MARTA SOLER-GALLART, *Researcher (2014-2016) University of Barcelona*

HIDEAKI TAKEDA *(2014-2016) National Institute of Informatics Japan*

SIMEON WARNER *(2015-2017) Cornell University*

EDWARD WATES, *Treasurer (2015-2017) Wiley*

ORC**i**D

WHO WE ARE

ORCID STAFF, END OF 2016

LAURE HAAK, *Executive Director (USA)*

JOSH BROWN, *Regional Director — Europe (UK)*

MATTHEW BUYS, *Regional Director — Middle East & Africa, Canada (South Africa)*

MANUEL CALVO, *UX Developer (Costa Rica)*

ANA CARDOSO, *Community Engagement & Support Specialist — Latin America (Mexico)*

ADE DEANE-PRATT, *Technical Analyst — THOR Project (UK)*

PAULA DEMAIN, *Community Engagement & Support Specialist — Europe (UK)*

TOM DEMERANVILLE, *Senior Technical Officer — THOR Project (UK)*

MAAIKE DUINE, *Events & Training Officer — THOR Project (Netherlands)*

STEPHANIE HARLEY, *Events Coordinator (USA)*

SARAH HERSHBERGER, *Operations Manager (USA)*

LIZ KRZNARICH, *Tech Lead — Front End Development (USA)*

ALICE MEADOWS, *Director of Community Engagement & Support (USA)*

NOBUKO MIYAIRI, *Regional Director — Asia Pacific (Japan)*

ANGEL MONTENEGRO, *Software Architect (Costa Rica)*

GEORGE NASH, *Senior Software Developer (Spain/UK)*

LAURA PAGLIONE, *Director of Strategic Initiatives (USA)*

JEFFREY PEREZ, *QA & Server Automation Engineer (Costa Rica)*

LILIAN PESSOA, *Regional Director — Latin America (Brazil)*

ROB PETERS, *DIrector of Technology (USA)*

WILL SIMPSON, *Tech Lead — Back End Development (UK)*

JOSEPH SCHWARZE, *Privacy Specialist (USA)*

CATALINA WILMERS, *Tech Lead — Quality Assurance (USA)*

DOUG WRIGHT, *Membership Director (USA)*

ALAINNA WRIGLEY, *Community Engagement & Support Specialist — Asia Pacific (Hong Kong)*

ANA VERA WYNNE, *Community Engagement & Support Specialist — Canada & US (USA)*

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