

CONNECTING RESEARCHERS AND RESEARCH

JOINT STATEMENT OF PRINCIPLE: ADOPTION AND USE OF ORCID AS A COMMON RESEARCHER IDENTIFIER IN CANADA AND PROPOSAL FOR A CONSORTIAL APPROACH FOR INSTITUTIONS



CONTEXT

Digital identifiers lie at the foundation of best practices in the governance and management of digital information and data because they support disambiguation, allow machine readability, enforce uniqueness, and enable linking and systems integration. Ideally, a digital research ecosystem would be characterized by comprehensive and persistent identification of organizations, researchers, projects, grants and a wide variety of research outputs whether a research data-set, publication, source material, or the myriad other important types of research output.

Currently, the unique identification of researchers across the many technology systems used by research institutions, publishers, funding bodies and researchers themselves, makes it problematic to accurately link research publications, data and other research activities to the right researcher. Integrated into key research workflows such as manuscript and grant submissions, enabling automated linkages between a researcher and their professional activities, a common and unique persistent identifier resolves problems of name ambiguity in search and discovery and can ensure that works are correctly and unambiguously attributed to their creator.

ORCID

ORCID (named for the “Open Researcher and Contributor ID” that it developed) has been established to create and maintain a registry of unique researcher identifiers and a transparent method of linking research activities and outputs to these identifiers. It aims to solve the problems of name ambiguity and researcher identification by giving individuals a unique numeric identifier that persists over time. Unlike other identifiers, ORCID is not limited by discipline or by geographic region or any proprietary commercial publisher or information provider.

ORCID acts as a hub: the ORCID identifier connects researchers with their works, organizations, and their other person identifiers; ORCID Application Programming Interfaces (APIs) enable data exchange between research information systems. The ORCID community includes individual researchers, universities, national laboratories, commercial research organizations, research funders, publishers, national science agencies, data repositories, and international professional societies, all of whom have been critically affected by the lack of a central registry for researchers.

The use of ORCID has many tangible benefits for our researchers, research institutions, funding agencies and the nation overall. It is proposed that the Canadian research sector broadly embrace the use of ORCID as a common researcher identifier. These benefits are outlined below.

Commitment to ORCID on a national scale is already well underway in Australia, the United Kingdom, New Zealand, and many other jurisdictions. In fact, this document is adapted from Australian and New Zealand models.¹

¹ We would like to thank and credit the Australian ORCID Consortium and the New Zealand ORCID Consortium, whose respective Statements and other documentation are invaluable to our effort. See www.ands.org.au/trash-ands/discovery/orcid-joint-statement-of-principle.pdf and <http://www.mbie.govt.nz/info-services/science-innovation/data-and-information-improvement/orcid-joint-statement-of-principle-optimised.pdf>

JOINT STATEMENT OF PRINCIPLE

The following statement of principle is issued by a Canadian multi-stakeholder working group made up of representatives from these organizations and academic institutions:

Canadian Association of Research Administrators (CARA)	Ontario Council of University Libraries (OCUL)
Canadian Association of Research Libraries (CARL)	Public Knowledge Project (PKP)
Canadian Research Knowledge Network (CRKN)	Research Data Canada
Canadian University Council of Chief Information Officers (CUCCIO)	Scholars Portal
CANARIE	University of Alberta Libraries
CASRAI-CA (ABC Partnership)	Carleton University
Compute Canada Cacul Canada	Université Laval
Council of Prairie and Pacific University Libraries (COPPUL)	Queen's University Library
	University of Toronto Libraries

As a matter of principle, we:

1. Recognize the value of “common” unique researcher identifiers in making research information and data more useful and meaningful: reducing administrative complexity and burden, increasing efficiency, improving quality, integrating disparate sources across the research and dissemination life-cycle, promoting the reuse, and enhancing the online presence of Canadian research to the global market;
2. Strongly encourage the use of ORCID across the research ecosystem;
3. Commit to support the use of ORCID as a common researcher identifier.

Rationale for adoption of ORCID

While there are a number of unique author identification systems available², ORCID has strong international momentum. It is an open, non-profit, community-driven effort, developed by and for the research community specifically.³ As such, it is designed and optimized for researchers and acts as a hub that connects with other researcher identification systems, publishers, funders, professional associations, repositories, and higher education bodies.

The broad benefits of ORCID are many. These include:

- Uniquely identifying researchers through an online identifier that links to their works (publications, datasets etc.), links to other researcher identification systems, and is retained regardless of a researcher's institutional affiliation;
- Enabling researchers to interact with multiple institutions, publishers and funders in Canada and around the world through use of a common identifier;

² See for example: ISNI <http://www.isni.org/>, VIAF <http://viaf.org/>

³ ORCID: <http://orcid.org/>

*Connecting researchers and research -
Joint Statement of Principle and Proposal for ORCID-CA Consortium*

- Simplifying and automating data entry processes, reducing duplication of effort and the administrative burden on researchers, research institutions, and funding agencies, and thereby improving the overall efficiency and productivity of the national research system as a whole;
- Enabling the reuse of data for multiple purposes, both within an organization and across organizations through automation of processes and data exchanges;
- Improving data quality (accuracy, completeness, consistency, validity etc.⁴) through automated data extraction, harvesting and testing across systems and organizations;
- Providing the necessary infrastructure to integrate data, and facilitate timely and efficient data collection supporting management and internal assessment of a research institution, and more broadly for monitoring the health and performance of the national research system; and,
- Enhancing the online presence and exposure of Canadian researchers and their research activities to the global market, industry partners, international collaborators, and students aspiring to study in Canada.

These benefits have clear flow-on effects for researchers, research institutions and funding agencies, and for the nation as a whole. Benefits to these groups, specifically, include the following:

For the researcher, establishing an ORCID identifier (or iD):

- Allows researchers to distinguish their research activities from others with similar names and affiliations;
- Enables researchers to easily and uniquely associate a researcher's identity to a wide range of research activities and objects such as publications, datasets, equipment, articles, media stories, curated exhibits, citations, experiments, patents, teaching notes and notebooks;
- Empowers researchers to self-manage their personal privacy whilst preserving the ability for their body of work to be publicly available.
- Reduces manual data entry through automatic harvesting of associated activities and objects;
- Makes the research process and collaboration across borders, institutions and disciplines easier because it removes the need to enter data over and over again. The data associated with a researcher can "move" with their identifier across organizations and national boundaries;
- Facilitates researcher interaction with multiple organizations, publishers, funders through a common identifier; and,
- Provides records for individual scholars, improving discoverability of researchers and their associated research activities and objects.

For universities and other research performing organizations, using ORCID:

- Improves data quality for reporting research output for institutional management purposes. (As publishers increasingly adopt the use of ORCID, researchers at any stage of their career can link to as many publications and scholarly outputs as possible);

⁴ Data Management Association Guide to Data Management Body of Knowledge defines Data Quality to include 11 key metrics: Accuracy, Completeness, Consistency, Currency, Precision, Privacy, Reasonableness, Referential Integrity, Timeliness, Uniqueness and Validity. <http://www.dama.org/content/body-knowledge>

*Connecting researchers and research -
Joint Statement of Principle and Proposal for ORCID-CA Consortium*

- Enhances an institution's research profile through improved visibility and discoverability of research outputs and their research impacts; and,
- Has a time and cost benefit as it reduces manual data entry, minimizes double handling of data and makes it easier to maintain up-to-date records.

For Funders, integrating ORCID into their research application flows would:

- Facilitate reporting on research networks and researcher outputs, outcomes and impact of the research they have funded;
- Provide a registry of persistent unique identifiers for researchers and methods for linking to digital research objects;
- Establish trusted relationships with grantees to receive updates on research activities, reducing application and post-award reporting requirements including repository deposition;
- Include ORCID identifiers in their local grantee databases, reducing duplicate records and allowing for cross-organization data exchange and record management;
- Embed ORCID identifiers in funding workflows which will make it possible to link a researcher's contributions across their career;
- Provide greater and transparency of funded research and associated outputs, which can improve information on global research and development resource flows, vital for funding agency gap analysis and strategy.

For Publishers, requiring ORCID for their authors would:

- Ensure authors are accurately identified and acknowledged;
- Facilitate disambiguation of authors across disciplines and affiliations;
- Simplify manuscript submission;
- Automatically update author's ORCID record with metadata on accepted manuscripts;
- Improve author search across publications and platforms;
- Facilitate the creation and maintenance of author and reviewer profiles.

For the nation, national adoption of ORCID would:

- Reduce red tape and duplication of effort by capturing data once and enabling reuse and exchange of data across different institutions and systems throughout the entire life-cycle of a research project, e.g. for grant application and reporting, for manuscript submission to publishers, for other institutional, provincial or national assessment-related reporting;
- Improve data quality (accuracy, consistency etc.) for the sector as a whole;
- Allow a more efficient national data collection and reporting to monitor the health and performance of the national research system, leading to better understanding of the national system and more informed national policies;
- Enhance the nation's research profile through improved visibility and discoverability of research outputs and research impacts across diverse systems and sources (e.g. publishers' websites,

search engines, disciplinary repositories etc.), creating greater opportunities for international collaboration and access to Canadian research by end- users or industries; and,

- Position Canadian research institutions and Canadian researchers as global leaders in research management practices, providing Canadians with the opportunity to influence and shape the management and future direction of the global research and innovation system.

ORCID INTERNATIONAL ADOPTION

In addition to the large and growing number of individual institutions worldwide who have joined ORCID in order to integrate ORCID identifiers into their local systems, a number of countries have adopted a consortium approach to ORCID integration.

- Six out of Denmark’s eight universities, all university colleges, and a consortium of research institutions signed a consortium agreement with ORCID in August 2014. Their motivation was to address “... a need to correctly identify researchers, across their careers, changes in affiliation, and changes or variations in names, and link all of these variants with a coherent publication record.”⁵
- In Spain, the Consortium of Andalusian University Libraries became a consortium member of ORCID in October 2014, aiming “...to provide facilities to register researchers at the nine participating universities and to integrate ORCID identifiers into institutional repositories and institutional and regional research information systems.”⁶
- In the United Kingdom, the Jisc-ARMA ORCID pilot project was undertaken from May 2014 to January 2015. It aims “...to streamline the ORCID implementation process at universities and to develop the best value approach for a potential UK-wide adoption of ORCID in higher education.”⁷
- In New Zealand, a consortium was established in 2016. According to information provided on its website:⁸

“On 26 July 2016, the Health Research Council of New Zealand, the Independent Research Association of New Zealand, the Ministry of Business, Innovation and Employment, the Ministry of Education, the Ministry for Primary Industries, the New Zealand Association of Scientists, the Royal Society of New Zealand, Science New Zealand, the Tertiary Education Commission and Universities New Zealand issued a joint statement of principle agreeing to strongly encourage and support the use of ORCID identifiers across New Zealand’s research and science system. ... Following the recommendation of a broad cross-sector working group, the Ministry of Business, Innovation and Employment has generously agreed to pay the consortium fee to allow eligible New Zealand organisations to join in a national approach to ORCID membership. This support covers the Society’s ORCID Work Programme, which includes consortium membership subscriptions for up to ninety-nine NZ organisations, and a software development work programme to create a New Zealand

⁵ ORCID blog, Denmark Consortium: <https://orcid.org/blog/2014/09/03/denmark-adopts-orcid-consortium-approach-orcid-implementation>

⁶ ORCID blog, Spanish Consortium: <https://orcid.org/blog/2014/10/01/orcid-andalucia-cbua-joins-orcid-consortium-member>

⁷ Jisc-ARMA (Joint Information Systems Committee, Association of Research Managers and Administrators) ORCID Pilot Project: <http://orcidpilot.jiscinvolve.org/wp/>

⁸<http://royalsociety.org.nz/research-practice/orcid/>

*Connecting researchers and research -
Joint Statement of Principle and Proposal for ORCID-CA Consortium*

ORCID hub that will allow organisations of all scales and technical resource to productively engage with ORCID.”

- In Australia, a consortium likewise formed in 2016, facilitated by Universities Australia, the Australian Research Council (ARC), the National Health and Medical Research Council (NHMRC), the Australasian Research Management Society (ARMS), the Council of Australian University Librarians (CAUL), the Council of Australian University Directors of Information Technology (CAUDIT), the Australian National Data Service (ANDS) and the Australian Access Federation (AAF).

Worldwide, many publishers, libraries, learned societies and research providers are integrating with ORCID iD. In November 2016, Wiley announced plans to require ORCID iDs as part of the manuscript submission process for a more than 500 of its journals. The Public Knowledge Project has integrated ORCID iD support for Open Journal Systems (OJS), open source journal publishing software used by over 10,000 currently active journals around the world. As of December 1, 2016 there are over 25 scholarly publishers and societies that have signed ORCID’s open letter.

Likewise, some funders are now requiring the use of ORCID iDs, including the UK National Institute for Health Research, the Swedish Research Council, Science Foundation Ireland, and the Austrian Science Fund. Funders such as the National Institutes of Health and the Wellcome Trust are integrating ORCID into their workflows, so that data can be ‘pulled’ and ‘pushed’ between systems to speed up submission processes. Other funding agencies across the world are following suit.

One of the key enablers of the ORCID platform for researchers is the automated integrations with publishers and research data registries. These integrations enable researchers to link their scholarly works to their ORCID account with minimal effort. Over 1,000 journals, including publications by Public Library of Science, Nature and Elsevier are using ORCID in manuscript submission systems.

There are over 600 ORCID members from every section of the international research community and over three million ORCID identifiers have been issued since its launch in October 2012. Community uptake of ORCID has dramatically increased over the past year.

ORCID Uptake in Canada to Date

In Canada, already around 23,750 ORCID records have a public affiliation with the country set to Canada and over 53,000 ORCID records are associated with a Canadian domain email address (.ca) as of January 2017.

A number of Canadian institutions have joined ORCID and others are considering integrating ORCID with their systems and workflows. Current ORCID members include Carleton University, the National Research Council of Canada, the Perimeter Institute, and the Public Knowledge Project.

The high level of interest in ORCID in the research sector was evident at their 2016 ORCID Workshops held in Toronto (May 17), Ottawa (May 20) and Vancouver (October 7). This led to the formation of the multi-stakeholder working group (members cited above) that has issued this Statement of Principle and is proposing a consortial approach to ORCID licensing be developed for Canada.

PROPOSAL FOR A CONSORTIAL APPROACH FOR CANADIAN INSTITUTIONS

ORCID Membership

The ORCID registry is free to use for individual researchers who may register, maintain and share their ORCID iD and associated ORCID record data.

Organizations may integrate ORCID identifiers into research systems and workflows using a public ORCID Application Program Interface (API) for no fee. However, organizations support ORCID through paying membership fees, either individually or consortially, in exchange for access to additional specific API features and technical support such as integrating with university information systems.

ORCID provides two types of membership agreements: standard (for a single organization) and consortium for a group of five or more organizations. ORCID also offers two member categories: basic and premium which vary in terms of the ORCID features that are available and discounted rates on premium membership for groups apply. Premium levels of membership confer full benefit of programmatic access, integration assistance, multi-implementation and operational issues, including user support.

Researchers can freely establish an ORCID identifier and institutional membership is available, but national consortial membership for the sector offers notable advantages (see below). All consortium members are afforded premium member benefits, which include up to five Member API credentials per organization, access to the call-back notification API (which will send a 'push' notification when an ORCID record of interest is updated), and higher bandwidth access to our APIs. In addition, ORCID will provide training for the consortium technical support contact, support for consortium on-boarding webinars, a local in-person meeting if desired, and a consortium portal website for coordinating tech support and communications.

ORCID is governed by representatives from a broad, international cross-section of stakeholders, the majority of whom are non-profit.

Rationale for a Consortial Approach

The rationale for a national consortial approach to ORCID membership is therefore: three-fold:

- All member institutions receive premium membership benefits at substantially lower institutional cost than a standard single membership.
- There are strong international models that can guide and inform a Canadian consortial effort.
- The full benefits of ORCID are conditional upon a broad adoption by the sector and the development of systems and business processes that can utilize ORCID. A fragmented and uncoordinated approach can diminish the return on investment.

Proposed Organizational Roles

Canada's national licensing consortium, the Canadian Research Knowledge Network (CRKN), has agreed to act as administrative lead for an ORCID CA consortium and to undertake licensing arrangements on behalf of such a consortium.

The multi-stakeholder working group is establishing a Governance Committee that will provide governance and operational oversight for the ORCID CA Consortium, focusing on effective and sustainable operations. Additional committees will be established to engage stakeholders throughout the Canadian research ecosystem.

Implementation Considerations

While a national consortium will enable a more rapid and widespread adoption of ORCID and thereby hasten and expand the realization of the benefits of a standard researcher identifier, a staged approach to implementation is recommended. This will give the sector and institutions more flexibility and time for planning. The roll-out should be considered once a critical mass of agencies and institutions have expressed their commitment. A number of key implementation issues need to be taken into consideration, including:

- **Research disciplines:** The benefits of a common researcher identifier may not distribute evenly across the sector or disciplines. For example, due to varying disciplinary coverage or community practice, collecting data for non-traditional research outputs (e.g. performances, exhibitions etc.) in the creative arts may require greater effort.
- **Relationship with the CCV:** The ORCID system presents a number of intersection points with the Common CV System, including: using ORCID – along with Canadian Access Federation (CAF) integration – as a way of authenticating to the CCV system; integration with ORCID to provide researchers with an easy way to enter data into an application form; automating the updating of information in the CCV database via ORCID API integration. These are just three examples of integration, which would have a substantial impact on researchers by minimizing their administrative burden.
- **Cost:** The initial upfront cost and the subsequent maintenance and support costs associated with the implementation and the usage of ORCID may vary across institutions, as different institutions would have different systems, capacities, budgetary constraints, and support structures. Implementation of a common researcher identifier is a long-term investment. As such proper costings (both cash and in-kind contribution) must be a priority.
- **Time:** The benefits deriving from the investment in ORCID and its integration within the systems and culture on individual campuses will take some time to accrue.
- **Communications:** The use of a common researcher identifier has far reaching implications for many stakeholders (researchers, enterprise system owners, research institutions, funding agencies etc.). A communication plan must be in place to promulgate the rationale and full benefits of a common researcher identifier widely across all stakeholder groups.
- **Privacy:** Institutional and sector wide implementation must be compliant with federal and provincial privacy legislation. An ORCID identifier requires no more than the name of an individual and a functional email address. The data collected in relation to research activities is often already in the public domain and part of the public persona of the researcher; nevertheless users retain control of such data that is associated with their ORCID ID. However, they can also authorize a

third party (e.g. a journal publisher or an institution they are affiliated with) to edit the data on their behalf.

- **Collaborative integrations:** Decisions about the scope and nature of system integrations may vary across institutions, as different institutions would have different systems, infrastructures, staffing and support resources. However institutions that utilize the same platforms (e.g. a repository, publishing system, faculty profile system, etc.) may consider collaborating on developing an integration together. In case of an open source product for which no prior ORCID integration existed, the solution can be made available to and benefit the wider community of adopters. In the case of a vendor product, a collaborative approach may help bring down the costs of development by the vendor. Maintaining communication about planned system integrations across Canadian institutions and connecting potentially interested parties would be key in facilitating collaborative approach and a fitting role for the consortium.

Conclusion

As stated previously, digital identifiers are part of the foundation of best practices in the governance and management of digital information and data. Digital identifiers allow machine readability, support disambiguation, enforce uniqueness, and enable linking and systems integration, necessary components of digital information oversight and organization.

While there have been other identification systems proposed and used in the digital age, ORCID has the advantage of being a member-driven non-profit organization governed by a board representing research organizations, funding agencies, scholars, and publishers. Thus ORCID's endeavors are open, transparent, non-proprietary, and highly relevant to the key stakeholders in contemporary scholarly communication.

In addition, ORCID is international in scope. Research institutions in countries such as Australia, Denmark, New Zealand, Spain, and the United Kingdom, have implemented ORCID among their institutions and funding bodies, often organizing themselves at the sector- or national level to do so. The adoption of ORCID in Canada would take advantage of ORCID's international momentum and contribute to ORCID's global reach.

Approaching ORCID implementation consortially, rather than individually, presents synergies among Canadian researchers and institutions. A Canadian ORCID consortium provides opportunities for sharing expert knowledge, technology, and even costs among vested organizations, benefits that would be difficult or impossible to achieve and sustain if each institution implemented separately.

Importantly, a Canada-wide implementation of ORCID should result in the improved discovery of and a higher profile for the important endeavors and achievements of Canadian researchers, research institutions, funding agencies, and scholarship.

We the members of this Canadian multi-stakeholder working group, encourage the adoption of the joint statement of principle and the rapid implementation and use of ORCID as a vital component of Canadian scholarly communication.

Appendix: ORCID-CA Working Group Members

Canadian Association of Research Administrators (CARA)	Trevor Davis, Simon Fraser University
Canadian Association of Research Libraries (CARL)	Susan Haigh, Executive Director Chuck Humphrey, Executive Director, Portage
Canadian Research Knowledge Network (CRKN)	Clare Appavoo, Executive Director Jason Friedman, Member Services & Licensing Officer Kimberly Silk, Special Projects Officer
Canadian University Council of Chief Information Officers (CUCCIO)	Terry Nikkel, University of New Brunswick
CANARIE	Chris Phillips, Technology Architect
Carleton University	George Duimovich, Head, Systems Heloise Emdon, Manager, International Projects, Research Office
CASRAI-CA (ABC Partnership)	David Baker, Executive Director
Compute Canada Cacul Canada	Mark Dietrich, CEO
Council of Prairie and Pacific University Libraries (COPPUL)	Kristina McDavid, Executive Director
Ontario Council of University Libraries (OCUL)	John Barnett, Executive Director
Public Knowledge Project (PKP)	Brian Owen, Managing Director
Queen's University Library	Rosarie Coughlan, Scholarly Publishing Librarian
Research Data Canada	Mark Leggott, Executive Director
Scholars Portal	Alan Darnell, Director
University of Alberta Libraries	Geoff Harder, Associate University Librarian
Université Laval	Guy Bilodeau, Direction du soutien à la recherche et à l'apprentissage
University of Toronto Libraries	Mariya Maistrovskaya, Institutional Repositories Librarian