Executive summary

In the Spring of 2015 a working group charged by SAG1 explored the adoption of ORCID across UC campuses. The working group used a semi-structured interview methodology to gather data from UC campuses and coded results on five key questions; 1) Interest level, 2) Membership status, 3) Project status (e.g. active, planning, none), 4) Perceived barriers to adoption and 5) Resources needed for adoption.

The data analysis showed that while there are few current projects (2) there is considerable interest around continuing discussions about and explorations around ORCID. Our conclusions are:

1. **A consortial license of ORCID right now is premature for UC**
2. **Early successes and ongoing communication are key paths to further adoption**
3. **Outreach and training; partnerships across campus are clear next steps**
4. **Supporting pilot development efforts may be worth the effort**

The working group shaped these findings through discussion with SAG1, finding that while there is not a pressing need or short term benefit that would indicate pursuing a consortial membership now, some UC-wide group should continue to monitor this situation moving forward. Ideally, the question of consortial membership should be revisited in-depth in two years, after UCLA and potentially Berkeley can report on the realized benefits of their institutional membership. In addition, the group suggests that the appropriate common knowledge group might be a useful group to take up education and outreach efforts. Finally, the working group recommends thinking broadly about how to communicate with UC stakeholders who may be supporters of projects. It was clear in the data analysis that while libraries are often involved and do provide services that could leverage a solution like ORCID, the real benefits of researcher identifier standards are realized across other departments on campus.

Introduction

ORCID (Open Researcher and Contributor ID) is a newly established international, interdisciplinary, multi-stakeholder initiative that provides a registry of persistent unique identifiers for scholars and automated linkages to their work, with the goal of providing a disambiguated data resource of faculty "research outputs" or "products" .

ORCID members include universities, research institutions, major publishers and funders across the scholarly publishing community. Individual researchers can register on their own to obtain an ORCID and populate a profile. Employers of researchers are able to programmatically register those individuals, creating private records available for those researchers to claim and make public. As of June 9, 2015 almost 1,400,000 ORCID iDs have been created.

UC was an early sponsor of ORCID, but as yet has no consortial membership. An effort to implement ORCID systemwide was ultimately set aside because of the necessity of gaining Academic Senate approval to create ORCID profiles on behalf of all UC faculty wholesale. However, interest in integrating ORCID in specific initiatives across the campuses is steadily increasing, as evidenced by the establishment of this SAG1 Team.

This report shares the research of this team around the broad topic of ORCID adoption across UC. The ORCID investigation group employed semi-structured interviews with campuses to gather information on ORCID awareness and adoption. These interviews are shared as case studies in the findings section. In addition the team explored possible avenues of ORCID membership and identified possible avenues of ORCID adoption at UC. The three broad goals of the ORCID project team were to:

1. Examine state of adoption across UC campuses of ORCID
2. Study awareness, motivations, and perceived value of ORCID among librarians, researchers and campus administrators, and
3. Examine data for opportunities to spark cross-campus discussions on ORCID or cross-campus ORCID implementation.

Background

ORCID Adoption Across Fields of Research

ORCID has been adopted by a variety of entities from across the scholarly communication ecosystem, representing a broad spectrum of stakeholders as reflected by the almost 200 current integrations listed on the ORCID website. Memberships and initiatives related to ORCID are found in higher education institutions from around the globe, as well as a significant number of scholarly societies (e.g. the American Geophysical Union and the Modern Language Association (MLA)), government and private funders (e.g. National Institutes of Health and Wellcome Trust) major commercial and non-profit publishers (e.g. eLife, Elsevier and Hindawi), systems integrators (e.g. Symplectic and SSRN) and providers of individual researcher focused tools and services (e.g. FigShare, Faculty of 1000 and ImpactStory).

Although there are clear data regarding the use of ORCID in academic settings, it is more difficult to discern levels of ORCID adoption across fields of research. A good proxy for understanding disciplinary activity, though, can be found in the set of scholarly societies which have become ORCID members and undertaken some kind of ORCID integration. It is difficult to identify what level of adoption (e.g. inclusion in member profiles, requirement for authors, automated ORCID creation/updating) these scholarly societies undertake and a full exploration of the society use of ORCID as well as the academic focus was outside the scope of this report. Reviewing the current list of societies among ORCID's members reveals anecdotal evidence of a more pronounced level of ORCID adoption among organizations and researchers in the sciences, with lower levels among social science and humanities scholars.   At the same time however there are noted examples of cross-disciplinary adoption of ORCID. Scholars in the European Union, for example, are looking to ORCID as a potential way to highlight the work of

Social Science and Humanities researchers in response to the EU's [Horizon 2020 challenge](#) in order to demonstrate the positive impact of research on the general population. In addition there are cases where major publishers and funders are incorporating ORCID into their workflows, which will increase the awareness and ubiquity of ORCIDs and raise their overall value for the rest of the scholarly world.

Use Cases Among ORCID Adopters

Rather than exploring disciplinary differences among ORCID implementations, this group chose to focus on how ORCID is being used in Higher Education broadly and to what extent UC campuses are making use of ORCID or considering ORCID adoption.

Higher Education

[ORCID use](#) at research universities ranges from enabling access to ORCID profiles in Researcher Information Systems (CRIS) such as with Symplectic Elements and Elsevier's PURE, to extensive outreach to faculty and graduate students and creation of ORCIDs for those researchers to development of infrastructure. Examples of the latter activity include:

- an ORCID Plugin for Hydra by the University of Notre Dame
- the embedding of ORCID into the research collaboration platform HUBZero by Purdue
- University of Missouri's integration of ORCID into DSpace
- the inclusions of ORCID into the base VIVO code by Cornell
- Boston University's integration of ORCID into Harvard's Profiles system

Scholarly Societies and Publishers

Scholarly societies and publishers share many use cases. Among the overlapping instances of ORCID integrations are

- capturing an author's ORCID as part of the submission process
- allowing corresponding authors to populate co-author information via ORCID
- using an ORCID to sign in to a system
- putting a member's ORCID in their online profile within the society's profile system

On the close horizon for some publishers is the inclusion of author ORCID iDs in metadata records deposited to CrossRef.

Government Agencies and Private Funders

There are not as many published examples of integration among United States government agencies as compared to higher education settings, especially in contrast to European nations, some of whom have purchased national memberships and created ORCID iDs for all of their researchers. Some use cases found in the U.S. include:

- The Food and Drug Administration creates ORCID iDs for its own agency researchers
- NIH has expanded the features of ScieENcv to include creating a biosketch based on an ORCID profile

- The US Department of Energy, Office of Scientific and Technical Information (OSTI) is in the early stages of pulling in profile information from ORCID.

Benefits of ORCID Membership

ORCID's ability to aggregate works under unique researcher IDs as well as to help disseminate scholarship provides a direct benefit to scholars. In addition, ORCID presents the opportunity for significantly enhancing accuracy and efficiency in the variety of systems that higher education departments are responsible for, including traditional promotion and tenure systems as well as public facing profile systems.

ORCID's website provides the tools for individuals to register for an ORCID ID as well as to maintain a profile. It also allows others to view those elements of a researcher's record that have been marked as public. At a system level ORCID provides the ability to incorporate ORCID into applications through the use of the ORCID's Application Program Interface (API). Such an integration enables a variety of service integrations, such as the ability pull in researcher data and, where appropriate, create and/or edit ORCID profiles.

Cost structure of ORCID for Individuals and Members

While ORCID is free for individual researchers who are creating ORCID iDs for themselves and then are able to use ORCID's profile functionality, organizations wishing to integrate ORCID into systems can become a member, choosing among different levels as described below.

Membership Levels: Basic vs Premium

ORCID offers several [membership levels](#) based on the amount of use (e.g. the number of implementations and size of the organization). Depending upon the level at which they join, members receive one or more tokens to be used in software integrations--Basic Memberships includes one token and Premium Memberships include five. ORCID recommends using one token per integration, however it is possible to reuse a token in several applications within the organization as long as each application can accommodate the same level of data security and privacy. For instance, if Application 1 is an internal application that will use ORCID profile data marked as "Limited Access" (meaning that trusted parties but not the general public can see it), then Application 2 must also be able to securely handle that same set of data. Basic and Premium Memberships differ also in support levels, ability to customize notifications and [more](#). Finally, members of any level also choose a license type, depending upon whether or not the organization is an employer and wants the ability to bulk create records on behalf of employees. Membership fees are based on the calendar year, with fees prorated for mid-year starts.

Membership Discounts

ORCID provides a few types of membership discounts. The two that apply to UC are the 20% non-profit discount and the consortial discounts that increase with the number of consortial members.

Cost Comparisons

Below are sketched out cost scenarios on a per campus basis for two levels of consortial membership, contrasted with the cost of an individual membership at both Basic and Premium levels.

Individual Membership Per Campus Cost Comparison

Individual memberships in ORCID are available at two levels, basic and premium.
- Basic Membership = $4,000 ($5,000 - 20% nonprofit discount)
- Premium Membership = $20,000 ($25,000 for Large organizations (> US$ 200M in annual revenue or grants - %20 nonprofit discount)

Consortial Membership Per Campus Costs

Consortial Memberships provide the benefits of Premium Membership (e.g. there is no basic consortial membership) and are priced based on the number of members. In a consortial membership there is no requirement for campuses to pay together (e.g. each campus could be billed and pay separately).
- Premium Consortia (5-9 members) = $6,000
- Premium Consortia (10-19 members) = $5,000

Table 1. Comparison of Membership Costs on Per Campus Basis

	Basic Membership	Premium Membership	Premium Consortia (5-9 members)	Premium Consortia (10-19 members)
Individual Member Costs	$4,000	$20,000	$6,000 = **savings of $14,000 per campus**	$5,000 = **savings of $15,000 per campus**

As can be seen in Table 1, the primary benefit of a consortial membership is the availability of a premium membership level at close to basic membership rates.

Interview findings and case studies

The interviews conducted with each campus were focused on identifying interest level, membership status, any active or potential ORCID projects, perceived barriers to adoption and perceived resources needed for adoption. Interview participants were solicited through requests through SAG1 membership or known parties and the interviews were conducted using a series of questions.

Table 2 shows a high-level summary of findings. Although there was general High or Medium interest in ORCID, only two interviewed groups, UCLA and CDL have active ORCID memberships. These two memberships coincided with the two active projects although there was a list of possible projects at other campuses at different levels of preparedness. For example UCB is exploring the use of ORCID as a tool to help graduate students get an early

start on claiming their academic presence as well as a tool to help UCB track student progress and career development.

UCLA has been developing a Drupal module that ties ORCID creation and management into the library website. Intended to integrate with the campus tenure and promotion system, OPUS, the project is a good example of a cross-campus collaboration to deploy and make use of ORCID to achieve multiple goals. UCLA is currently finalizing development and testing of the module and anticipates a 2015 release of the platform. CDL is making use of ORCID as part of the Open Access implementation using Symplectic elements. While not actively assigning ORCID identifiers to faculty, the system is making use of the ID where they exist.

Table 2: Summary of findings from interview questions(e.g. Interest level, member/potential member, active projects, barriers to adoption, resources needed for adoption)

	Interest level	Member/ potential member	Any active projects	Barriers to adoption	Resources needed for adoption
Berkeley	High	Potential	There may be a 2015/16 project for grad students.		Web programmer, Identity mgmt, outreach to grads.
Davis	Medium	Potential		IT resources are project-based and limited.	IT staff; systemwide support for roll-out and outreach.
Irvine	High	Not at this time		Multiple faculty profiles; spending money on membership	Systemwide assistance, both IT and outreach.
Los Angeles	High	Member	Yes, signing up all ladder faculty for ORCIDs.	Staffing. Value could be added through project management and integration with other services	More staffing, esp for the APIs.
Merced	Medium	Potential		Need use cases, how integration with other programs could	Not sure. Must be interoperable

				work.	
Riverside	High	Potential		Cost, Ability to integrate with other systems.	Shareable outreach materials.
San Diego	Medium	Not at this time, probably.		Distributed rather than centralized culture around projects like this.	Interoperability, esp. with SHARE, DataCite.
San Francisco	Medium	Not at this time. In the purview of Office of Research.		NIH doesn't require it. Need for greater enthusiasm at campus and research office levels	Integration with other systems; editable marketing materials.
Santa Barbara	Medium-high	Potential. Want ISNI's for Digital Library & catalog.		Lack of campus-wide awareness of ORCID; Competing priorities.	Systemwide support , especially for outreach events and materials to leverage support from campus authorities and stakeholders
Santa Cruz	High	Potential		Funding; developers; competition from other profile systems.	Funding; IT resources
CDL	High	Member	Added to Symplectic; eScholarship will be incorporating ORCID in its manual submission system and will explore using it to disambiguate author names of currently held		

			publications; DASH is planning to integrate with ORCID by associating the ORCID's of creators and authors with the datasets and other scholarly resources they generate. Future development will incorporate a lookup process and users will also be allowed to sign in via their ORCID credentials.		

Discussions with other campuses surfaced a number of ideas about how to approach ORCID implementation and use but no other active projects. Likewise, conversations with many institutions surfaced the notion that ORCID may be a useful identifier to support authority control across multiple campus systems and may even support the development of institutional repository content. UCSF echoed these goals indicating that the Clinical and Translational Sciences Institute (CSTI) would like to use ORCID to integrate it into Profiles as well as other systems like the Symplectic Elements harvester, or BioBib or similar review process forms.

There were a number of institutions interested in launching educational and outreach activities related to ORCID with the goal of growing awareness among faculty, students and administrators. UCD, UCI, UCSB and UCM all expressed interests in these areas.

Discussion

Even though only two UC institutions currently have membership with ORCID, almost all campus representatives have ideas of use cases should ORCID become available to them. The two major themes in using ORCID are integration into existing platforms and analysis of data reported through ORCID. They are illustrated below with specific examples coming from the different campuses.

There are two ways the campus representatives envision ORCID integration into existing platforms. One is using ORCID to populate faculty profiles to facilitate the tenure, promotion and advancement processes. Specific examples include OPUS (UCLA), Biobib (UCB and UCSF).

An existing tool that would help achieve the goal is a harvester, for example Symplectic Elements that has already been adopted on several campuses. A variation on this use case is using ORCID to populate the biosketches required by different federal agencies, with the complication that those agencies require different forms (UCR). ORCID is seen to have the potential to simplify productivity reporting that may be required of Centers, Institutes and other organizations on campus (UCLA, UCI). All of these use cases resemble each other in the method and final outcome: ORCID can be used to search for information across external databases that will then be entered in an administrative form.

Another way of integrating ORCID into existing systems is to include it in records of platforms such as institutional repositories (UCSD, UCR), the Digital Library (UCSB) , the UC-wide data repository DASH and the publication repository eScholarship (UC Merced), SHARE (UCSD) and even institution agnostic systems like DataCite. These examples go hand-in-hand with the use or ORCID to boost authority control in the Catalog (UCSB), LDAP (UCB, UCLA), and other records (UCSB, UCI), as well as to enhance the Electronic Theses and Dissertations workflows (UCI). These use cases are focuses on name disambiguation.

A distinctly different idea about utilizing ORCID is the analysis of the gathered productivity data. The two specific use cases both come from UCB, and both of them come from outside the Library. One potential project would involve tracking doctoral graduates' productivity and employment over time in a more robust manner than done to date. Those metrics are used to evaluate the quality of graduate programs, and are of great interest to the Graduate Division. The second use case would analyze the productivity report to identify the strengths of the University and any gaps that should be filled through strategic hiring. These use cases can be used to increase the number of stakeholders on campus.

There were differing opinions about where the 'home' both functional and financial of ORCID was in the participating libraries. ORCID was recognized as a tool that impacts research, findability, disambiguation. It contributes to heightening impact for researchers but does not fit into classic funding areas around collections, technology or service. Although there was a recognition that supporting ORCID could fall under a 'common-good' or 'community-good' service, it was also clear that it did not seem to fall into the same category of services such as arXiv.

There were also differing views on the cases in which institutions should adopt ORCID. Should they adopt, for example, after faculty use of ORCID hit critical mass through mandates by publishers? Should institutions proactively adopt in order to encourage best practice by graduate students? When, for example, will ORCID demonstrate some level of critical mass to ensure that institutional efforts to capture and work with these institutional identifiers would be successful?

In general the positive perceptions around ORCID in the interviews as well as the ability to identify new ideas for how ORCID IDs might be used at the campus as well as UC level

suggests that researcher identifiers are growing in popularity and potential impact. At the same time however, the prevalence of comments around the need for more resources before taking on such a project as well as the lack of specificity around a specific outcome suggests that most campuses are still taking a "wait and see" approach. These issues suggest that there is value in watching early adopters such as UCLA and CDL as well as continuing conversations, outreach and education with faculty, students and administrators on each campus.

Recommendation

A consortial license of ORCID right now is premature for UC
Given the fact that only two UC campuses (UCLA and CDL) are current members of ORCID and that other campuses who are interested have yet to reach a point where they have a defined project plan it seems unlikely that we will see rapid ORCID adoption over the next year. In this context, making a recommendation for a systemwide adoption or consortial adoption of ORCID right now seems premature. We recognize that this space is developing rapidly and believe that campuses should continue to communicate about progress in this space to ensure that they can benefit from consortial pricing when adoption at the individual campus level warrants it. Given the low cost of entry for basic ORCID membership it is clear that campuses are likely better served by waiting to join ORCID when they have active projects.

Early successes and ongoing communication are key paths to further adoption
The positive outlook around ORCID as well as the interest in seeing successful implementation models indicates that the successes of UCLA and CDL will pave the road for additional campus participants. There was an interest expressed by the campuses to follow the developments of these early campuses and to leverage developed code if possible. This interest was counterbalanced by a motivation to balance new projects against existing efforts and resources. It may be that an effort in the CKGs or the new collaborative teams centered on ORCID or more broadly on researcher identifiers might help advance awareness and expertise in this area or at least keep communication channels open. We think, for example, that some sort of collaborative projects with the public API might help provide a proof of concept on a smaller scale.

Outreach and training; partnerships across campus are clear next steps
Just as this report served as an opportunity for campuses to learn more about ORCID we recognize the need to continue outreach and education efforts. This may be a good role for CDL and UCLA given their current projects and could be in scope for CKGs. It is worth noting that the active projects that were identified relied on strong partnerships on campus with Offices for Research. In addition, the value that institutions could identify around ORCID stemmed from having a better understanding of researcher activity, having a positive influence on the impact of scholarship and making it easier for faculty and students to work with publishers and funding organizations. These benefits clearly point to other units on campus who may prove to be valuable partners and who may be good targets for outreach and communication from library leadership. The survey of campuses also found that there were varying levels of awareness

across campus, meaning that outreach and education need not just focus on educating librarians.

Supporting pilot development efforts may be worth the effort
Finally, given the high level of interest on campuses but a lack of understanding of immediate payoff, this group expects that projects that can help develop understanding about ORCID on campuses (e.g. awareness among faculty, staff and students) as well as projects that leverage the public API in ORCID might do the most to advance adoption of researcher IDs. For example, UCSC's initial work indicated that faculty do not know enough about ORCID to know if they want one or not. Addressing this gap seems to be a good first step.

If the system can find some lightweight way to share information and to keep researcherID issues present we believe that would be a good thing. For example, we found it was not difficult to identify individuals on campus to speak with about ORCID and we found that there was considerable interest across campus partners, just not sufficient resources to justify a consortial investment at this time or to support individual campus projects.

Recognizing the fact that UCLAS structure is changing this group recommends keeping this report in mind for the next groups who take up open scholarship issues.

Respectfully Submitted,

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