



Using **Identifiers** to Streamline the Capture of Research Resources in Manuscripts

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PROBLEM STATEMENT

User facilities are specialized government-sponsored research infrastructure available for external use to advance scientific or technical knowledge. Researchers compete for access to these facilities and specialized equipment, but do not consistently acknowledge the contributions made by facilities when they publish the results of their work. Collection of these research outputs is necessary to enable an accurate assessment of the scientific impact of these public investments. Recently several user facilities have begun to explore innovative approaches to these challenges, including adoption of ORCID, grant identifiers, and organization identifiers.

FINDINGS

- Researchers do not often report on their use of facilities or specialized equipment when they are publishing papers, datasets, or other research results. When they do, it is usually in the acknowledgements section of a paper and not in a standardized form.
- Publishers do not often collect information on user facilities, instead focusing on funding sources for the published work that are related to journal article access policies.
- User facilities require researchers to acknowledge use, but there is both a lag between use and publication and no general standard for citing usage.
- Differing understanding of terms such as “author”, “user”, and “funding” among stakeholders present barriers to effective reporting.
- There is value in using APIs and persistent identifiers including ORCID iDs and DOIs to enable reporting processes.

TRANSLATING INTO PRACTICE

Resource Type	Definition	Examples
Infrastructure	A facility, building, or other physical space used to perform research	Neutron spallation source, animal facility, data enclave, archaeological site, telescope array, ships, planes, farms laboratories
Collection	An object or group of objects used for research purposes; can be tangible or digital.	Ocean mission, field campaign, collaborative data sets or resources, rare book collection; museum collection, biological specimen collection
Equipment	Hardware used for research purposes.	Microscope, computers, glassware, samples, materials
Service	Services used for research purposes	Proteomics analysis, computing services, data analysis, logistical support, legal services, copyediting, expert or staff advisement

ORCID API 3.0. ORCID has expanded its data model and UI to include a new “Research Resources” section, which includes user facilities and other resource types such as equipment, collections, and services. This is in use now by US Department of Energy labs and the NSF XSEDE application portal, and is in development by other resource providers.

▼ Research resources (2 of 2) ↑↓ Sort

radAFM: Coupled radiation source/liquid-cell AFM to study radiation-induced interfacial processes

Environmental Molecular Sciences Laboratory (Richland, WA, US)

2018-07-02 to 2018-09-30

DOI: [10.25582/v01.proj.2018.50416](https://doi.org/10.25582/v01.proj.2018.50416)

Source: Environmental Molecular Sciences Laboratory (EMSL) ★ Preferred source

JATS 1.2. NISO has expanded the JATS data model to include a **Non-Monetary Support** section. Previous support descriptions in JATS used the <funding-group> element, which could only be used to describe monetary support for the research described in the article. JATS 1.2 adds a new element <contributed-resource-group> to hold descriptions of non-monetary support (such as data, facilities, or any in-kind support) for the research described in the article. This changed the JATS models in several ways: Inside <article-meta>, JATS 1.2 adds a new element <support-group> to hold both <funding-group> and <contributed-resource-group>. For backwards compatibility, <support-group> is a peer to <funding-group> inside <article-meta>, and (as the path going forward) <support-group> also contains <funding-group>. New elements inside <contributed-resource-group> (as its children or descendants) include: <support-description> <resource-group> <resource-wrap> <resource-name> <resource-id> Inside <award-group>, JATS 1.2 adds a new element <support-source> to describe the source of a non-monetary award, an alternative to <funding-source> (which describes the source of a monetary award).

NEXT STEPS FOR PUBLISHERS

Resources are using ORCID and other identifiers to connect researchers and resources. Publishers can connect this information to publications:

- [1] Use the ORCID API to collect ORCID iDs from all authors
- [3] Use the ORCID API to collect and present resource info for selection by authors
- [3] Pass ORCID and resource info to indexers

REFERENCES

- User Facilities WG Report <https://doi.org/10.23640/07243.5623750.v1>
- ORCID Research Resources Web pages <https://orcid.org/organizations/research-orgs/resources>
- ORCID API 3.0 <https://members.orcid.org/api>
- JATS 1.2 Specification <https://jats.nlm.nih.gov/publishing/tag-library/1.2/index.html>