Recommendation M1.0

Recommendation to use ORCID as the standard reference in technical infrastructures to persons where appropriate

Description

[Status: Under development, Date: 2026/03/30 13:53, Version: 001]

Motivation for this Recommendation:

The Helmholtz Association is determined to make their data available according to the FAIR principles, thus making it findable, accessible, interoperable and reusable. In order to achieve interoperability of datasets among various data infrastructures (DIS) within the Helmholtz Association, a common and agreed procedure to refer to people within and across the DIS is needed.

In order to be able to uniquely and sustainably identify both researchers and employees in data infrastructures and repositories in the Helmholtz Association, the respective person should always be referenced with a persistent identifier (PID).

To achieve this, several stakeholder groups need to be involved. These groups are: 1. Helmholtz Center's management and policy makers (see recommendation M1.1) 2. Helmholtz Employees contributing to data products (see recommendation M1.2) 3. Helmholtz data stewards and repository maintainers and developers (see recommendation M1.3)

Recommendation

It is recommended that all data infrastructures and repositories of the Helmholtz Association use ORCID to identify people and contributors to resources in data infrastructures wherever and whenever possible.

Binding Convention

	mandatory	**conditional**	**optional**
Helmholtz FAIR Principle		mandatory if ORCID is available	

Precondition for Implementation:

Precondition 1: The ORCID Registry is available for all researchers, maintained and further developed.

Precondition 2: Helmholtz Centres strongly encourage their employees to register and maintain their ORCIDs (see Recommendation 1.1). It is also recommended to keep some minimum data, like name, affiliation and publications, publicly available.

Precondition 3: All Helmholtz employees who publish data or maintain research data create an ORCID and keep the data current (see Recommendation 1.2).

Precondition 4: All Helmholtz data stewards and repository maintainers and developers within the Helmholtz Association refer to persons through an ORCID when describing data sets, publications, or other resources, where possible and appropriate (see Recommendation 1.3).

Related Recommendations

Parent: 0.1

Dependent: 1.1, 1.2, 1.3

Other: none

Contributors

Andrea Pörsch, Emanuel Söding

Content

1. Explanation of the Background and Benefits of the Recommendation

About ORCID

ORCID stands for Open Researcher and Contributor ID. It is a global, not-for-profit organization sustained by fees from its member organizations (see ORCID website: https://info.orcid.org/what-is-orcid/). ORCID's vision is a world where all who participate in research, scholarship, and innovation are uniquely identified and connected to their contributions across disciplines, borders, and time. According to ORCID: "ORCID provides a persistent digital identifier (an ORCID iD) that you own and control, and that distinguishes you from every other researcher. You can connect your iD with your professional information — affiliations, grants, publications, peer review, and more. You can use your iD to share your information with other systems, ensuring you get

recognition for all your contributions, saving you time and hassle, and reducing the risk of errors.”

History and structure

ORCID issues ORCID iDs since 2012 to identify authors in scientific publications (see https://info.orcid.org/orcid-launches-registry/). ORCIDs are globally unique. ORCID maintains a stable governance overseeing the developments of the concepts and the underlying infrastructure. It is funded by the ORCID members, consisting of research institutions, publishers, governmental and industrial organizations. The ORCID infrastructure has proven to be very reliable. Besides web interfaces it features an API, which can be accessed for data retrieval by machines. ORCID maintains a publicly available metadata schema, which is accessible through open interfaces. ORCIDs are free of charge to be used by anyone interested.

Current Use of ORCID

ORCID is currently the most widely used system for referencing scientific persons / authors (Researcher / Contributor). Over the recent years numerous repositories and initiatives have recommended the use of ORCID. Among them the Alfred-Wegener-Institut [1], the Fachinformationsdienst Geowissenschaften der Niedersächsischen Bibliotheken [2], the Geoforschungszentrum Potsdam [3], the Technical University Munich [4], DINI [7, 8, 9], FAIRsFAIR [10, 11], Arbeitskreis Forschungsdatenmanagement (AK FDM) in Baden-Württemberg [13] and others. Nowadays ORICDs are widely used as a de-facto standard to refer to authors of scientific publications by publishers and repository maintainers alike.

Motivation

The Helmholtz Association is determined to make their data available according to the FAIR principles, thus making it findable, accessible, interoperable and reusable. In order to achieve interoperability of datasets among various data infrastructures (DIS) within the Helmholtz Association, a common and agreed procedure to refer to people within and across the DIS is needed. In order to be able to uniquely and sustainably identify both researchers and employees in data infrastructures and repositories in the Helmholtz Association, the respective person should always be referenced with the persistent identifier (PID).

2. Possible alternative solutions

Besides ORCID other PID systems for authors of scientific publications exist. The most relevant are Scopus Author ID, Researcher ID / PublonsID, ISNI and Wikidata ID. We will not discuss the pro’s and con’s of each PID system here in detail. We found, however, that ORCID offers the best solution in terms of stability, reliability, cost efficiency and widespread application of the PID systems mentioned above. In order to harmonize our metadata we therefore recommend it as a common solution to refer to authors / contributers in Helmholtz data infrastructures.

3. Consideration of the advantages and disadvantages of implementing the recommendation

Specialities and Challenges

a. The use of ORCID in Helmholtz is slightly modified from the original intentions of the ORCID partners. Originally it was intended to identify people contributing to research, scholarship, and innovation as authors of publications in publication repositories. In this recommendation, we intend to broaden the use to anyone contributing to a dataset, independently of her or his role as an author. This is a slight difference to the general applications of ORCID in publication repositories.

b. According to the ORCID terms of use [12], IDs can only be registered and maintained by individuals for themselves [reference]. This means, that institutions or repositories cannot rely on ORCIDs to be present or accurate for every person referenced with published datasets. They also cannot create or maintain ORCIDs for people on their behalf, even if they know the data is outdated. Centers should therefore recommend the use and create incentives for their employees to use and update their ORCID metadata (see recommendation 1.1).

c. In cases where an ORCID is not available for a person, we recommend the following : … [open / still to be done] welche

d. The use of ORCID may lead to certain data privacy issues. E.g. people’s role and impact within the research community can be tracked by combining personal and bibliographical data. Data privacy concerns should be discussed with the data privacy officers at the respective Helmholtz centers. It is therefore imperative that the use of ORCIDs is not forced but a deliberate – though encouraged – decision by each individual. It is important to note, that technically it is not necessary to publish any metadata with ORCIDs. It may still be possible to publish any ORCID anonymously, still referring to the same person. Details need to be defined through a dialogue with the data privacy officers.

4. The Recommendation

It is recommended that all Data Infrastructures and repositories of the Helmholtz Association use ORCID to identify people and contributors to resources in data infrastructures wherever and whenever possible. Details can be found in related recommendations (see above).

5. Naming of communities that have already implemented the recommendation

ORCID has already been implemented in the following data infrastructures: [Format: who, where, restrictions] GFZ - has already implemented ORCID integration in the identity management system. …

6. Documentation of the test to validate correct implementation

7. Examples of Instances

(DataCite: XML / JSON, ISO: XML, Schema.org ... [open / still to be done])

a) DataCite Metadata Schema 4.4, Released 30 Mar 2021
https://schema.datacite.org/meta/kernel-4.4/example/datacite-example-affiliation-v4.xml [Website opened on 2023-11-15]

```
<creator>
<creatorName nameType="Personal">Miller, Elizabeth</creatorName>
<givenName>Elizabeth</givenName>
<familyName>Miller</familyName>
<nameIdentifier schemeURI="https://orcid.org/"
nameIdentifierScheme="ORCID">0000-0001-5000-0007</nameIdentifier>
<affiliation affiliationIdentifier="https://ror.org/04wxnsj81"
affiliationIdentifierScheme="ROR">DataCite</affiliation>
</creator>
```

8. Further Information

References

[1] PANGAEA - Data Publisher for Earth & Environmental Science: https://wiki.pangaea.de/wiki/ORCID

[2] FID GEO recommends the use of ORCID ID, originally published in GMIT 87: https://doi.org/10.23689/fidgeo-5832

[3] GFZ recommends the use of ORCID ID see webpage: https://bib.telegrafenberg.de/publizieren/orcid-id

[4] TUM recommends the use of ORCID ID see webpage: https://www.ub.tum.de/orcid

[5] Schrader, A. C., Pampel, H., Vierkant, P., Glagla-Dietz, S., Schirrwagen, J. (2021): Die ORCID iD: Der persönliche Identifier in der Wissenschaft. - Handbuch Qualität in Studium, Lehre und Forschung, 77. https://doi.org/10.48440/os.helmholtz.032/

[6] Schallaböck, J., von Grafenstein, M. (2017): ORCID aus datenschutzrechtlicher Sicht: “Gutachten im Auftrag des von der Deutschen Forschungsgemeinschaft (DFG) geförderten Projektes ORCID DE zur Förderung der Open Researcher and Contributor ID in Deutschland”, Berlin : iRights.Law Rechtsanwälte, 51 p. https://doi.org/10.2312/lis.17.02

Relevant Community Recommendations

[7] Autorenidentifikation anhand der Open Researcher and Contributor ID (ORCID) - DINI Positionspapier, 2018, Vierkant et al. , DOI: https://doi.org/10.18452/19528

[8] R.3-7 The operating institution offers information about the Open Researcher and Contributor ID

(ORCID) and about other author identification standards, DINI Certificate for Open Access Publication Services 2019, DOI: https://doi.org/10.18452/21759

[9] R.6-6 Authors' names are linked to norm data, DINI Certificate for Open Access Publication Services 2019, DOI: https://doi.org/10.18452/21759

[10] FsF-I3-01M Metadata includes links between the data and its related entities, FAIRsFAIR Data Object Assessment Metrics, DOI: https://doi.org/10.5281/zenodo.4081213

[11] FsF-R1.2-01M Metadata includes provenance information about data creation or generation, FAIRsFAIR Data Object Assessment Metrics, DOI: https://doi.org/10.5281/zenodo.4081213; new version: https://doi.org/10.5281/zenodo.6461229

[12] ORCID Terms of use: https://info.orcid.org/terms-of-use/

[13] Entwicklung in Baden-Württemberg: ORCID und ROR IDs als Standard für langfristige Personen- und Institutionen-Identifier https://bausteine-fdm.de/article/view/8272

9. History of this document

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Last update: **2026/03/30 13:53**