



Why the Research Organization Registry (ROR) is a Key Part of Open Science

Dr. Amanda French, amanda@ror.org
Japan Open Science Summit, June 2025

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Open metadata enables tracking and analysis of Open Science

オープンメタデータはオープンサイエンスの
追跡と分析を可能にする

What is ROR?

- ROR, the Research Organization Registry, is a global, community-led registry of open persistent identifiers for research organizations.
- ROR is an established, trusted, widely adopted, no-cost service that is becoming a standard in scholarly communication and scholarly publishing.
- ROR makes information about research organizations clean, consistent, normalized, and easy to exchange among software systems so that research outputs can be reliably associated with research organizations.
- ROR is a community infrastructure initiative jointly operated by Crossref, DataCite, and the California Digital Library.



RORとは何か?

- ROR(Research Organization Registry)は、研究機関のためのオープンで永続的な識別子を提供する、グローバルかつコミュニティ主導のレジストリ
- RORは、確立され、信頼され、広く採用されている無償のサービスであり、学術コミュニケーションおよび学術出版における標準として定着しつつある
- RORは、研究機関に関する情報を、整理され、一貫性があり、標準化された形で提供し、ソフトウェアシステム間で簡単に交換できるようにすることで、研究成果を確実に研究機関と結びつけることができる
- RORは、Crossref、DataCite、California Digital Libraryが共同で運営する、コミュニティ主導のインフラの取り組み





DOI for research outputs
(1997)



ORCID for researchers (2012)



ROR for research organizations
(2019)



研究成果に関するDOI (1997)



研究者に関するORCID (2012)



研究機関に関するROR (2019)

 <https://ror.org/052rrw050>

National Astronomical Observatory of Japan

ORGANIZATION TYPES

Facility, Funder

OTHER NAMES

Aliases

Kokuritsu Tenmondai

NINS National Astronomical Observatory of Japan (en)

National Institutes of Natural Sciences National Astronomical

Observatory of Japan (en)

こくりつてんもんだい (ja)

コクリツテンモンダイ (ja)

Acronyms

NAOJ

Labels

国立天文台 (ja)

RELATIONSHIPS

Parent Organizations

[National Institutes of Natural Sciences](#)

Child Organizations

[Institute for Cosmic Ray Research](#)

LOCATIONS

Mitaka-shi (GeoNames ID [1856942](#)), Japan

WEBSITE

<https://www.nao.ac.jp>

OTHER IDENTIFIERS

GRID [grid.458494.0](#)

ISNI [0000 0001 2325 4255](#)

Crossref Funder ID [501100006326](#)

Wikidata [Q1327713](#)

Search and browse ROR records at
<https://ror.org/search>

All ROR metadata is CC0 and is freely available as
JSON & CSV and via a REST API.

ROR currently includes over 115,000 research
organizations from around the world.

Some record data is not displayed in this view. See [JSON view](#) for full record data

Record last modified 2024-12-11. Is there an issue with the data on this record? [Suggest a change](#)

 <https://ror.org/052rrw050>

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<https://ror.org/search>で、RORレコードを
検索・閲覧

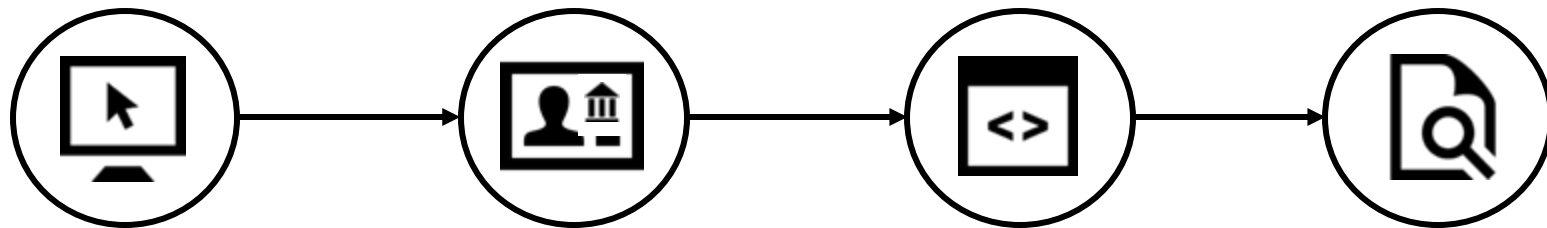
すべてのRORメタデータはCC0ライセンスが適用され、JSON
およびCSV形式、またはREST APIを通じて自由に利用できる

RORには現在、世界中から115,000を超える
研究機関のデータが含まれている

Some record data is not displayed in this view. See [JSON view](#) for full record data

Record last modified 2024-12-11. Is there an issue with the data on this record? [Suggest a change](#)

ROR is designed for research systems



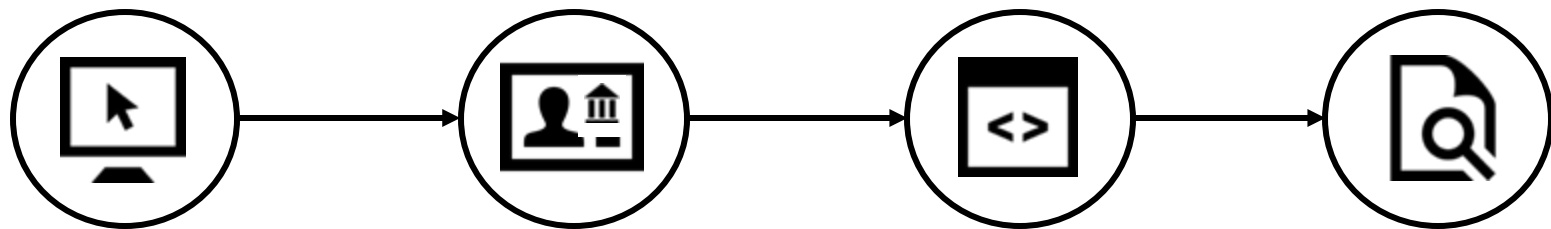
A researcher submits research to a system that uses ROR

Organization is selected from a ROR-powered controlled list

Shareable metadata includes the ROR ID

Systems use the ROR ID to track research by organization

RORは研究システム向けに設計されている



研究者が、ROR を
使用するシステム
に研究成果を提出

RORの管理リスト
の中から、研究機
関のデータが選
択される

共有可能な
メタデータの一つ
としてROR IDが
登録される

登録された
ROR IDにより、
システムは
ROR IDを使用し
て研究機関ごと
の研究成果を
追跡する

ROR is designed for research systems

The screenshot displays the DRYAD dataset submission interface. At the top, the DRYAD logo is on the left, and navigation links (About, Partner with us, Support us, Help, My datasets) and a search bar are on the right. The main heading is "Dataset submission" with "Get help" and "Save & exit" links. A left sidebar contains a "Checklist" with items: Title (checked), Authors (checked), Description, Subjects, Support, Compliance, Files, README, Related works, and Agreements. The main content area is titled "Authors" and shows "All progress saved". It includes a "Drag to reorder" instruction and a form for adding authors. The form has fields for "First name" (Amanda), "Last name" (French), "Institutional affiliation" (Find as you type...), "Email address" (afrench@crossref.org), and "Publish email" (checked). Below the form are buttons for "+ Add group author /" and "+ Add author". A footer section contains a help icon, a note that "All authors must include their name and at least one affiliation", and "Previous" and "Next" navigation buttons.

DRYAD Explore data | Search

About | Partner with us | Support us | Help | My datasets | User icon

Dataset submission Get help Save & exit

Checklist < >

- ☒ Title
- ☒ Authors
- ☐ Description
- ☐ Subjects
- ☐ Support
- ☐ Compliance
- ☐ Files
- ☐ README
- ☐ Related works
- ☐ Agreements

Authors All progress saved

Drag to reorder

First name: Amanda Last name: French

Given name: Family name:

Institutional affiliation: Find as you type... + Add affiliation

Employer or sponsor:

Email address: afrench@crossref.org Publish email: ☒ 0000-0002-4325-1809

name@institution.org Creator

+ Add group author / + Add author

? All authors must include their name and at least one affiliation.

Authors may be invited to edit this submission. One author must be the submitter. The submitter will be the point of contact for Dryad, and must approve this submission for curation and publication.

An email address is required for the submitter and any other authors invited to edit the submission.

Previous Next

RORは研究システム向けに設計されている

The screenshot displays the Dryad dataset submission interface. At the top, the Dryad logo is on the left, and navigation links (About, Partner with us, Support us, Help, My datasets) and a search bar are on the right. The main header indicates 'Dataset submission' with links for 'Get help' and 'Save & exit'. On the left, a 'Checklist' sidebar lists submission steps: Title, Authors, Description, Subjects, Support, Compliance, Files, README, Related works, and Agreements. The 'Authors' section is active, showing a form for adding authors. The form includes fields for 'First name' (Amanda), 'Last name' (French), 'Institutional affiliation' (Find as you type...), 'Email address' (afrench@crossref.org), and a 'Publish email' checkbox. Below the form, there are instructions: 'All authors must include their name and at least one affiliation.' and 'Authors may be invited to edit this submission. One author must be the submitter. The submitter will be the point of contact for Dryad, and must approve this submission for curation and publication. An email address is required for the submitter and any other authors invited to edit the submission.' Navigation buttons for 'Previous' and 'Next' are also present.

DRYAD Explore data | Search

About | Partner with us | Support us | Help | My datasets | User icon

Dataset submission | Get help | Save & exit

Checklist

- ☒ Title
- ☒ Authors
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- ☐ Subjects
- ☐ Support
- ☐ Compliance
- ☐ Files
- ☐ README
- ☐ Related works
- ☐ Agreements

Authors | All progress saved

Drag to reorder

First name: Amanda | Last name: French | Institutional affiliation: Find as you type... | Email address: afrench@crossref.org | Publish email: ☒ | 0000-0002-4325-1809

+ Add group author / + Add author

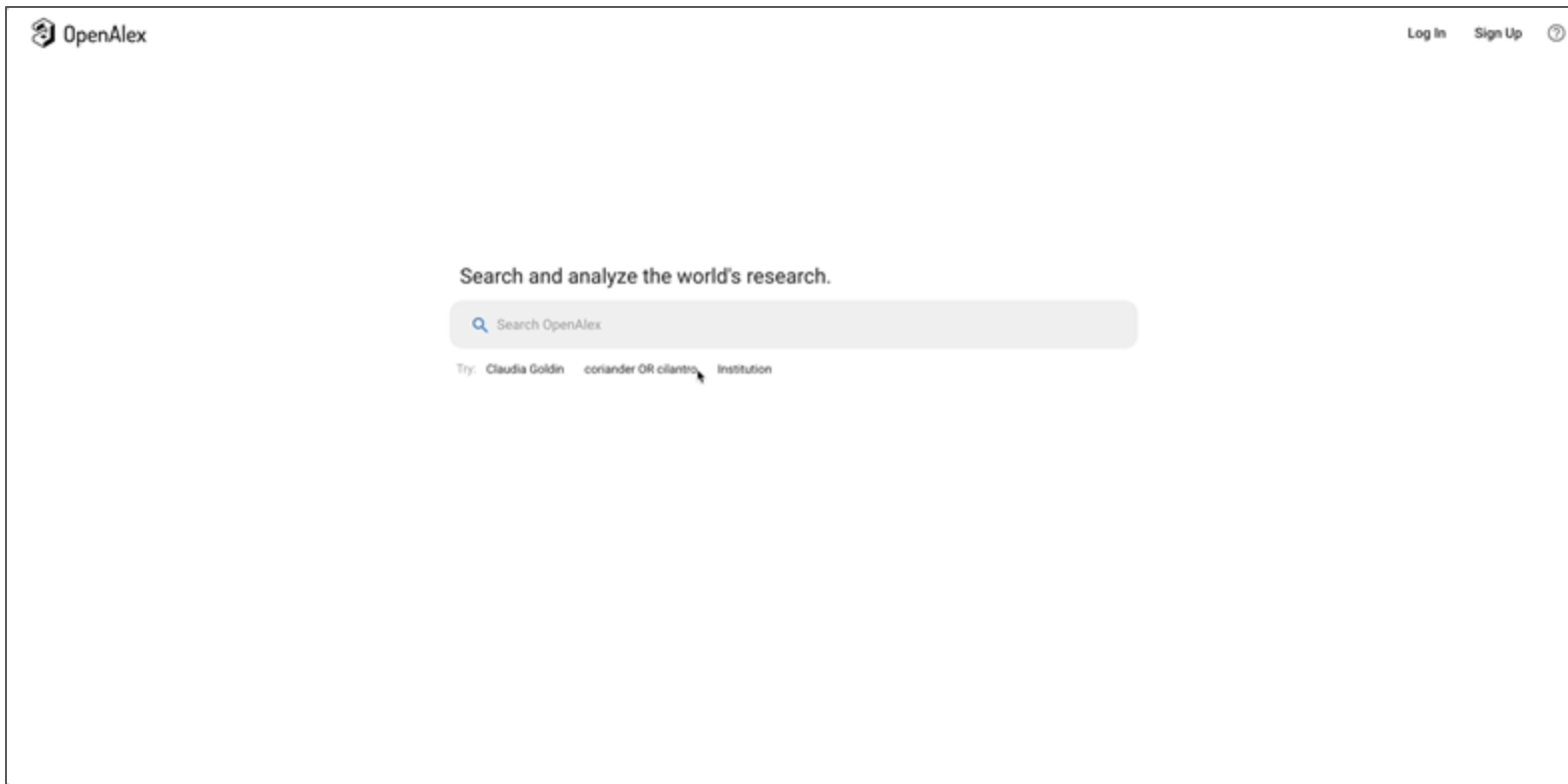
? All authors must include their name and at least one affiliation.

Authors may be invited to edit this submission. One author must be the submitter. The submitter will be the point of contact for Dryad, and must approve this submission for curation and publication.

An email address is required for the submitter and any other authors invited to edit the submission.

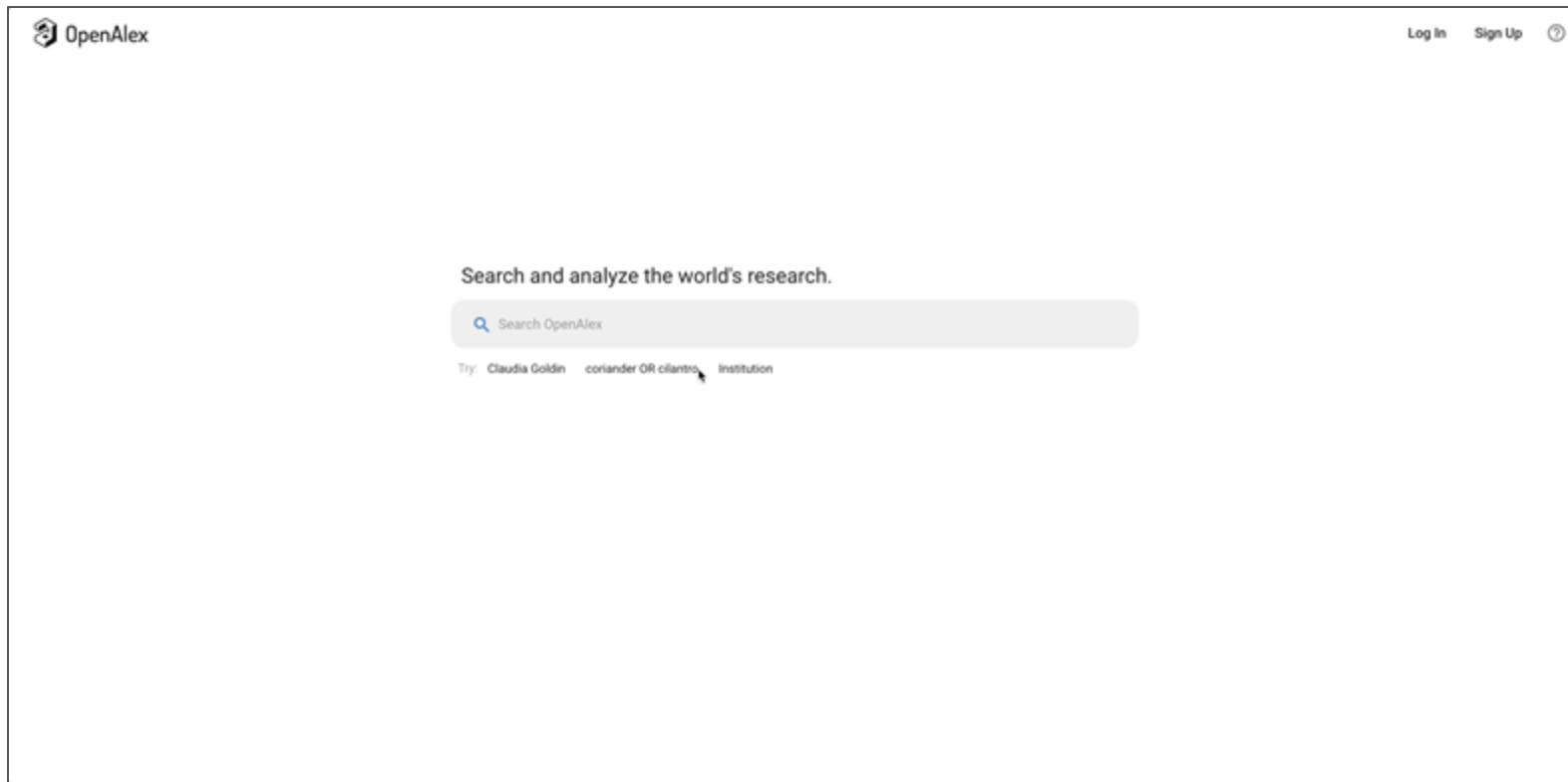
Previous | Next

Open metadata enables tracking of Open Science



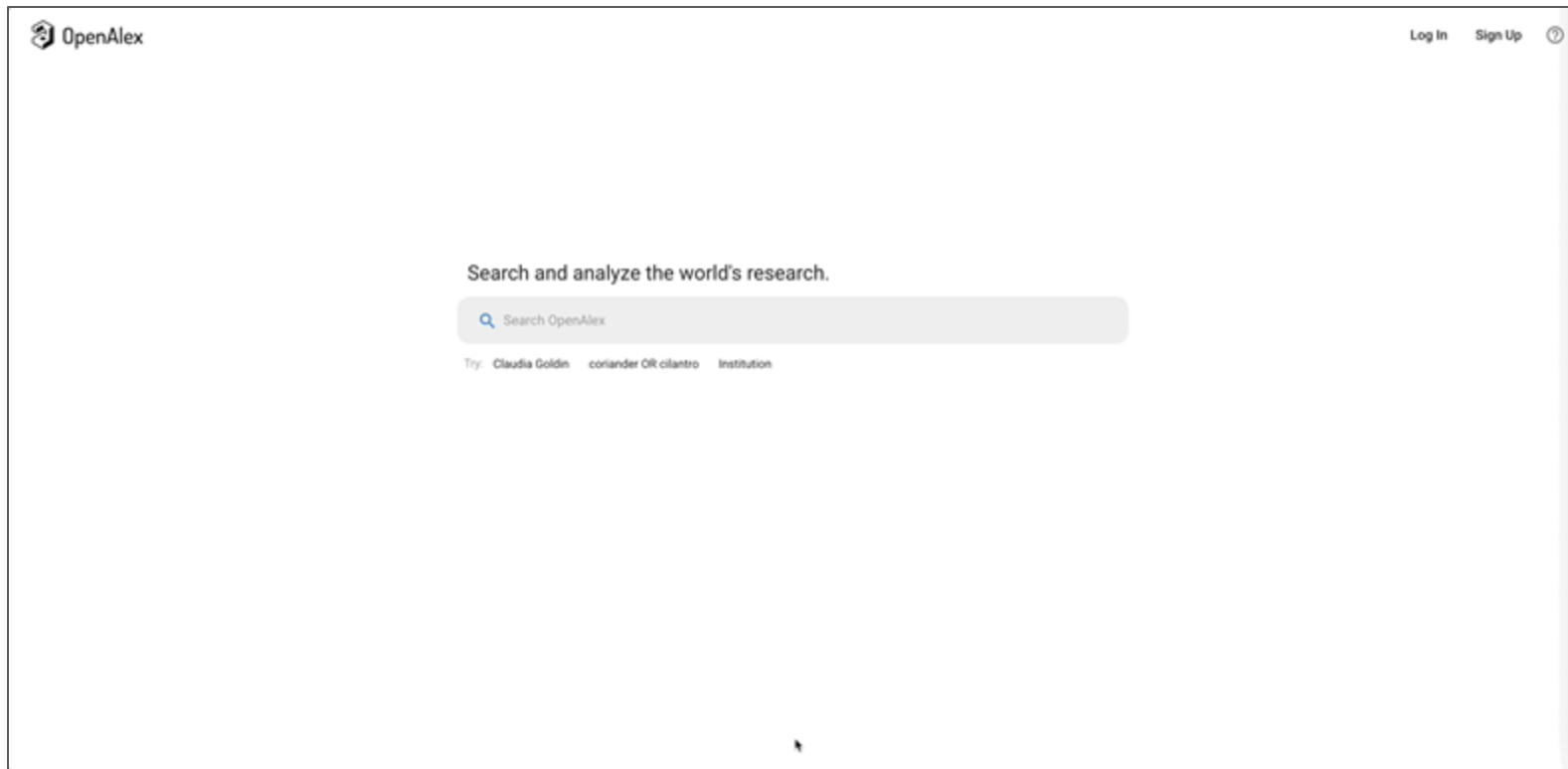
<https://openalex.org>

オープンなメタデータにより、 オープンサイエンスに関する追跡が可能



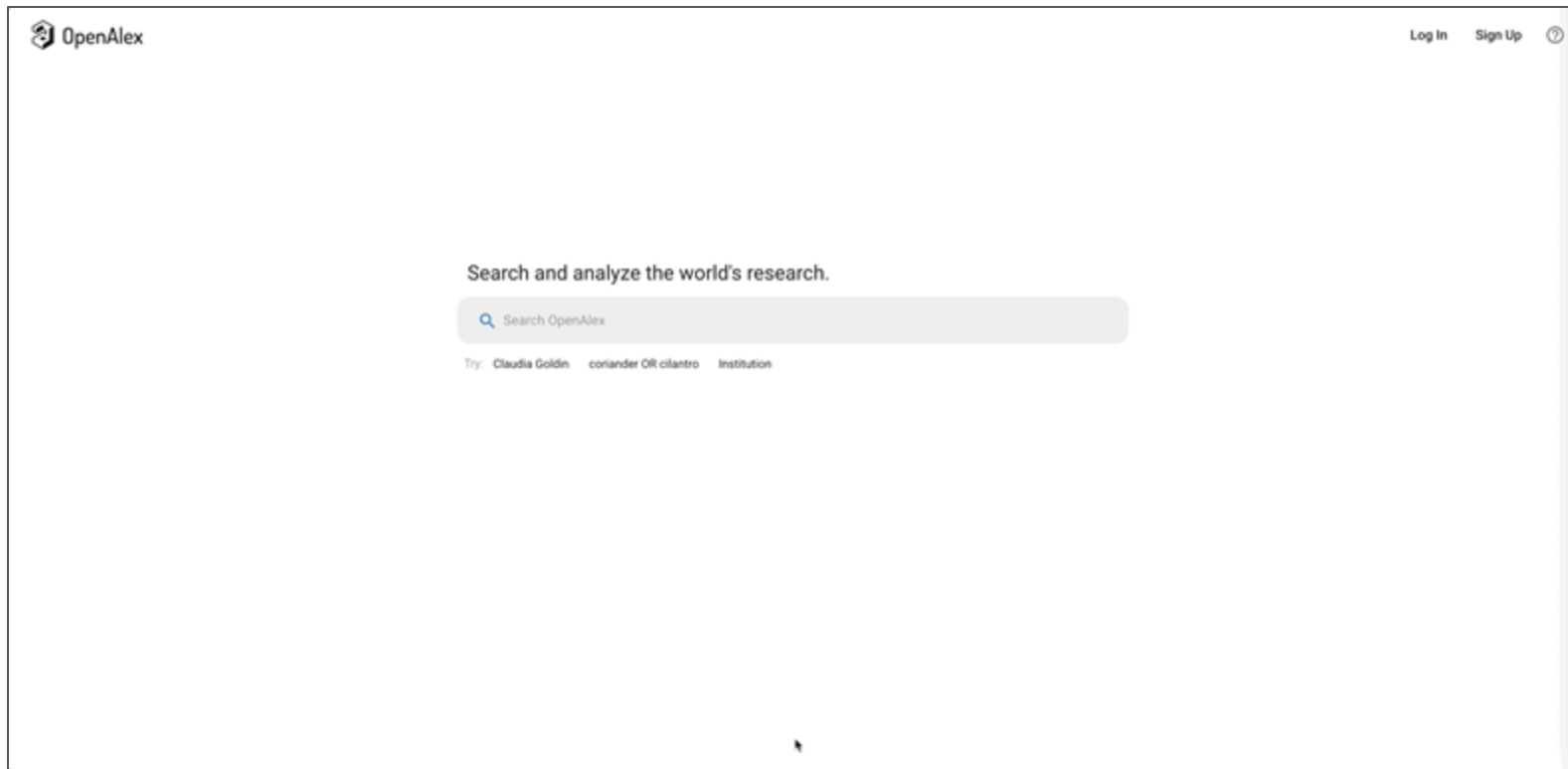
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オープンなメタデータにより、 オープンサイエンスに関する追跡が可能



<https://openalex.org>

Open metadata enables analysis of Open Science



an open access journal



RESEARCH ARTICLE

A half-century of global collaboration in science and the “Shrinking World”

Keisuke Okamura^{1,2} 

¹The University of Tokyo
²National Graduate Institute for Policy Studies (GRIPS)

Keywords: cluster analysis, international research collaboration, open bibliometrics, Shrinking World, US–China relationship

ABSTRACT

Recent decades have witnessed a dramatic shift in the cross-border collaboration mode of researchers, with countries increasingly cooperating and competing with one another. It is crucial for leaders in academia and policy to understand the full extent of international research collaboration, their country’s position within it, and its evolution over time. However, evidence for such world-scale dynamism is still scarce. This paper provides unique evidence of how international collaboration clusters have formed and evolved over the past 50 years across various scientific publications, using data from OpenAlex, a large-scale open bibliometrics platform launched in 2022. I first examine how the global presence of top-tier countries has changed in 15 natural science disciplines over time, as measured by publication volumes and international collaboration rates. Notably, I observe that the United States and China have been rapidly moving closer together for decades but began moving apart after 2019. I then perform a hierarchical clustering to analyze and visualize the international collaboration clusters for each discipline and period. Finally, I provide quantitative evidence of a “Shrinking World” of research collaboration at a global scale over the past half-century. My results provide valuable insights into the big picture of past, present, and future international collaboration.

Citation: Okamura, K. (2023). A half-century of global collaboration in science and the “Shrinking World”. *Quantitative Science Studies*, 4(4), 938–959. https://doi.org/10.1162/qss_a_00268

DOI:
https://doi.org/10.1162/qss_a_00268

Peer Review:
https://www.webofscience.com/cgi/gateway?wos:peer-review/10.1162/qss_a_00268

Supporting Information:
https://doi.org/10.1162/qss_a_00268

Received: 14 December 2022
Accepted: 15 August 2023

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Okamura, Keisuke. 2023. “A Half-Century of Global Collaboration in Science and the ‘Shrinking World.’” *Quantitative Science Studies* 4 (4): 938–59. https://doi.org/10.1162/qss_a_00268.

オープンなメタデータにより、 オープンサイエンスに関する分析が可能



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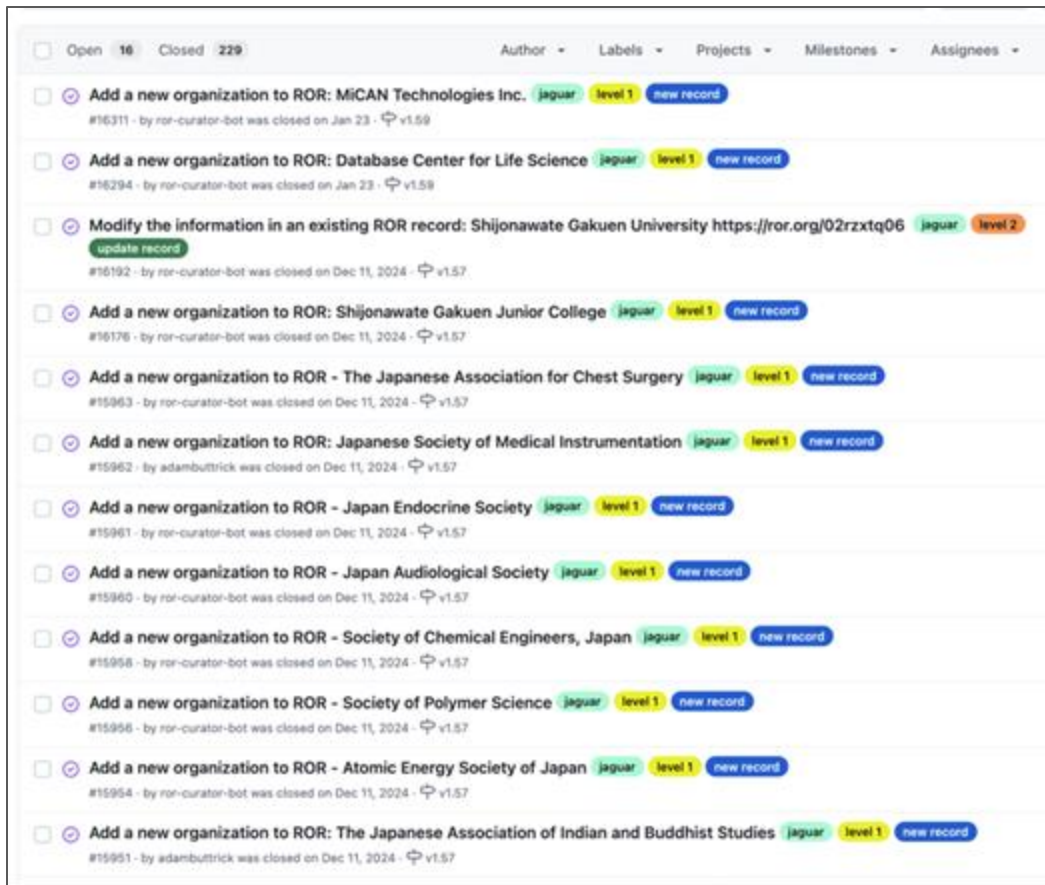
Key scholarly systems use ROR

- Core infrastructure services
 - ◆ JALC
 - ◆ Crossref
 - ◆ DataCite
 - ◆ ORCID
 - ◆ CHORUS
- Knowledge graphs and large indexes
 - ◆ OpenAlex
 - ◆ Web of Science
 - ◆ Lens.org
 - ◆ Europe PMC
- Repository and CRIS systems
 - ◆ Dryad
 - ◆ Zenodo
 - ◆ DSpace and DSpace-CRIS
 - ◆ Symplectic Elements
- Publishing systems
 - ◆ Open Journal Systems (OJS)
- ... and more!

<https://ror.org/community/#adopters>

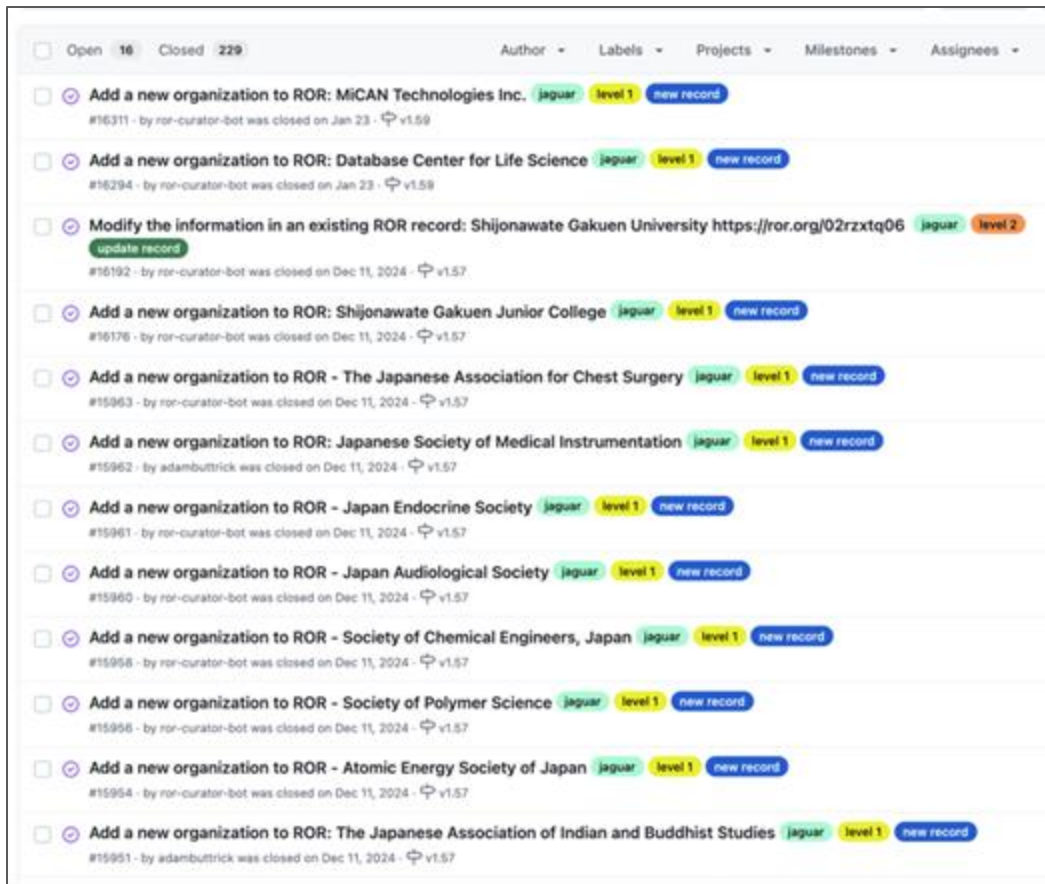
主要な学術システム がRORを使用している

- 主要なインフラサービス
 - ◆ JALC
 - ◆ Crossref
 - ◆ DataCite
 - ◆ ORCID
 - ◆ CHORUS
- ナレッジグラフと大規模インデックス
 - ◆ OpenAlex
 - ◆ Web of Science
 - ◆ Lens.org
 - ◆ Europe PMC
- リポジトリとCRISシステム
 - ◆ Dryad
 - ◆ Zenodo
 - ◆ DSpace and DSpace-CRIS
 - ◆ Symplectic Elements
- 出版システム
 - ◆ Open Journal Systems (OJS)
- ...その他にも！
<https://ror.org/community/#adopters>



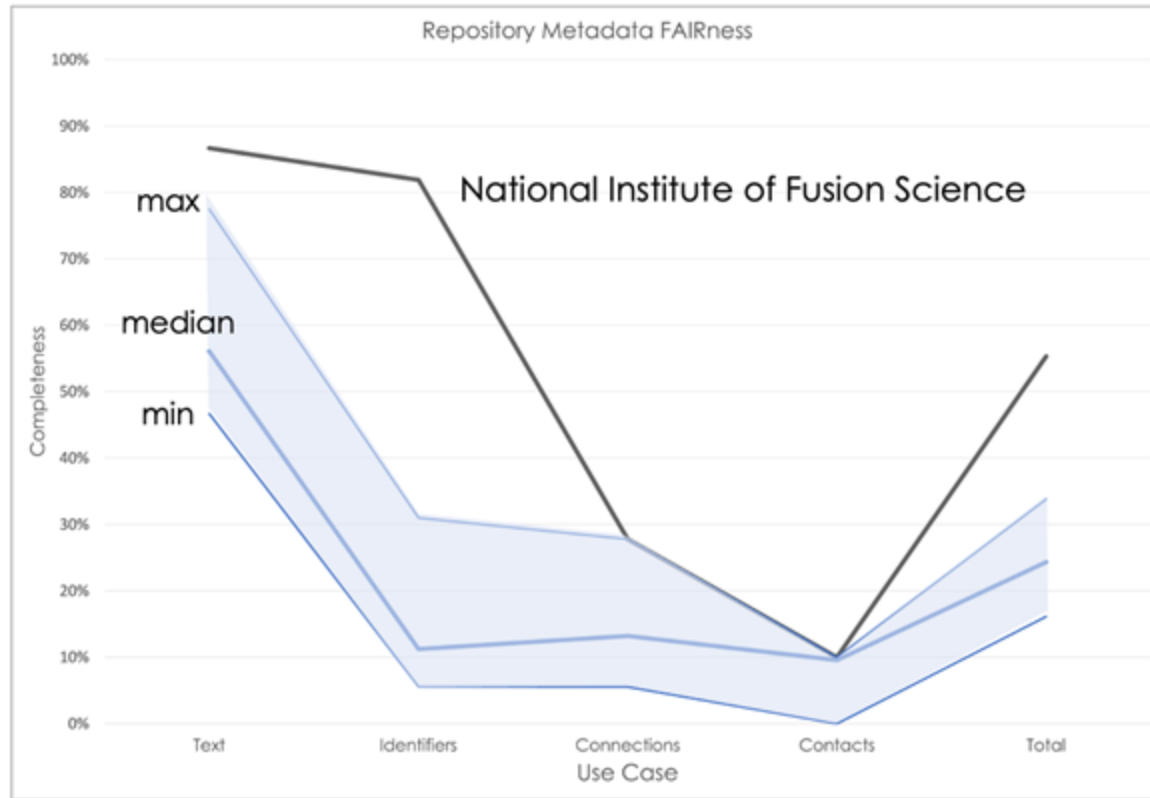
ROR is working with NISTEP to add Japanese research organizations for comprehensive coverage, and the NISTEP Dictionary plans to include ROR IDs.

<https://github.com/ror-community/ror-updates/issues>



RORはNISTEPと協力して、RORへの日本の研究機関の取り込みを進めており、包括的な網羅を目指している。また、NISTEP辞書へのROR IDの取り込みを計画している。

<https://github.com/ror-community/ror-updates/issues>



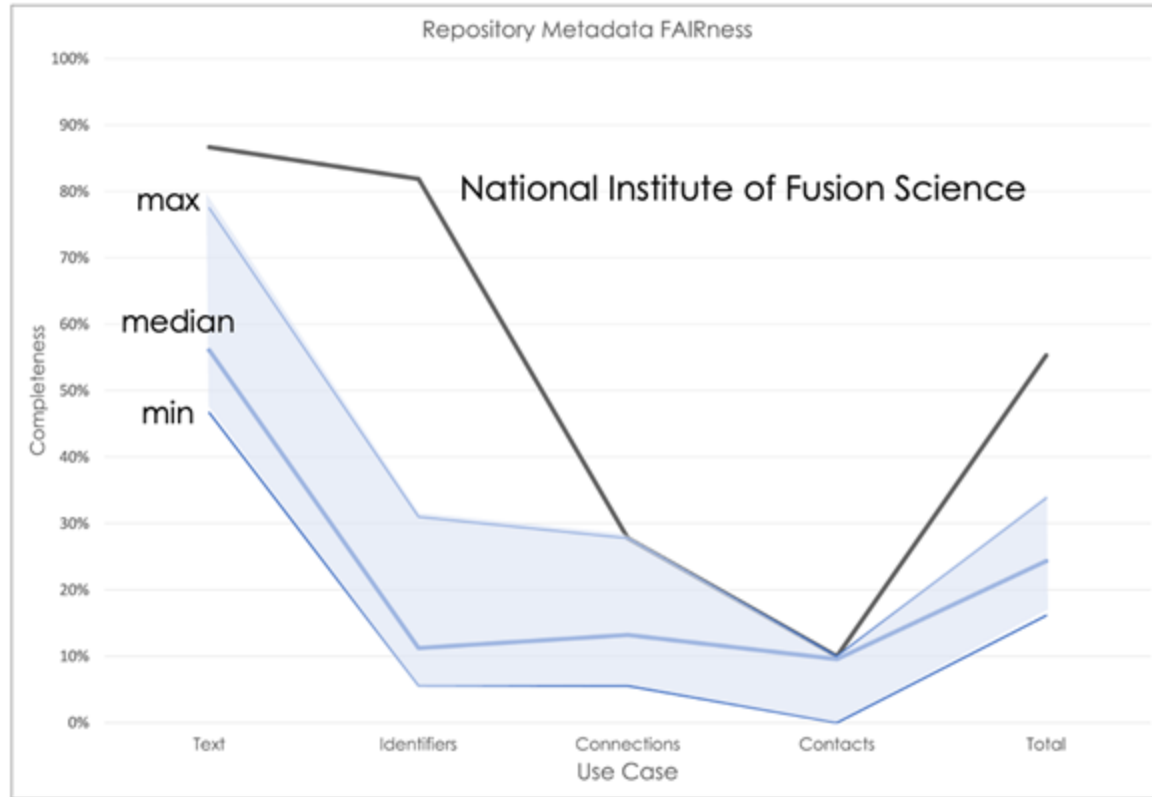
Japan's National Institute for Fusion Science is the largest provider of ROR IDs in DataCite metadata and has admirably complete FAIR data.

FAIR: Findable, Accessible, Interoperable, Reusable

“Figure 4. Completeness of metadata for four FAIRness use cases and total in ten repositories that contributed over 130,000 datasets to DataCite during 2024. The NIFS metadata in the Text and Identifier use cases are more complete than all of the other repositories and they match the maximum in the other two use cases.”

— Habermann, Ted. 2025. “How Many When (2025 Update): Dataset Bright Spot in the Driver’s Seat.” Metadata Game Changers. May 1, 2025. <https://metadatagamechangers.com/blog/2025/4/28/datasets-back-in-the-drivers-seat>.





日本の核融合科学研究所は、DataCiteメタデータにおいてROR IDの最大の提供元であり、FAIR原則に則ったデータの整備が非常に優れている。

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“Figure 4. Completeness of metadata for four FAIRness use cases and total in ten repositories that contributed over 130,000 datasets to DataCite during 2024. The NIFS metadata in the Text and Identifier use cases are more complete than all of the other repositories and they match the maximum in the other two use cases.”

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