



Crossref Services for Librarians and Journal Editors

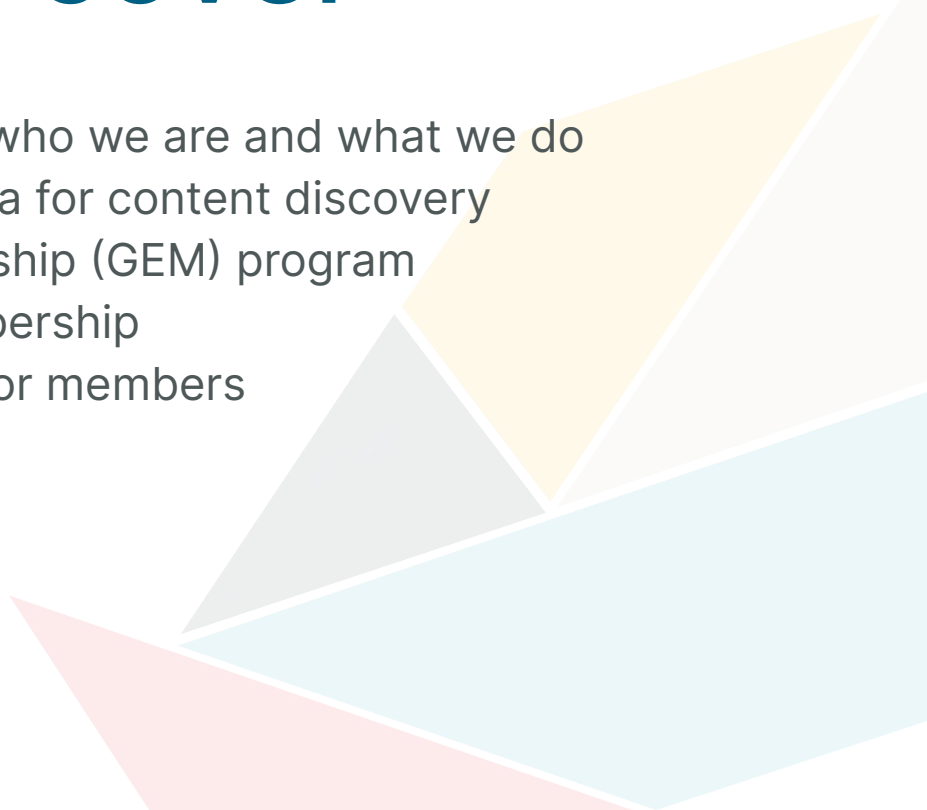
Ghana



29 November 2023



What we will cover

- An introduction to Crossref - who we are and what we do
 - The value and use of metadata for content discovery
 - Our Global Equitable Membership (GEM) program
 - Setting up independent membership
 - Additional Crossref services for members
 - Q&A
- 



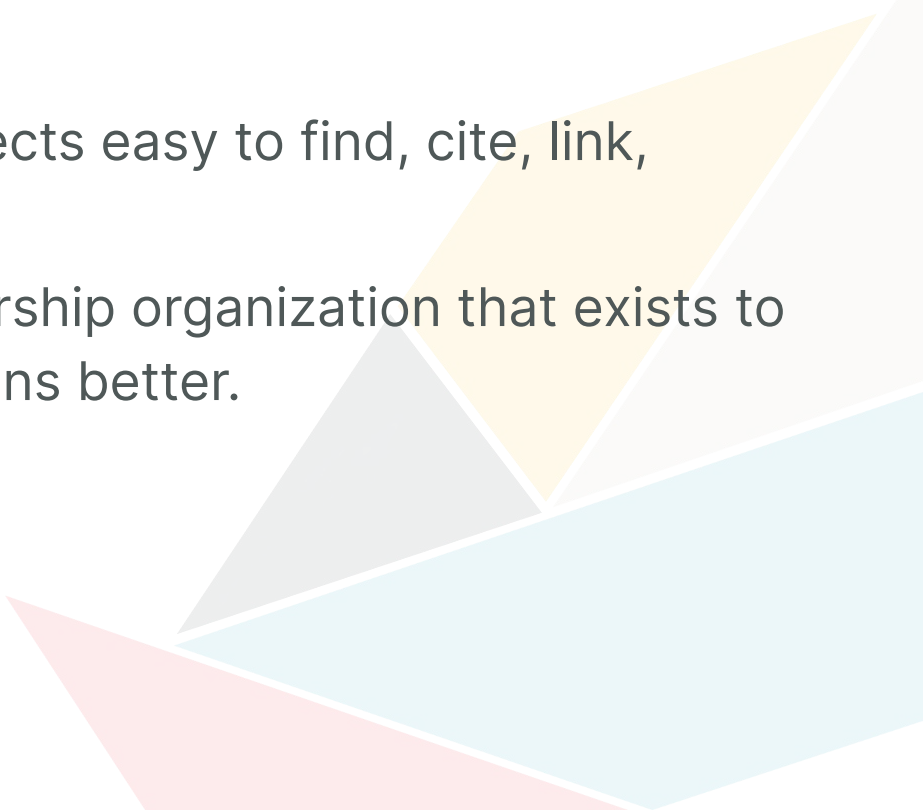
About us



Our mission

Crossref makes research objects easy to find, cite, link, assess, and reuse.

We're a not-for-profit membership organization that exists to make scholarly communications better.



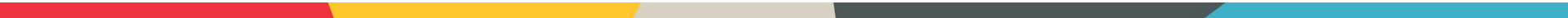


Crossref in brief

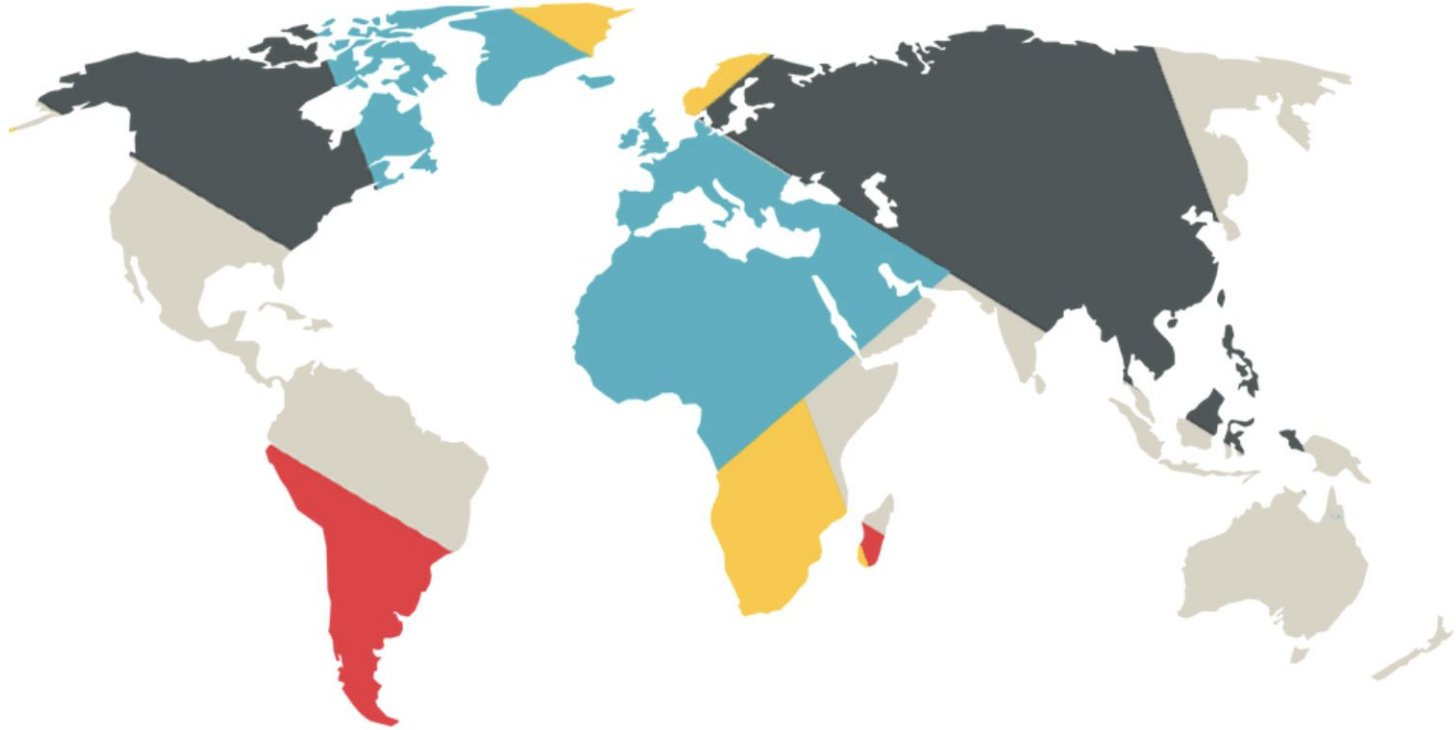
- >19,000 organisational members from ~150 countries
- 34% are university/faculty or other research institution
- 151 million open metadata records with a DOI
- 1.1 billion DOI resolutions every month
- 1000s systems reusing metadata through search/API
- Technical solution but also a community convener
- POSI-compliant nonprofit open infrastructure
- 46 staff across 7 time zones and 9 countries



Why organizations join Crossref

- Connect content with a global network of online scholarly research
 - Create a persistent identifier for each object
 - Improve discoverability of publications through robust metadata
 - Find out who is citing your content
 - Participate in other collaborative services
- 

A changing membership



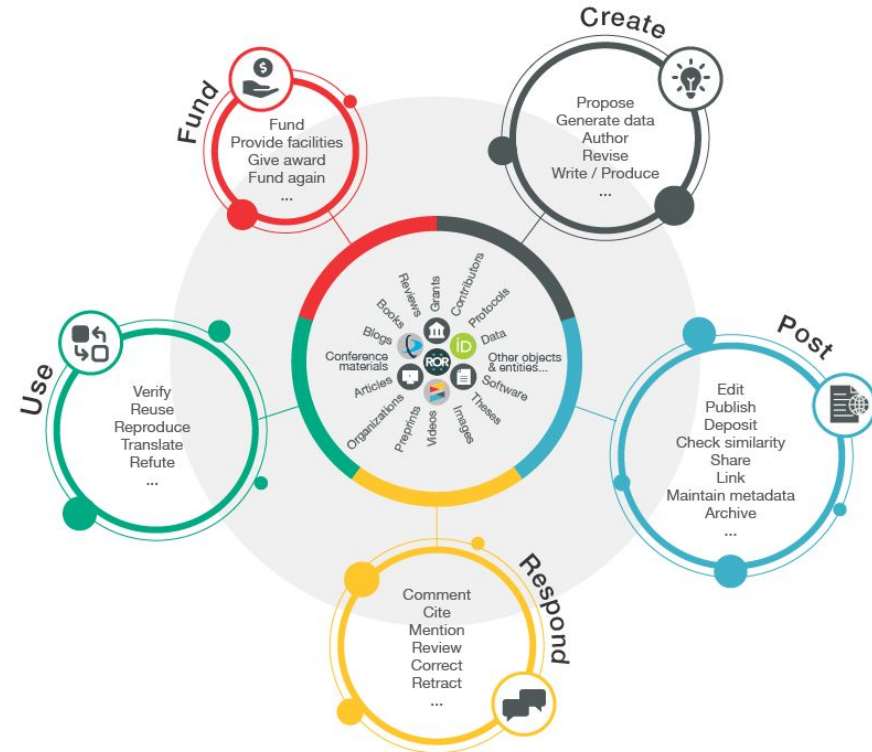


The value and use of metadata

The 'research nexus'

“A rich and reusable open **network of relationships**... a scholarly record that the global community can build on forever, for the benefit of society.”

Metadata is the thread that is woven to produce such a network





What is metadata?

“Metadata is communication.

It describes and identifies an item, it defines relationships, it sets parameters for the range of actions something can engage in.

As the things we read, write, create, use, move around, and engage with become more digital, metadata becomes more important, because without metadata, all that movement, interaction, and discovery, could not happen.”

- Juliane Schneider, Metadata 20/20 blog, 2017
<https://metadata2020.org/blog/2017-09-14-metadata-and-communication>

What kind of <METADATA>?



Basic: titles; dates; author names; abstracts; DOI; location URL

Full-text URLs: e.g. for text-mining and Similarity Check

Crossmark: updates, retractions, corrections

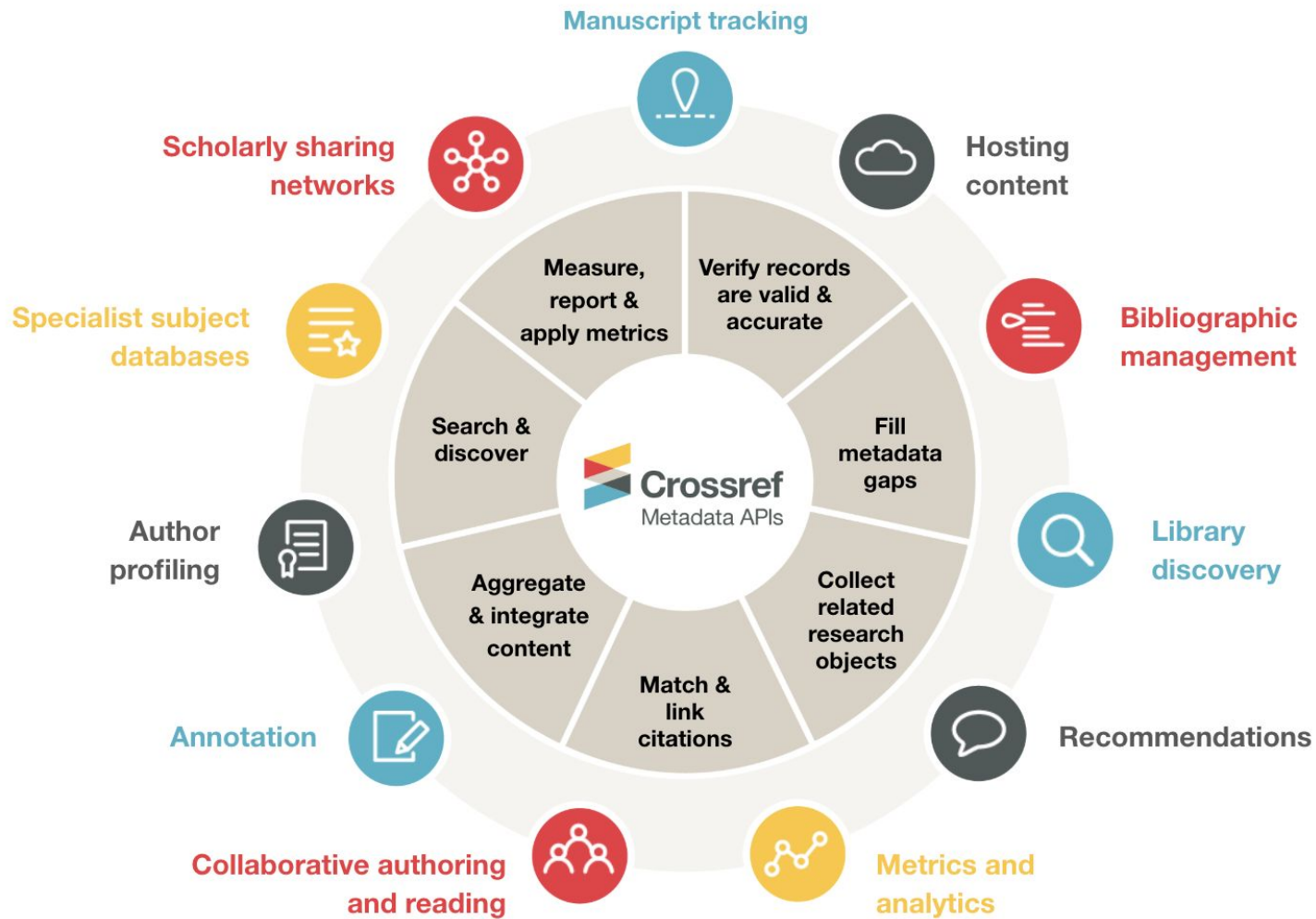
Relationships: versions; translations; data; references; citation

Provenance: publisher/funder/steward information

Subject-specific: e.g. clinical trial info


Funding information: Funder Registry ID; award numbers/Grant DOIs

Contributor & Affiliations: ORCID iDs and ROR IDs preferred





Metadata enables:

- Discoverability
 - Reproducibility
 - Research and editorial integrity
 - Reporting and assessment
- 

<https://search.crossref.org/>



[Metadata Search](#) [Funding Data](#) [Link References](#) [Status](#) [API](#) [Help](#)  [Luis M. Montilla](#) ▾

Search the metadata
of journal articles, books, standards,
datasets & more

 Title, author, DOI, ORCID iD, etc.

[Search help](#)

 10.1371/journal.pclm.0000215

SORT BY: **RELEVANCE** PUBLICATION YEAR

Showing DOI matching **10.1371/journal.pclm.0000215**

Climate change knowledge, attitude and perception of undergraduate students in Ghana

JOURNAL ARTICLE published 7 June 2023 in **PLOS Climate**

Authors: Benjamin Y. Ofori | Evans P. K. Ameade | Fidelia Ohemeng | Yahaya Musah | Jones K. Quartey | Erasmus H. Owusu

Editors: Shah Md Atiqul Haq

 <https://doi.org/10.1371/journal.pclm.0000215>

 Actions

 ADD TO ORCID



We make this metadata open through our REST API

<https://api.crossref.org/>



/swagger-docs

Explore

Crossref Unified Resource API ^{0.1}

[/swagger-docs](#)

Preamble

The Crossref REST API is one of [a variety of tools and APIs](#) that allow anybody to search and reuse our members' metadata in sophisticated ways.

If you read nothing else, please at least look at the [API TIPS](#) document and the "Etiquette" section of this document. It will save you (and us) much heartburn.



Good to remember...

You have three access levels to the API metadata:

- **Public.** Free, fully anonymous.
- **Polite.** Free, you provide your email (recommended).¹
 - We only use this information to contact you in case of issues.
 - Include 'mailto' parameter in your API query.
- **Plus.** Premium service, you get:
 - A service level agreement guaranteeing you extra service and support, giving you a consistent and predictable experience.
 - Additional features such as snapshots and priority service/rate limits.

¹ We get rid of your information after 90 days.

How to...?

`https://api.crossref.org/v1/funders?query.affiliation=ghana&mailto=your.name@org.org`

Protocol & Host

Endpoints

?Parameters

Where is
located the
server?

Digital locations where
an API receives requests
about specific resources

They determine the type
of action you want to
take on the resource

Funders

Endpoints that expose funder related data

GET /funders/{id}/works

GET /funders/{id}

GET /funders

Journals

Endpoints that expose journal related data

GET /journals

GET /journals/{issn}

GET /journals/{issn}/works

Works

Endpoints that expose works related data

GET /works/{doi}

GET /works

GET /works/{doi}/agency

Prefixes

Endpoints that expose prefix related data

GET /prefixes/{prefix}/works

GET /prefixes/{prefix}

Members

Endpoints that expose member related data

GET /members/{id}/works

GET /members/{id}

GET /members

Types

Endpoints that expose type related data

GET /types/{id}

GET /types

GET /types/{id}/works

Some examples

You try it

1. Visit <https://api.crossref.org/>
2. Scroll down to and click GET
3. Scroll down to the parameter fields
4. Add your email to the mailto field
5. Add a funder organization to the query field

https://api.crossref.org/works/?mailto=lmontilla@crossref.org&query.affiliation=ghana&filter=type:journal-article

14,208

The screenshot shows a JSON viewer interface with tabs for 'JSON', 'Raw Data', and 'Headers'. The 'JSON' tab is active, displaying a tree view of search results. The root object contains 'status: "ok"', 'message-type: "work-list"', and 'message-version: "1.0.0"'. The 'message' object is expanded to show 'facets: {}' and 'total-results: 14208'. The 'items' array is also expanded, showing a single item with various metadata fields. The 'reference-count' field is highlighted in green, showing a value of 36. The 'abstract' field contains a paragraph of text, and the 'DOI' field shows '10.1177/1359105319859060'. The 'type' field is 'journal-article', and the 'prefix' field is '10.1177'.

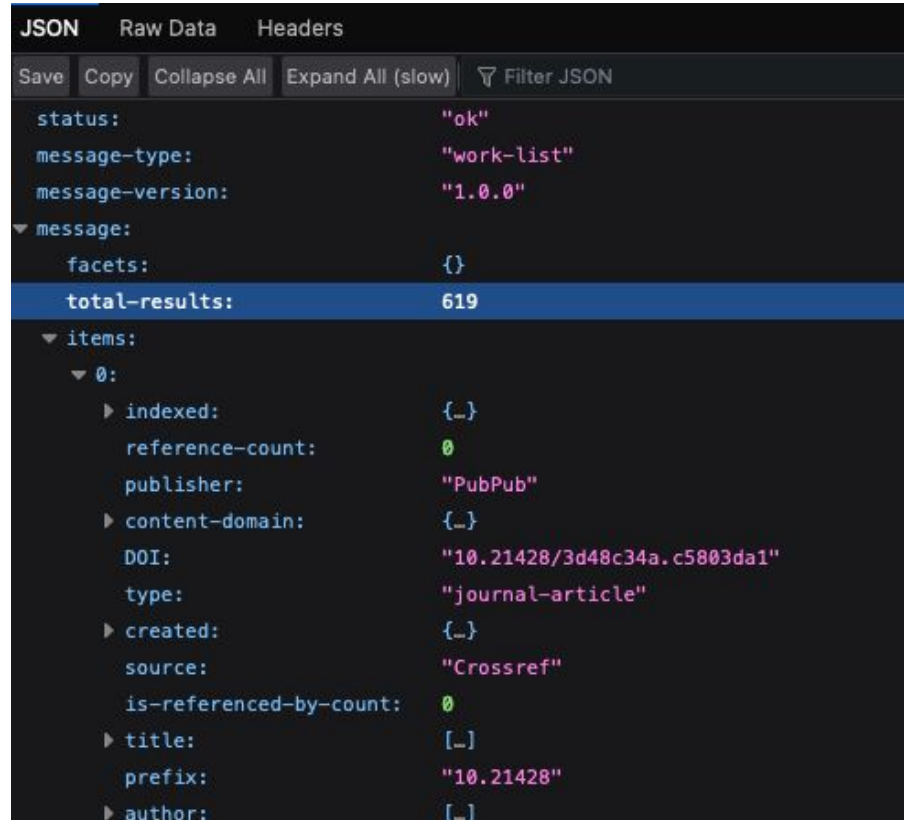
```
{
  "status": "ok",
  "message-type": "work-list",
  "message-version": "1.0.0",
  "message": {
    "facets": {},
    "total-results": 14208,
    "items": [
      {
        "indexed": {},
        "reference-count": 36,
        "publisher": "SAGE Publications",
        "issue": "7",
        "license": [],
        "content-domain": {},
        "short-container-title": [],
        "published-print": {},
        "abstract": "<jats:p> Issues concerni...n psychology. </jats:p>",
        "DOI": "10.1177/1359105319859060",
        "type": "journal-article",
        "created": {},
        "page": "1012-1025",
        "update-policy": "http://dx.doi.org/10.117...e-journals-update-policy",
        "source": "Crossref",
        "is-referenced-by-count": 0,
        "title": [],
        "prefix": "10.1177"
      }
    ]
  }
}
```

<https://api.crossref.org/works/?mailto=lmontilla@crossref.org&query.affiliation=ghana&filter=type:journal-article,has-full-text:false>

619

$619/14,208 = 0.04$

Only 4% don't
have a full-text
available



```
JSON  Raw Data  Headers
Save  Copy  Collapse All  Expand All (slow)  Filter JSON
status: "ok"
message-type: "work-list"
message-version: "1.0.0"
message:
  facets: {}
  total-results: 619
  items:
    0:
      indexed: [-]
      reference-count: 0
      publisher: "PubPub"
      content-domain: [-]
      DOI: "10.21428/3d48c34a.c5803da1"
      type: "journal-article"
      created: [-]
      source: "Crossref"
      is-referenced-by-count: 0
      title: [-]
      prefix: "10.21428"
      author: [-]
```

Some examples

You try it

1. Visit <https://api.crossref.org/>
 2. Scroll down to and click GET
 3. Scroll down to the parameter fields
 4. Add your email to the mailto field
 5. Add a funder organization to the query field
- type:book
 - type:posted-content
 - type:grant
 - <https://api.crossref.org/types> for other types of content



Global Equitable Membership (GEM) Program

Global Equitable Membership (GEM) program



Crossref
**Global
Equitable
Membership**

From Afghanistan to Zambia...

Announcing the new GEM Program, so that publishers in 59 countries have one less thing to worry about.

Afghanistan Bangladesh Benin Bhutan Burkina Faso Burundi Cambodia Central African Republic Chad Comoros Cote d'Ivoire Democratic Republic of the Congo Djibouti Eritrea Ethiopia Gambia Ghana Guinea Guinea-Bissau Guyana Haiti Honduras Kiribati Kosovo Kyrgyzstan Laos Lesotho Liberia Madagascar Malawi Maldives Mali Marshall Islands Mauritania Micronesia Mozambique Myanmar Nepal Nicaragua Niger Rwanda Samoa Sao Tome and Principe Senegal Sierra Leone Solomon Islands Somalia South Sudan Sri Lanka Sudan Tajikistan Tanzania Togo Tonga Tuvalu Uganda Vanuatu Yemen Zambia



GEM eligible countries in Africa

Benin (1)
Burkina Faso (2)
Burundi (1)
Central African
Republic (1)
Chad
Comoros
Cote d'Ivoire
Democratic Republic
of the Congo (6)
Djibouti

Eritrea
Ethiopia (7)
Gambia
Ghana (32)
Guinea
Guinea-Bissau
Mali (2)
Mauritania (1)
Mozambique
Niger
Rwanda (4)

Sao Tome and
Principe
Senegal (3)
Sierra Leone
Somalia (4)
South Sudan
Sudan (11)
Tanzania (11)
Togo
Uganda (7)
Zambia (5)



What does GEM cover?

Yes

- Annual member fee
- Content registration fees

No

- Similarity Check fees
 - Metadata plus fee
- 



Getting started as a member



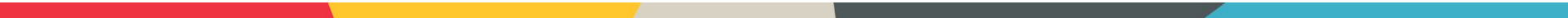
Become a member

<https://www.crossref.org/membership/>



First Steps

We send you:

- Your unique prefix
 - Login and instructions to set your password
 - Review of the different methods for registering your content
- 



What can I register at Crossref?

Journals & articles

Books

Book chapters

Conference proceedings

Datasets

Dissertations

Reports

Standards

Posted content (preprints)

Peer reviews

Grants

Relationships





How to register content

- OJS Crossref plugin
(<https://docs.pkp.sfu.ca/crossref-ojs-manual/en/config>)
 - Manual web deposit form
(<https://apps.crossref.org/webdeposit>)
 - Upload XML file
(<https://doi.crossref.org>)
- 

Web deposit form

<https://apps.crossref.org/webDeposit/>

webDeposit

Ver. 1.53

These forms allow you to enter metadata and register DOIs. Review the [help documentation](#) for details.

Note: Your Crossref username and password will be required at the end of this process to submit data to the system. Please insure your browser allows JavaScript so that the data validation will function.

Step 1: Select Data Type

Data Type Selection

Select Data Type: Journal Book Conference Proceedings Report Dissertation CrossMark Policy page
 NLM File **BETA** Supplemental-Metadata Upload **BETA**

Step 2: Identify the Journal

Journal information

Title
Abbr.
Journal DOI+
Journal URL
Print ISSN Elect ISSN Journal DOI and/or ISSN required
Volume Issue
Issue DOI
Issue URL

Publication dates

note: use numerical values (YYYY, MM, DD)

Type: print

*Year Month: Day:

Type: online

*Year Month: Day:

* a minimum of one publication year is required

+ complete Title, Abbr., Journal DOI/URL and/or ISSN fields for title-level Journal deposit



Using OJS

- Enable DOI plugin

Settings > Website > Plugins

Under Installed Plugins > Public Identifier Plugins

- Enable Crossref plugin

Tools > Import/Export > Crossref XML Export Plugin

<https://docs.pkp.sfu.ca/crossref-ojs-manual/en/config>

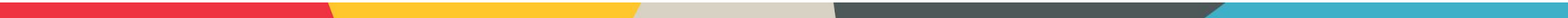




Crossref for Editors

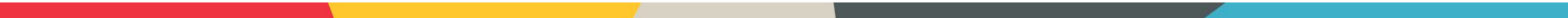


Crossref services for editors

- Editorial decisions influence what research is communicated and how.
 - Crossref tools help you assess a paper's originality, and properly label and connect updates, corrections, and retractions
- 



Metadata and research integrity

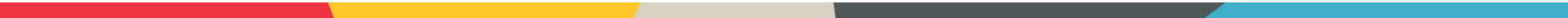
- Editors would like to ensure the quality and integrity of what they publish
 - Metadata helps with research integrity
 - **grant** records connect **full funding info**, including **funder**, **amounts**, and **funding type**, to works
 - metadata records identify the **member** responsible for the record, where the content lives (**URL**), **who** contributed and what their **affiliations** are
- 



Metadata and research integrity: Similarity Check

- verify that an item was checked for originality via [Similarity Check](#)
- Similarity Check offers publishers with a way to actively engage in efforts to prevent plagiarism, using a service provided by Crossref and powered by iThenticate

<https://www.crossref.org/services/similarity-check/>





Metadata and research integrity: Crossmark

- Changes may happen to a work after publication: corrections, retractions, addition of supplementary information
- **Crossmark** provides a cross-platform way for readers to quickly discover the status of a research output along with additional metadata related to the editorial process

<https://www.crossref.org/services/crossmark/>





Metadata and discoverability: Reference Linking

Using Crossref services maximizes the discoverability of the content you publish

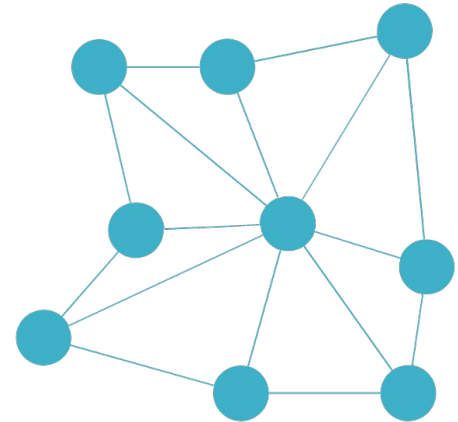
- [Reference linking](#) enables researchers to follow a link from the reference list to other full-text documents, helping them to make connections and discover new things.
- Collecting information on who [funded the research](#), [ORCID iDs](#) of authors
- [Abstracts](#) and [references](#) make content more discoverable
- Deposit the information you collect with Crossref so that it can be used!

<https://www.crossref.org/services/reference-linking/>



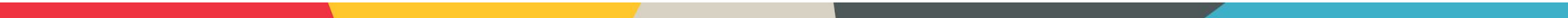
Metadata and reproducibility

- Use **relationships** to connect outputs to **data, software, protocols**, and other materials used to generate research





Metadata and assessment

- use [affiliation metadata](#) (including [ROR IDs](#)) to identify what institutions are aligned with what research
 - identify [who funded what](#), and what the connected outputs are ([preprints](#), [data](#), [conference papers](#))
 - identify reviews and comments via [relationships](#)
- 



Cited-by

Cited-by provides an overview of the publications that have cited a piece of content helping to build a picture of how research has been received by the community.

<https://www.crossref.org/services/cited-by/>





In conclusion



Resources and support

Technical documentation: <https://www.crossref.org/documentation/>

GEM program: <https://www.crossref.org/gem/>

Email us: support@crossref.org and member@crossref.org

OJS/Crossref Manual <https://docs.pkp.sfu.ca/crossref-ojs-manual/en/>

Have questions? Try our community forum: <https://community.crossref.org/>

