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# Metadata Delivery

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**The collective power of our members' metadata is available to use through a variety of tools and APIs—allowing anyone to search and reuse the metadata in sophisticated ways.**

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Publishers register content with us to let the world know it exists. They send us information called metadata which we collect and store in a standard way. We make this metadata openly available via our APIs, which means people and machines can incorporate it in their research tools and services.

Manuscript tracking services, search services, bibliographic management software, library systems, author profiling tools, specialist subject databases, scholarly sharing networks—all of these (and more) incorporate scholarly metadata into their software and services. They use our APIs to help them get the most complete, up-to-date set of metadata from all of our publisher members.

This widespread use of our APIs helps to ensure the entire community can create robust, persistent, and accurate citations of our members' content, to the benefit of publishers, readers, funders and other organizations. It also means that publishers only have to send metadata to one place to have their content discovered and used by many different services.

## Getting started - searching our metadata

Crossref metadata can be retrieved in two ways—either by humans through user interfaces, or by machines through our APIs. We also offer **Metadata Plus\***—a premium service for machine searches.

## User interfaces for humans

**Metadata Search** ([search.crossref.org](http://search.crossref.org)) is our primary user interface for metadata searching and filtering. Enter any term to search and filter a number of elements, including ISSN, ORCID iDs and funding data—it can also be used to lookup the DOI for a reference, a partial reference, or a set of references.

## APIs for machines

The open **REST API** is our newest and most sophisticated API, which enables flexible programmatic access to search and filter our metadata. It can be used to look up metadata for a content item, submit a query on an author's name, or find retractions registered with us. It can also be used to search and filter a number of elements, including a funder, or content items with ORCID iDs.

The **OAI-PMH API** uses a standard popular in the library community to harvest metadata, and the **OpenURL API** looks up Crossref DOIs for references, which is used extensively with link resolver services.

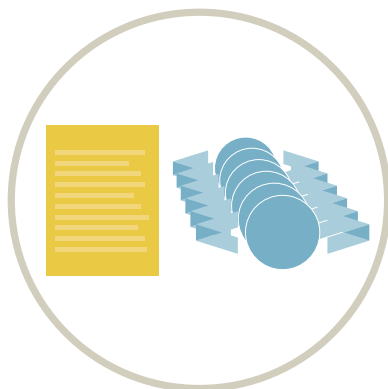
**\*Metadata Plus** is a paid-for service that utilizes both the REST API and the OAI-PMH API to provide machine access to all our metadata records in both XML and JSON. The service offers extra features such as notification of new matching records, and 'snapshots' of metadata to download, as well as guaranteeing priority support.

## Best practice

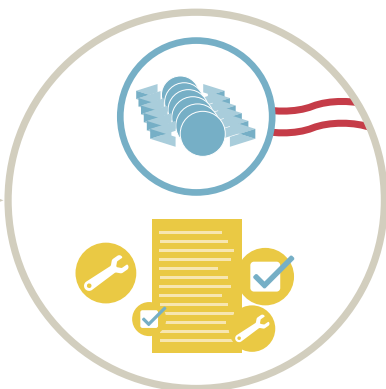
We encourage members to submit as much metadata as possible so that our APIs can include and deliver rich contextual information about their content. Those using the Public REST API should consider including their email address in header requests as we are able to offer a more predictable service for these "Polite" pool of queries.

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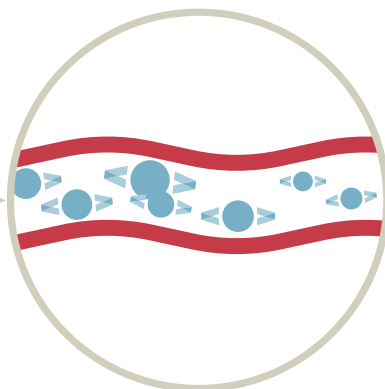
## Metadata Delivery: how it works



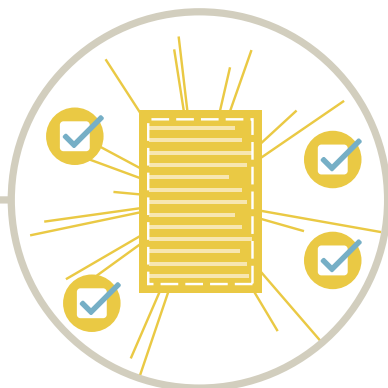
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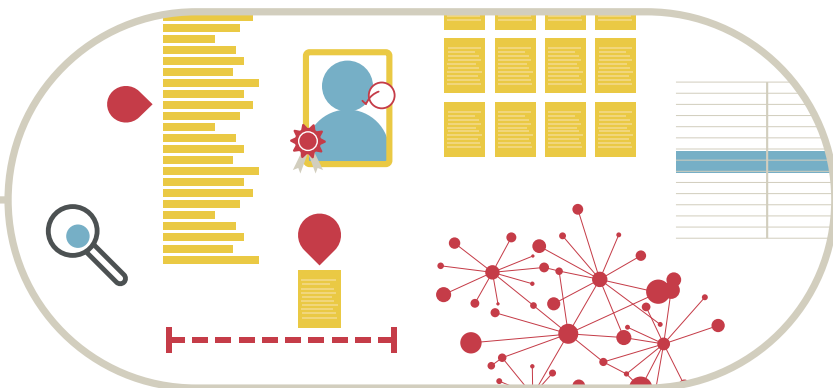
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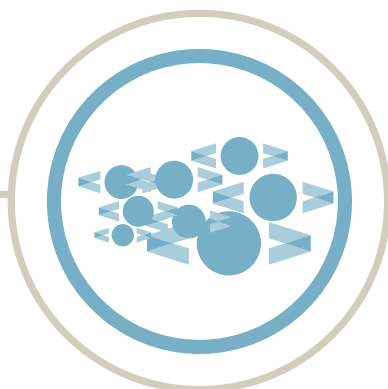
Our REST API helps systems to get the most complete, up-to-date set of metadata from all our member publishers.



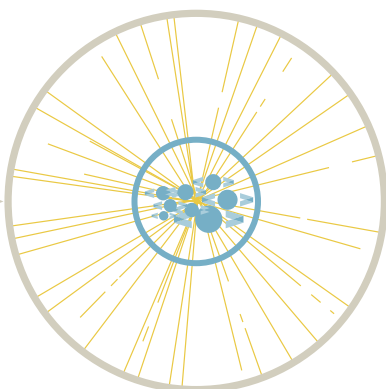
This helps their users find, link to, cite, and assess the research they are interested in.



Search services, manuscript tracking systems, bibliographic management software, library systems, author profiling tools, specialist subject databases, and scholarly sharing networks all use our metadata.



This means publishers only have to send metadata to one place to have their content discovered and used by many different services.



Developers can then come to one place to find and use information from tens of millions of publications.



Researchers benefit from a service that helps support, progress, publish, and share their work.