

Crossref Grant Linking System: enabling transparent and comprehensive research evaluation through open funding metadata

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Our mission and vision

Crossref is a not-for-profit membership organization that exists to make scholarly communications better.

We make research objects easy to find, cite, link, assess, and reuse.

We envision a rich and reusable open network of relationships connecting research organizations, people, things, and actions; a scholarly record that the global community can build on forever, for the benefit of society.



Scale of Crossref today

24,000 organisational members from **166** countries

- **50%** of members are based in Asia
- **40%** of members are universities or scholar-led
- **47** funder members

130 Sponsor orgs; **50** Ambassadors

180 million open metadata records with DOIs

200k grant records

1.9 billion DOI resolutions per month (**92%** of all DOI use)

2 billion calls to our API every month by **0000s** (?)
systems ingesting and reusing this open metadata



Who are our members?

- Publishers
- Funders
- Institutions
- Archives & repositories
- Research councils
- Data centres
- Professional networks
- Patent offices
- Indexing services

Who uses our metadata?

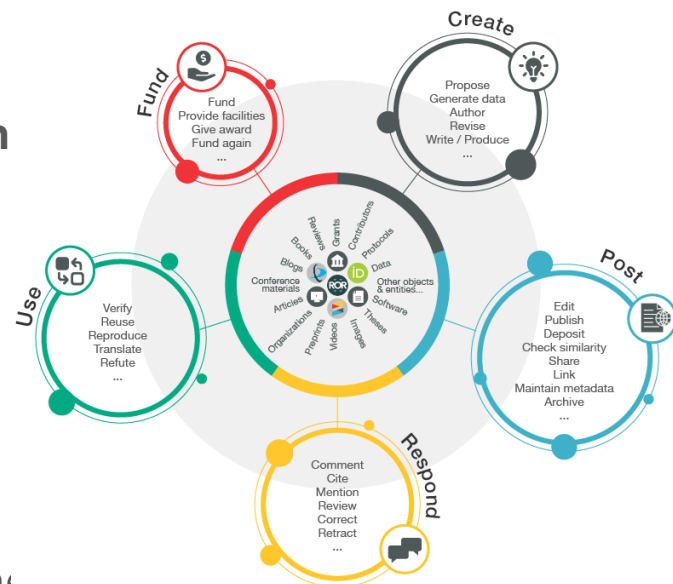
- Info management systems
- Publishing vendors
- Peer-review systems
- Reference manager systems
- Lab & diagnostics suppliers
- Educational tools
- Data analytics systems
- Literature discovery services
- Registration Agencies



The research nexus

Like others... we envision

**"a rich and reusable open network of relationships con
organizations, people, things, and actions; a scholarly
community can build on forever, for the benefit
of society."**



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



Crossref metadata is:

- Data about data
- Structured
- The description of research content (articles, preprints, grants, datasets, peer-reviews...)
- Open

Metadata enables

- Discoverability
- Links between objects and content
- Reproducibility
- Research integrity
- Reporting and assessment
- Traceability
- Funding transparency





Crossref

Grant Linking
System

DELIVER ON OPEN SCIENCE POLICY

CREATE OPEN DATA

LINK FUNDING WITH OUTPUTS

SAVE RESEARCHERS TIME

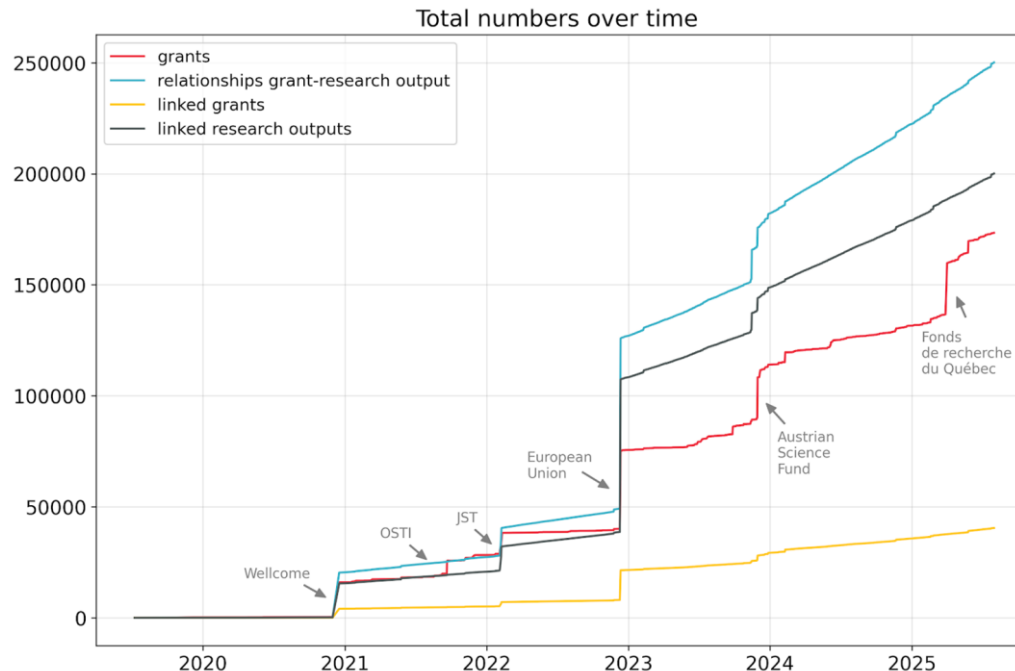
LEARN FROM OTHER FUNDERS

REPORT & ACT ON OUTCOMES



Grant<> output relationships

- Crossref Grant DOIs have **mutual relationships with works**
- Crossref is able to match grant metadata with outputs
- 250,163 funding relationships between grants and research outputs in 2025
- These relationships **enable specific tracking of impact** and add transparency



Relationships

```
▼ "references": [  
  ▼ {  
    "id-type": "doi",  
    "id": "10.1038/s41596-023-00871-2",  
    "asserted-by": "subject"  
  },  
  ▼ {  
    "id-type": "doi",  
    "id": "10.1038/s41586-023-06839-2",  
    "asserted-by": "subject"  
  }  
],  
▼ "is-version-of": [  
  ▼ {  
    "id-type": "doi",  
    "id": "10.48550/arXiv.2510.08736",  
    "asserted-by": "subject"  
  }  
],  
▼ "is-financed-by": [  
  ▼ {  
    "id-type": "doi",  
    "id": "10.3030/101125379",  
    "asserted-by": "subject"  
  }  
],  
▼ "has-review": [  
  ▼ {  
    "id-type": "doi",  
    "id": "10.7554/eLife.109604.1.sa2",  
    "asserted-by": "object"  
  }  
],  
],
```

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},  
"URL": "https://doi.org/10.3030/101125379",  
▼ "relation": {  
  ▼ "finances": [  
    ▼ {  
      "id-type": "doi",  
      "id": "10.7554/eLife.109604.1",  
      "asserted-by": "object"  
    }  
  ]  
}
```



Why it matters for CRIS systems

1

Unambiguous and persistent identification of funding

2

Interoperability with other PIDs and across systems

3

Greater visibility thanks to metadata

4

Openness of research information



Case study: FCT and ptcris

- 19k FCCN|FCT research grants registered with Crossref
- Aggregated in national research registry SciPROJ and ciênciavitae
- Crossref grant DOIs linked to ORCID, Institutions, facilities, projects



PROJETO

Designação	Financiadores
2021/01/01 - 2023/12/31	Fundação para a Ciência e a Tecnologia
Institute of Telecommunications	Concluído
LA/P/0109/2020	
10.54499/LA/P/0109/2020	
UID/EEA/50008/2019	
Instituto de Telecomunicações Lisboa, Portugal	

<https://doi.org/10.64000/9gjf-p-5p698>

🕒 13 minute read.

Integrating grant metadata for seamless research interconnectivity at FCCN|FCT



Rocio Gaudioso Pedraza, Cátia Laranjeira ~ 2025 October 15
In [Grant Linking System](#), [Research Funders](#), [Metadata](#), [Identifiers](#), [Community](#)

[Click here for the version in Portuguese](#)

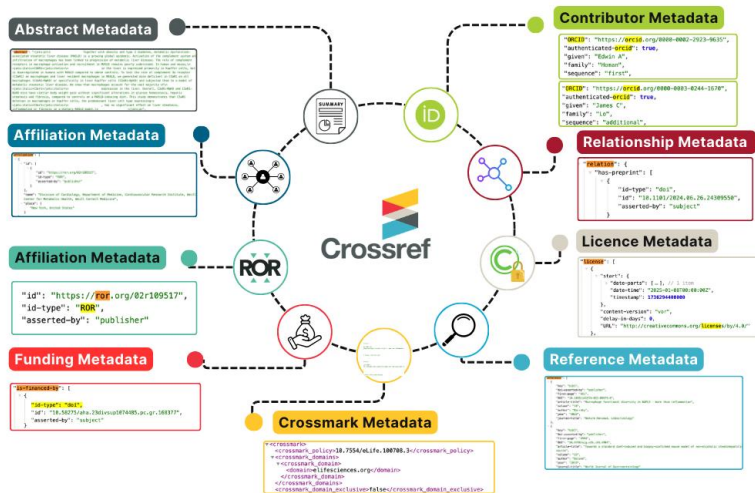
Welcome back to our series of case studies of research funders using the Grant Linking System. In this interview, I talk with Cátia Laranjeira, PTCRIS Program Manager at FCCN|FCT, Portugal's main public funding agency, about the agency's approach to metadata, persistent identifiers, Open Science and Open Infrastructure. With a holistic approach to the management, production and access to information on science, FCCN|FCT's decision to implement the Grant Linking System within their processes was not simply a technical upgrade, but a coordinated effort to continue building a strong culture of openness. With the mantra "register once, reuse always", FCCN|FCT efforts to embrace open funding metadata was only logical.



Metadata and Research assessment reform

Rich and open metadata is the building block of the comprehensive picture of the research endeavour required for the fundamental shift in how we understand and reward scholarly work

EXAMPLE OF AN ARTICLE RECORD WITH RICH METADATA
(10.7554%2FeLife.100708.3)



Conclusions & Call to action

- Sharing open funding metadata through Crossref GLS allows funders, researchers and the public to track funding flows, research impact and research careers in a more granular way
- Funding metadata is an essential data point in the research nexus. By embedding metadata into their process, funders can ensure that research outputs are born discoverable, interoperable, and ready for more nuanced assessment beyond traditional metrics when the time comes.
- CRIS systems play a role in increasing the visibility of this metadata and surfacing relationships between objects



Thank you for your attention!

Questions?

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