



Crossref

DOIs and metadata completeness

DOIとメタデータの完全性

Lucy Ofiesh



■ ミッションとビジョン

ミッション

Crossrefは、学術コミュニケーションの向上を目的とする非営利の会員制組織です。研究資産（デジタルオブジェクト）を発見、引用、相互参照、評価、再利用しやすくすることを使命としています。

ビジョン

私たちは、研究機関、人、成果物、活動を相互に結びつける、豊かで再利用可能な関係性のオープンネットワークを構想しており、それが世界中のコミュニティによって永続的に築き上げられ、社会貢献のための学術的記録となることを願っています。



■ Crossrefの規模

167カ国から**25,000**の組織会員

- 会員の**51%**がアジアに拠点を置いている
- 会員の**40%**が大学または研究者主導の組織
- 会員の**6%**がGEM対象国に拠点を置いている

140のスポンサー組織、**42**名のアンバサダー

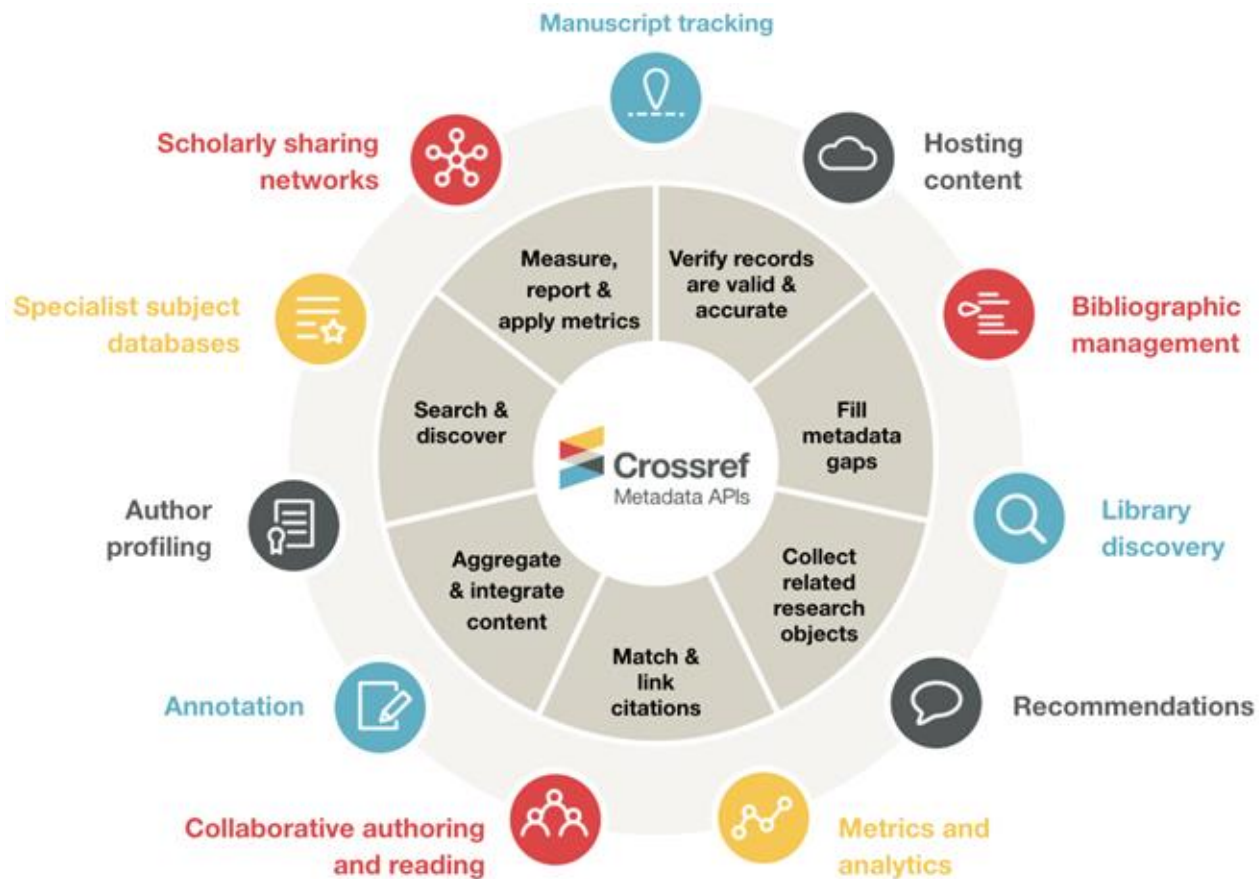
DOI付きオープンメタデータレコードが**1億8,300万件**登録されている

DOIリンクが毎月**14億回**参照・利用されている（全DOI利用の**93%**）

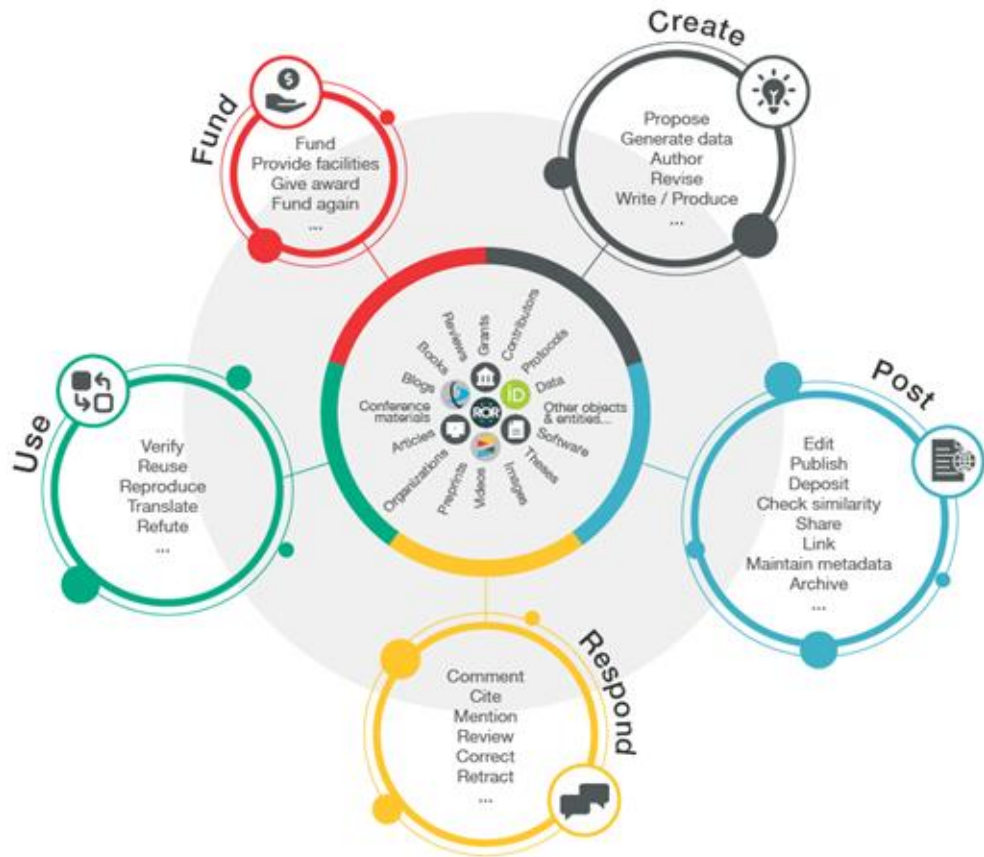
何十万ものシステムがCrossrefのオープンメタデータを取得・再利用しており、毎月21億件のクエリ（照会）が行われています。



メタデータの品質の重要性



リサーチ・ネクサス



私たちが目指すもの

- 学術的記録を構成する分散した要素を統合すること
- 関係性をよりよく把握できるようにすること（PIDを超えた視点）
- 内部情報を公開する
- 複数主体によるアサーションを可能にすること
- エビデンス。来歴。永続性。
- このうち60%は実現可能であり残りは将来的な目標である

メタデータのベストプラクティス：DOIレコードの充実

<https://www.crossref.org/members/prepare/>

Search by member - Participation Reports ?

How good is your metadata?

Find a Crossref Member

Search by member

- Wellcome
- University of Szeged
- eLife Sciences Publications, Ltd

Make sure your work can be found.

LEARN MORE

Search by member - Participation Reports ?

Office of Academic Resources,
Chulalongkorn University

Richer metadata makes research usable.
Make sure your work can be found.

91,182
Total registered records

DOWNLOAD GAP REPORT

Select date: All time

Journal: Search by title

Books: 895 | Dissertations: 76,780 | Journal Articles: 10,702 | Reports: 2,805

References	2%	Abstracts	94%	ORCID iDs	0%
Affiliations	0%	ROR IDs	0%	Funder Registry IDs	0%
Funding award numbers	0%	Crossmark enabled	0%	Text-mining URLs	4%
License URLs	0%	Similarity Check URLs	4%		

■ Crossref Grant Linking System



GLSの実践 (助成金と研究成果の連携！)

eLife Home Magazine Community About Search

Research Article
Neuroscience

CRISPR-Cas9 knockdown of ESR1 in preoptic GABA-kisspeptin neurons suppresses the preovulatory surge and estrous cycles in female mice

Jenny Clarkson, Siew Hoong Yip, Robert Port, ...
Centre for Neuroendocrinology, New Zealand; Department of Physiology, New Zealand; Department of Physiology, New Zealand; Department of Physiology, New Zealand

Dec 21, 2023 · <https://doi.org/10.7554/eLife.90954>

このeLifeの論文は...

... (下にスクロールすると) ...

Abstract

eLife assessment

Introduction

Results

Discussion

Methods

Data availability

References

Article and author information

Metrics

Funding

Marsden Fund (16-UOO-201)

- Allan E Herbison

Health Research Council of New Zealand (17-285)

- Allan E Herbison

Wellcome Trust

<https://doi.org/10.35802/212242>

- Allan E Herbison

The funders had no role in study design, data collection and interpretation, or the decision to submit the work for publication. For the purpose of Open Access, the authors have applied a CC BY public copyright license to any Author Accepted Manuscript version arising from this submission.

... Wellcome
TrustのCrossref
grant ID



GLSの実践

(オープンメタデータを参照・利用してください)

```
→ ↻ 🏠 🔒 https://api.crossref.org/works/10.7554/eLife.90959.3  
  
  },  
  "funder": [  
    {  
      "DOI": "10.13039/501100009193",  
      "name": "Marsden Fund",  
      "doi-asserted-by": "publisher",  
      "award": [  
        "16-U00-201"  
      ]  
    },  
    {  
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      "name": "Health Research Council of New Zealand",  
      "doi-asserted-by": "publisher",  
      "award": [  
        "17-285"  
      ]  
    },  
    {  
      "DOI": "10.13039/100010269",  
      "name": "Wellcome Trust",  
      "doi-asserted-by": "publisher",  
      "award": [  
        "10.35802/212242"  
      ]  
    }  
  ]  
}
```

これは、同じeLife論文のメタデータレコードです

これは3つの助成機関に関するOpen Funder Registryです

各助成機関は内部的な助成金IDを持っているが、これは助成機関によって作成された永続的識別子です



GLSの実践

(オープンメタデータを参照・利用してください)

```
→ ↻ 🏠 🔒 https://api.crossref.org/works/10.7554/eLife.90959.3  
{  
  "is-version-of": [  
    {  
      "id-type": "doi",  
      "id": "10.7554/eLife.90959.1",  
      "asserted-by": "subject"  
    },  
    {  
      "id-type": "doi",  
      "id": "10.7554/eLife.90959.2",  
      "asserted-by": "subject"  
    }  
  ],  
  "is-financed-by": [  
    {  
      "id-type": "doi",  
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      "asserted-by": "subject"  
    }  
  ],  
  "has-review": [  
    {  
      "id-type": "doi",  
      "id": "10.7554/eLife.90959.3.sa0",  
      "asserted-by": "object"  
    }  
  ]  
}
```

さらに、同じeLife論文のメタデータレコードにおいて

関係性のメタデータ。
バージョンと査読に関する情報をリンクさせています

また、「is-financed-by」の関係性によって、この論文と実際の助成金を関連付けています。



助成機関の視点

<https://doi.org/10.64000/n9n69-y5b75>

🕒 13 minute read.

Connecting the dots: FWFs transition to linked grant metadata to support a thriving culture of openness



Rocío Gaudioso Pedraza, Katharina Rieck – 2025 July 23
In [Grant Linking System](#), [Research Funders](#), [Metadata](#), [Identifiers](#), [Community](#)

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

As a new Community Engagement Manager at Crossref, dedicated to working with the funders community, I frequently hear requests for examples and case studies of adopting Crossref. This has spurred me to start a series of blog posts presenting funders' experiences – to demonstrate how it's done.

In the first case study of a series, I speak with Katharina Rieck (FWF), Austria's national funding agency for basic research, transparency and openness, and the role that the Grant Linking System plays in their processes.

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

🕒 13 minute read.

Integrating grant metadata for seamless research interconnectivity at FCCN|FCT



Rocío 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, PTCRS 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.

<https://doi.org/10.64000/c1dh8-qn968>

🕒 8 minute read.

Wellcome and Europe PMC: supporting Open Research through open metadata



Rocío Gaudioso Pedraza, Hannah Hope, Melissa Harrison – 2025 December 15
In [Community](#), [Grant Linking System](#), [Research Funders](#), [Research Nexus](#)

In my latest conversations with research funders, I talked with Hannah Hope, Open Research Lead at Wellcome, and Melissa Harrison, Team Leader of Literature Services at Europe PMC. Wellcome and Europe PMC are working together to realise the potential of funding metadata and the Crossref Grant Linking System for, among other things, programmatic grantee reporting. In this blog, we explore how this partnership works and how the [Crossref Grant Linking System](#) is supporting Wellcome in realising their Open Science vision.

What motivated you to join Crossref?

One of the main motivations for joining Crossref was the opportunity to be able to disaggregate research outputs between funders. Funders' identifiers, funders might change them over time, and there are also similarities between identifiers, in this case, Crossref Grant IDs, are an opportunity to avoid duplicating identifiers throughout the research ecosystem.