

Usage, Advancements, and Limitations of Open Research Information Data Sources

An Introduction to the ISSI 2025 Special Track “Open Research Information” (ORI)

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Open research information is information on scientific research that is freely available to the public to access, use, and reuse. This includes but is not limited to bibliographic data and metadata regarding research publications, software, tools, and information about research processes like funding and project details. Open research information has begun to transform the way research is conducted and its results are published. By being openly accessible, open research information aims to promote transparency, reproducibility, collaboration, and innovation in the research community. Open research information not only fosters a culture of reproducibility but also a culture of accountability and public engagement in science. It also fuels innovative research, enabling researchers, institutions, policymakers, educators, and the public to freely access, use, and build upon scientific knowledge and thereby advancing research and its societal impact.

Open research information, its technical infrastructures and social architectures that support management, delivery, and preservation of research information, constitute a bedrock of open science. It acts as shared resources, slicing across disciplinary and geographic boundaries, benefiting stakeholders and constituents in the scientific ecosystem. Open research information forms a critical pillar of the open science movement and transformation, especially in light of the Barcelona Declaration on Open Research Information proclaimed in April 2024. However, it also presents significant challenges in terms of management, curation, design, maintenance, governance, ethics, sustainability, and impact measurement. Recognizing both the vast potential and the complexities, as well as the challenges inherent in open research information, we are happy to organize a special session on open research information at ISSI 2025. The role of bibliometric indicators in research evaluation has undergone substantial evolution over the past decades, becoming integral to institutional assessments, funding decisions, and science policy at large. While their widespread adoption has enabled new forms of analysis and benchmarking, it has also sparked ongoing debates around their transparency, ethical integrity, and contextual relevance. A central concern is the over-reliance on narrow performance metrics, such as publication counts or citation-based rankings, often applied

uniformly and without sufficient consideration of disciplinary norms, research diversity, or the broader societal value of scientific work.

Several aspects need to be considered to levy the full potential of open research information. The following aspects are discussed in this special track:

1. Comparison of the coverage of open research information data sources in comparison to local repositories.
2. Combination of different open research information data sources.
3. Application of data-mining techniques to the data inside open research information data sources.

At the outset of the special track “Open Research Information” hosted at ISSI 2025, we present an overview summarizing recent advancements in open research information data sources (Cao, Zhang, Huang, and Haunschild, 2025) as an introduction into the special track. Following this, we invite the presenters of the following selected papers included in the track, each of which addresses key aspects of the aforementioned topic:

- “What Are We Missing? A Systematic Approach to Overlap Analyses of Local and Global Repositories” (Willemin, Bernard, Dederke, Hemila, and Koch, 2025).
- “How well does OpenAlex cover the Flemish Social Sciences and Humanities?” (Vandewalle and Arhiliuc, 2025).
- “Multi-Disciplinary, Large Scale Mentorship Dataset and Demographics” (Miura, Watanabe, Sakamoto, and Hashizume, 2025).
- “Annotation and Identification of Scientific Data Sharing Information from Data Availability Section” (Xu, Li, An, Wang, Li, and Zhang, 2025).

By assembling selected contribution to three particular aspects relevant to Open Research Information Data Sources and encouraging a lively discussion, this special track contributes to pointing to limitations and providing solutions to problems as well as leveraging the advantages of Open Research Information Data Sources.

List of contributions to the Special Track

Cao Z., Zhang L., Huang Y., and Haunschild R. (2025), “How does the academia refer to open research information data sources? A review study based on OpenAlex and Microsoft Academic series”, *Scientometrics* (in press).

Miura C., Watanabe Y., Sakamoto T., Hashizume H. (2025), “Multi-Disciplinary, Large Scale Mentorship Dataset and Demographics”, in this Special Track.

Vandewalle E. and Arhiliuc C. (2025), “How well does OpenAlex cover the Flemish Social Sciences and Humanities?”, in this Special Track.

Willemin S., Bernard G., Dederke J., Hemila M., and Koch M. (2025), “What Are We Missing? A Systematic Approach to Overlap Analyses of Local and Global Repositories”, in this Special Track.

Xu S., Li J., An X., Wang S., Li J., Zhang Y. (2025), “Annotation and Identification of Scientific Data Sharing Information from Data Availability Section”, in this Special Track.