

## **Special Track Title:**

*A framework for the responsible use of bibliometrics in research evaluation (FRAME)*

## **Organizers' Names and Affiliations:**

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## **Objectives:**

The main objective of this special track is the discussion and elaboration of groundwork and basic criteria for the application of appropriate bibliometric indicators in conjunction with other instruments in research assessment. By fostering cross-disciplinary interactions, this special track seeks to:

- Create a shared understanding of the principles underlying responsible metrics and their practical applications.
- Enable participants to co-design evaluation systems that balance stakeholder needs with academic integrity and societal impact.
- Stimulate the development of standardized protocols and ethical guidelines that support transparency, reproducibility, and inclusivity.
- Stimulate collaborations among experts, practitioners, and policymakers dedicated to advancing the field of research assessment.

## **Target Audience:**

Everybody who is involved or interested in the use of bibliometrics in an evaluative context, but most notably, researchers and practitioners (scientometricians, librarians), science politicians and stakeholders representing funding agencies, consultancy services, university and institutional research organisations and management, and user groups involved or interested in research assessment.

## **Format:**

This track is to be organised as two successive parallel sessions during the conference. After an introductory lecture by the organisers laying the groundwork for the discussion, invited and contributed papers will be presented. The track will be closed with a summary of the debate and outlining concrete future tasks.

## Description and Outline:

### *Background of the track*

The initial sharp rise that bibliometric research and services have taken from the 1990s resulted not only in success. Uncritical and uninformed use of indicators and quantitative tools in research evaluation fostered scepticism and partial rejection on the part of users, stakeholders and subjects of assessment. Recent initiatives at the European level like the “Agreement on Reforming Research Assessment” (CoARA, 2022) called for a rethinking of current evaluation systems in favour of returning to the use of qualitative methods. The response from the scientometric community was in defence of their sound and proven methodology and against banning this from research assessment. Yet, the proposal to join a campaign for developing and using “responsible metrics” in evaluative contexts still lacks clear concepts and frameworks into which such metrics could be incorporated. In a recent paper, Daraio et al. (2024) have sketched such a framework but still without any concrete formalisation. Referring to Henk Moeds's (2007, 2015, 2017, 2020) ideas of an intelligent combination of quantitative *and* qualitative methods in assessment, the authors have identified six ‘dimensions’ of assessments, i.e., *unit*, *purpose* and *context* of assessment and also the *aggregation level*, the *elements* of the research process and the *stakeholders’* engagement in research, to be incorporated into this framework.

### *Content and tasks*

The intention of this special track is to search for ways to formalise this concept and to find practical solutions for its implementation.

In the framework of this track, we ask for contributions from concerned scientometricians, practitioners in research evaluation, representatives of science policy and stakeholders to report and incorporate their views, experience, expectations and concerns related to the objectives of this track.

The goals of this special track are discussing the roadmap to elaborate the necessary standards, the methods towards reproducibility, more objectivity and transparency. The intelligent combination of quantitative and qualitative methods also requires input and use of data originating from different sources and of different qualities. The track intends to pave the way for creating the necessary rules and standards. Recommendations for possible guidelines regarding the documentation of design, technical details and application of both quantitative and qualitative methods are also part of the track agenda.

### **Cited References**

CoARA (2022), Coalition for Advancing Research Assessment. (accessible at: [https://coara.eu/app/uploads/2022/09/2022\\_07\\_19\\_rra\\_agreement\\_final.pdf](https://coara.eu/app/uploads/2022/09/2022_07_19_rra_agreement_final.pdf))

Daraio C., Gorraiz J., Glänzel W. (2024), Towards a framework for the appropriate use of bibliometric indicators in research evaluation, STI 2024 Conference, 18-20 September 2024, Berlin (Germany), <https://doi.org/10.5281/zenodo.14036242>.

Moed, H. F. (2007). The future of research evaluation rests with an intelligent combination of advanced metrics and transparent peer review. *Science and Public Policy*, 34(8), 575-583.

Moed, H. F., Halevi, G. (2015). Multidimensional assessment of scholarly research impact. *Journal of the Association for Information Science and Technology*, 66(10), 1988-2002.

Moed, H. F. (2017). *Applied evaluative informetrics*. Berlin: Springer International Publishing.

Moed, H. F. (2020). Appropriate use of metrics in research assessment of autonomous academic institutions. *Scholarly assessment reports*, 2(1): 1. DOI: <https://doi.org/10.29024/sar.8>

### **Extended Goals**

- *Developing a Comprehensive Framework*: Elaborate on and formalize the dimensions proposed by Daraio et al. (2024), integrating qualitative and quantitative methodologies. This includes specifying criteria for the unit, purpose, context, aggregation levels, elements of the research process, and stakeholder engagement in assessment frameworks.
- *Promoting Responsible Metrics*: Provide operational definitions of Responsible Metrics. Define clear guidelines for the application of responsible metrics, ensuring they align with ethical and practical considerations in research assessment. Emphasize the balance between quantitative data and qualitative insights.
- *Enhancing Reproducibility and Transparency*: Establish methodologies that ensure the reproducibility of results and the transparency of evaluation processes. Develop standardized protocols for documentation and reporting. (e.g., “Improving Transparency and Quality of Bibliometric Methods and Reporting”, Special Session, STI, 2024)
- *Establishing Standards and Guidelines*: Create actionable recommendations for the documentation of design, technical aspects, and the application of quantitative and qualitative methods in evaluation processes. (e.g., GLOBAL initiative, 2024)
- *Encouraging Stakeholder Engagement*: Facilitate dialogue among researchers, practitioners, science policymakers, and other stakeholders to incorporate diverse perspectives, ensuring the proposed frameworks are practical, fair, and widely applicable.
- *Providing Practical Solutions for Data Integration*: Explore methods to utilize data from diverse sources of varying quality effectively. Address challenges related to data integration and interoperability.
- *Driving Policy Reform*: Contribute to ongoing initiatives like the “Agreement on Reforming Research Assessment” by providing evidence-based recommendations for rethinking evaluation systems.

### **Required Materials and Equipment:**

No particular materials are required for this special track.

## **Key Takeaways:**

### ***For Researchers and Practitioners (Scientometricians, Librarians):***

- Gain a deep understanding of the theoretical principles and practical approaches to integrating quantitative and qualitative methods in research assessment. Develop clarity on the concept of responsible metrics and explore their role in promoting fair (equitable) and holistic (comprehensive) evaluation practices.
- Access cutting-edge tools and frameworks designed to enhance reproducibility, transparency, and methodological rigour in bibliometric analyses.

### ***For Science Policymakers:***

- Learn about well-defined concepts and emerging standards tailored to responsible research assessment.
- Acquire actionable insights to harmonize policy frameworks with ethical and evidence-based best practices in bibliometric evaluation. Engage with a multidisciplinary community to integrate diverse perspectives and expert recommendations into policy-making processes.

### ***For Stakeholders (Funding Agencies, Consultancy Services, University and Institutional Research Management):***

- Learn how to incorporate stakeholder priorities into comprehensive and balanced evaluation frameworks.
- Explore innovative approaches to achieving an optimal balance between efficiency, fairness, and thoroughness in assessments.
- Gain expertise in integrating data from multiple sources and utilizing diverse datasets effectively, ensuring accuracy and reliability in evaluation outcomes.

### ***For User Groups Interested in Research Assessment:***

- Understand the transformative potential of combining qualitative insights with quantitative metrics to achieve meaningful and impactful evaluation results.
- Engage in discussions on how advancements in research assessment influence innovation, funding allocation, and institutional strategies and performance.
- Access practical guidelines and best practices recommendations for adopting and implementing responsible metrics in diverse organizational and disciplinary contexts.