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REFRAMING RESEARCH ASSESSMENT: TOWARDS A COMPREHENSIVE FRAMEWORK FOR RESEARCHER PROFILES

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ABSTRACT

The reform of research assessment is a top priority in the European Research Area. Recognising its crucial role in a strong Research and Innovation system, recent policies call for new approaches. Traditional methods rely heavily on publication metrics, failing to reflect the collaborative and interdisciplinary nature of modern research. The CoARA Agreement on Reforming Research Assessment, which was officially opened for signature on 28 September 2022 and counted 832 signatories as of 14th, March 2025, calls for better recognition of the diversity of research contributions, outputs, and career paths, and to base research assessment primarily on qualitative evaluation supported by a responsible use of quantitative indicators. The movement for reform also calls for better acknowledgement of contributions to Open Science.
This contribution presents a framework for "Researcher Profiles" under development within the Horizon Europe project GraspOS (Grant Agreement n.101095129). This service aims at supporting organisations in implementing the CoARA commitments and to offer a flexible framework for assessing researchers which values diverse practices, and prioritises comprehensive quality and societal impact of research.

Keywords: Responsible Research Assessment, Researcher Profile Framework, Open Science Infrastructure, Research Curricula

1. INTRODUCTION

The European Commission has placed the reform of the research assessment system at the top of the European Research Area Policy Agenda 2022-2024, emphasising that the way research projects, researchers, research units, and research institutions are assessed is fundamental for a well-functioning Research and Innovation system.

Policy efforts have sought to accelerate the shift away from the established, publication-based assessment methods, underlining their limitations in reflecting the increasingly collaborative and interdisciplinary nature of research (European Research Area policy agenda, 2022). Consolidated evidence shows that publication-based metrics such as the Journal Impact Factor[1] and the h-index[2] fail to reflect the broad range of activities that make up research, and are widely (mis)used as proxies for assessing the quality, performance and impact of research and researchers (Institut de France, 2011; Hicks et al., 2015; Pontika et al., 2022; DORA, 2024).

Critics have also drawn attention to how the current assessment system has fostered perverse incentives for researchers, encouraging them to prioritise aspects such as publication venue and number of citations (Edwards et al., 2017), often at the expense of essential aspects of scientific knowledge production such as research quality, collaborative open research methods, and the impact of research on society (Di Donato, 2024). These incentives can shape not only how research is conducted, but also which questions are pursued, steering scholars toward topics more likely to yield high-impact publications (Van Wesel, 2015).

In response to the identified challenges, the European Commission has driven the efforts seeking to establish a clear and common direction for the reform of research assessment practices.

In 2021, the European Commission Scoping Report "Towards a reform of the research assessment system" (European Commission, 2021) called for research proposals, researchers, research units and research institutions to be "evaluated on their intrinsic merits and performance rather than on the number of publications and where they are published, promoting qualitative

1 https://www.nihlibrary.nih.gov/about-us/faqs/what-are-journal-impact-factors

2 https://guides.lib.umich.edu/c.php?g=282982&p=1887449

judgement with peer-review, supported by responsible use of quantitative indicators." Echoing this call, signatories of the Agreement on Reforming Research Assessment (ARRA) (CoARA, 2022), who were 832 in total as of 14th, March 2025[3], have undertaken to uphold a series of commitments, including to recognise and value diverse contributions to and careers in research, and to base research assessment primarily on qualitative evaluation for which peer review is central, supported by responsible use of quantitative indicators[4].

However, for most ARRA signatory organisations, implementing such changes remains a challenge. In particular, tailoring research assessment practices to different disciplines, career stages and research outputs further increases this challenge and the lack of a high-quality and open infrastructure[5] appears to be a major obstacle.

A number of EU-funded projects are tasked with supporting the ongoing policy reforms and designing new ways to incentivise higher quality research, collaboration and Open Science practices (European Commision, 2024). Among these, the Horizon Europe project GraspOS[6] addresses the need for new services and tools to support a research assessment system that incentivises Open Science practices. The project aims to develop a data infrastructure facilitating qualitative and quantitative assessments, ultimately supporting the practical implementation of the reform at various levels and the transition towards an Open Science-aware responsible research assessment.

3 https://coara.eu/agreement/signatories/

4 Commitments 1 and 2 of the ARRA: "Recognise the diversity of contributions to, and careers in, research in accordance with the needs and nature of the research" and "Base research assessment primarily on qualitative evaluation for which peer review is central, supported by responsible use of quantitative indicators". https://coara.eu/agreement/the-commitments/

5 Research infrastructures are facilities that provide resources and services for research communities to conduct research and foster innovation. They may be single-sited, distributed, or virtual and can include major scientific equipment or sets of tools and instruments; collections, archives or data; computing systems and communication networks; and any other research and innovation infrastructure open to external users. https://research-and-innovation.ec.europa.eu/strategy/strategy-research-and-innovation/our-digital-future/european-research-infrastructures_en

6 Next Generation Research Assessment to Promote Open Science (Grant Agreement n.101095129) https://graspos.eu/

2. THE FRAMEWORK FOR RESEARCHER PROFILES: AN INNOVATIVE TOOL TO SUPPORT ORGANISATIONS IN ADOPTING RESPONSIBLE RESEARCH ASSESSMENT PRACTICES

2.1 NEW TOOLS SUPPORTING THE TRANSITION TO RESPONSIBLE RESEARCH ASSESSMENT PRACTICES

To support the emerging policy reforms and pave the way towards an Open Science-aware Responsible Research Assessment system, GraspOS is developing an innovative tool designed to support research funding and performing organisations in implementing the ARRA commitments. At the same time, it also enables researchers to provide a more comprehensive view of their contributions to science and society.

The tool is envisaged as a framework for Researcher Profiles, aligned with the latest policy guidance promoting a responsible approach to research assessment. In particular, its development is guided by the SCOPE Framework (International Network of Research Management Societies - Research Evaluation Group, 2023) and the DORA Guidance on the responsible use of quantitative indicators in research assessment (DORA, 2024).

The SCOPE Framework was developed by the International Network of Research Management Societies (INORMS) as a structured process to guide responsible research evaluation and to help research managers and evaluators in designing and implementing assessments which align with best practices and institutional values. The acronym SCOPE stands for the five stages of the process:

1. **Start with what you value:** Make sure that the evaluation process effectively measures and assesses what you or your institution value.

2. **Context considerations:** Ask yourself who are you evaluating? And why is the evaluation taking place? This should allow for more contextual evaluations.

3. **Options for evaluating:** Be careful about considering and balancing quantitative and qualitative measures and avoid using quantitative measures to evaluate qualities.

4. **Probe deeply:** Be aware of the unintended consequences that a certain evaluation approach may bear, such as unfair discrimination or eventual gaming strategies.

5. **Evaluate your evaluation:** In this last stage, reflect on the aims of the evaluation and assess whether these have been achieved.

The SCOPE Framework emphasises the need to prioritise core values and contextual factors in research assessments and calls for the recognition of diverse research contributions whose quality and impact cannot be assessed through quantitative metrics.

While metrics and indicators can serve as useful benchmarks for measuring research performance, they are inherently limited. Indeed, they often fail to capture the complexity and societal relevance of research. As outlined in the DORA Guidance on the responsible use of quantitative indicators in research assessment (DORA, 2024), a contextualised approach is essential—one that combines quantitative indicators with qualitative insights to reflect the broader impact and quality of research.

These principles underpin the development of the Researcher Profiles framework, which seeks to foster a research culture that values overall quality and societal impact over mere numerical output.

At the same time, it is important to recognise that elements of competition continue to shape the research environment, and efforts to promote more responsible, open, and fair assessment practices must take this reality into account. The Researcher Profiles framework does not attempt to eliminate competition, but to rebalance assessment criteria so that under-recognised qualities such as collaboration, societal impact, and openness are adequately valued and rewarded. In fact, qualitative insights provide critical context and help highlight such dimensions often overlooked in traditional evaluation systems.

Moreover, research funders operate under practical constraints. Limited time, administrative burdens, and the need to compare diverse applicants often compel them to rely on metrics that are easy to collect and compare. Recognising these pressures is essential to understand how responsible assessment reforms can be implemented within existing institutional and operational constraints.

By integrating both qualitative and quantitative elements, the Researcher Profiles framework offers a practical path forward which aligns with responsible

assessment principles while remaining compatible with the operational needs of institutions and funders. In doing so, it supports more balanced and context-aware assessment processes that recognise a broader spectrum of scientific contributions.

2.2 DESIGNING THE FRAMEWORK FOR RESEARCHER PROFILES: METHODOLOGY

The design of the framework started with a landscape analysis of existing services and indicator frameworks used to describe research activity. This analysis confirmed an overreliance on publication-based metrics[7] and highlighted the need for a more comprehensive approach that includes a broader range of activities. In response, GraspOS aims to integrate both established and emerging indicators that better reflect diverse academic outputs and practices.

An essential foundation for this work is the integration of insights and resources from two Horizon Europe projects—OPUS and PathOS—whose characteristics are summarised in Table 1.

	GraspOS	OPUS	PathOS
Full title	next Generation Research Assessment to Promote Open Science	Open and Universal Science	Open Science Impact Pathways
Project website	https://graspos.eu/consortium-partners	https://opusproject.eu/	https://pathos-project.eu/
DOI	10.3030/101095129	10.3030/101058471	10.3030/101058728
Start date	1 January 2023	1 September 2022	1 September 2022
End date	31 December 2025	31 August 2025	31 August 2025
Funded under	Research infrastructures	Reforming and enhancing the European R&I System	Reforming and enhancing the European R&I System

7 Services providing indicators focusing mostly on scientific publications include Google Scholar, Academia.edu, Web of Science, and ResearcherID.

Topic	Services and tools to underpin a research assessment system that incentivises open science practices	Support to changes in the assessment of research and researchers to reward the practice of open science	Modelling and quantifying the impacts of open science practice
Consortium	18 partners	18 partners	10 partners
EU funding	€ 2 985 441,00	€ 1 726 898,00	€ 1 999 990,00

Table 1. Overview of Key Characteristics of Horizon Europe Projects: GraspOS, OPUS, and PathOS

Specifically, the OPUS Researcher Assessment Framework (RAF) (O'Neill, 2023) and the PathOS Open Science Indicator Handbook (Apartis et al., 2024) proved particularly useful, providing a solid basis for the design of the framework, as illustrated in Figure 1 below.

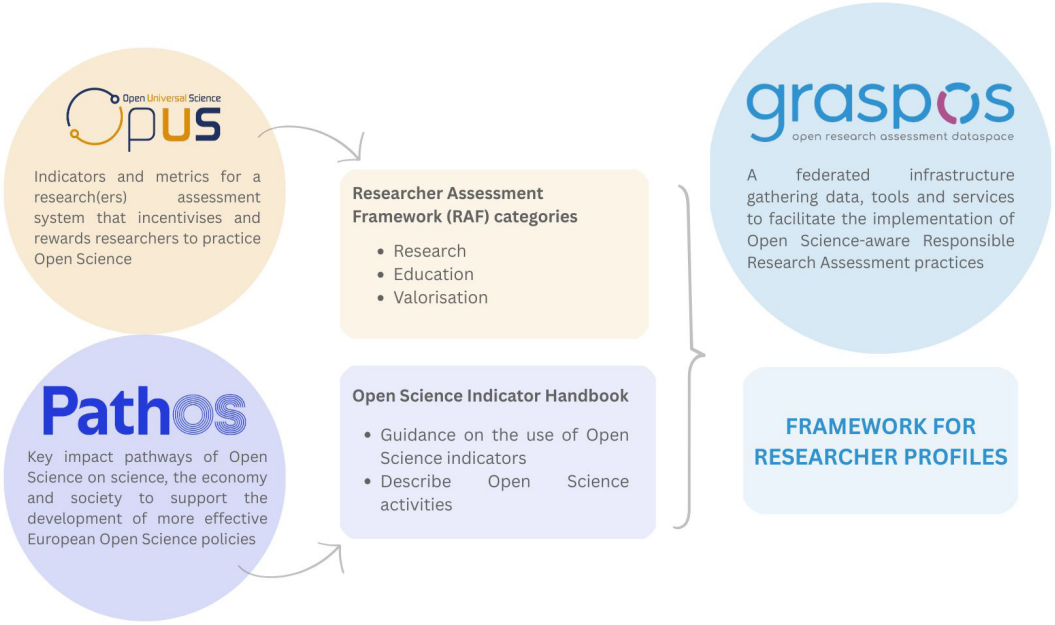

Figure 1. OPUS and PathOS project contributions to the GraspOS framework for Researcher Profiles

The OPUS project is working on a framework to assess researchers (RAF) including Open Science dimensions, to ensure that such practices are explicitly recognised and rewarded (O'Neill, 2023). From this framework, three main

categories were identified – “Research”, “Education” and “Valorisation”– in which data collected through the landscape analysis was classified. These categories served as a structured framework to organise and interpret the diverse information gathered from various sources.

The PathOS project published a first version of the Open Science Indicator Handbook (Apartis et al., 2024), providing guidance on the use of a wide range of Open Science indicators. It served as a basis to describe Open Science activities in the framework for Researcher Profiles. Open Science is not limited to indicators relating to Open Access publishing, but is rather considered in a more holistic manner, encompassing and including key pillars as defined in the UNESCO Recommendation on Open Science (UNESCO, 2021).

Data on researchers’ contributions will be sourced from ORCID[8] and the OpenAIRE Graph[9]. These platforms provide reliable and comprehensive data on researchers and outputs. Moving forward, the aim is to integrate additional data sources to enhance the breadth and depth of the information collected. Additionally, functionalities allowing users to manually edit and update their data will be implemented, ensuring flexibility and accuracy in maintaining researcher profiles and related information.

Finally, the framework will undergo iterative refinement in collaboration with the nine GraspOS Pilots[10], each representing a specific context in research assessment (National research funding and performing organisations, Current Research Information Systems, universities and university departments, disciplines). The pilots will provide practical feedback on the suggested components of the framework.

8 https://orcid.org/

9 https://graph.openaire.eu/

10 https://graspos.eu/case-studies

3. KEY CHARACTERISTICS OF THE RESEARCHER PROFILE

3.1 NARRATIVE CV

A Narrative CV section will gather qualitative input on a researcher's skills and experiences. Following the four module model of the Royal Society's Résumé for Researchers[11], this approach supports a more contextual and qualitative assessment of their diverse contributions to science and society, including:

1. Contribution to the generation of knowledge
2. Contribution to the development of individuals
3. Contribution to the wider research community
4. Contribution to broader society

This key feature of the framework for Researcher Profiles will enable researchers to provide context and explain the impact of their research, and to highlight specific stories of particular interest in the context of an assessment event. Additional modules to present other types of experiences, such as extra-curricular or voluntary work will be included, thereby providing a more complete view of a researcher's profile. This Narrative CV section will serve as the core feature of this profile, providing a comprehensive overview of achievements and contributions, supported by evidence-based indicators.

3.2 INTERACTIVE TIMELINE

The interactive timeline is intended to provide a dynamic, visual representation of events or milestones which users can explore by clicking or hovering on different elements to reveal more information, allowing them to explore data and narratives in a more engaging way. The timeline complements the Narrative CV section by providing information about the evolution of a researcher's interests and research topics over time, highlighting the research and policy areas to which they have contributed in a chronological order.

11 https://royalsociety.org/news-resources/projects/research-culture/tools-for-support/resume-for-researchers/

3.3 DIVERSE RESEARCH OUTPUTS

Taking into account the need to recognise the variety of outputs produced in science, the Research Outputs section will gather a broad range of results including publications, preprints, datasets, software, patents, books, and other research-related products. For each output, a narrative box enables researchers to provide additional information on the context, the rationale, the activities carried, the outcomes, or any other relevant information.

3.4 OPEN SCIENCE

A section will be dedicated to recognising engagement with Open Science, rewarding researchers who contribute to making scientific knowledge openly available, accessible and reusable for all; to increasing scientific collaborations and sharing of information; and to opening the processes of scientific knowledge creation and communication to societal actors. The Researcher Profile aims to take into account three pillars of Open Science (UNESCO, 2021): open scientific knowledge, open science infrastructures, and open engagement of societal actors.

3.5 VALORISATION

Valorisation refers to the process of increasing the value and societal relevance of research by translating knowledge into practical applications, products, services, or broader social benefits. It includes both the refinement and dissemination of research findings and their contribution to solving real-world challenges.

In the Researcher Profiles framework, valorisation includes not only the immediate, applied impact of research but also the foundational contributions of basic, curiosity-driven research, which may not yield direct applications in the short term but are essential for long-term knowledge advancement. Researchers are encouraged to document and reflect on these contributions, ensuring their value is acknowledged in assessment processes.

A dedicated Valorisation section complements the Narrative CV, focusing on the wider impact of research beyond academia. This includes activities such as industry collaboration, policy engagement, public communication, and contributions to sustainable development. The framework also allows for the valorisation of conceptual and theoretical advances, whose importance may lie in shaping future directions of scientific inquiry.

By combining qualitative narratives with supporting quantitative indicators, the framework enables a context-sensitive and evidence-informed approach to assessment. In doing so, it supports a more responsible and balanced evaluation of research, where quality, originality, and societal relevance are valued alongside traditional outputs.

4. CONSIDERATIONS FOR FUTURE DEVELOPMENTS AND IMPLEMENTATION

The main aim of the GraspOS project is to develop tools and services to support and facilitate the transition towards Open Science-aware responsible research assessment practices. In light of the movement for reform and the growing emphasis on recognising and valuing a wider range of contributions to science and society, including Open Science practices, the framework under development promotes a balanced approach in the use of quantitative indicators and qualitative perspectives. However, as with any new tool, the design and development of the framework for Researcher Profiles should carefully take into account a variety of potential pitfalls.

IMPLEMENTATION CHALLENGES

A key challenge lies in the capacity of RPOs to adopt new standards and tools. While offering more depth and nuance in the research evaluation process, the effective shift to more qualitative and narrative-based assessment models requires more than just adopting new tools: it demands time, resources, and training.

BALANCING COMPARABILITY AND FLEXIBILITY

While uniformity across Researcher Profiles is not a desirable outcome, we are aware that research evaluators will need to compare profiles in a meaningful way. This is why the framework is structured according to standardised but adaptable categories that apply across disciplines, career stages and types of research—including basic research. These categories offer a common structure without enforcing a one-size-fits-all model. This flexibility ensures that assessments can be contextualized and sensitive to the diverse nature of scientific research.

OVER-RELIANCE ON KEY PERFORMANCE INDICATORS (KPIS)

Another challenge associated with the development of new research assessment models is the risk of replacing old metrics with new, but equally narrow, sets of KPIs. This could unintentionally reproduce the same limitations found in traditional assessment processes. Relying on a narrow set of indicators would undermine the very objectives of the framework, which are to recognise and value the wide range of contributions that researchers make to science and society. To counter this, the framework for Researcher profiles puts strong emphasis on qualitative evaluation, and researchers are encouraged to include narrative descriptions and context to explain their work and its impact.

NARROWING DOWN TO OPEN SCIENCE METRICS

Similarly, there may be a risk that specific quantifiable Open Science practices or outputs substitute previous misused metrics, missing the overall need to monitor the comprehensive transformation towards a new research culture12. In addition, there is a need to assess the values and impacts of science by focusing on the people who conduct, engage with, and benefit from it, while also addressing the current lack of relevant policies and training. Existing methods to assess the adoption of Open Science practices should therefore be strengthened (UNESCO, 2023), particularly to track changes in research culture and to value open and reproducible research processes.

SUPPORTING DIVERSE TYPES OF RESEARCHERS

Ensuring that researchers from diverse backgrounds, with different skills and competencies, are evaluated equitably is a critical consideration in the transition towards a more inclusive research assessment system. International researchers may struggle with integration into local networks and collaborations, and introverted researchers may face challenges in systems that prioritise public visibility and engagement. The framework addresses these concerns by allowing researchers to provide contextual information in their profiles. International researchers can highlight cross-border collaborations and explain challenges unique to their research environments. Introverted researchers can showcase less visible, yet essential, contributions, such as technical innovations, infrastructure development, or mentorship, through narrative descriptions.

12 The Royal Society defines research culture as follows: "Research culture encompasses the behaviours, values, expectations, attitudes and norms of our research communities. It influences researchers' career paths and determines the way that research is conducted and communicated." https://royalsociety.org/news-resources/projects/research-culture/

The development of the framework addresses several important considerations related to the flexibility of researcher profiles across diverse fields of study. One of the key challenges is ensuring that the tool can adapt to different contexts and needs across disciplines. Research contributions in fields such as humanities, social sciences, natural sciences, and applied sciences are fundamentally different in the way they are produced, disseminated, and evaluated. In fact, the framework for researcher profiles needs to be sufficiently flexible enough to be adapted to various local contexts and to cater to research institutions' diverse values, needs and goals. Ultimately, the aim is to design Researcher Profiles that are customisable and context-aware, allowing researchers to highlight achievements that are most relevant to their work.

5. CONCLUSIONS

The development of the framework for Researcher Profiles was presented for the first time at the REvaluation 2024 Conference[13] on 4th, December 2024 as a means to engage with and gather input from research assessment experts and community members interested in advancing research evaluation systems[14].

Responsible Research Assessment represents a critical evolution in how researchers' contributions are evaluated, emphasising fairness, transparency, and inclusivity across disciplines. The GraspOS project aims to address these needs by designing a dynamic Researcher Profile framework that combines qualitative narratives with a responsible use of quantitative indicators, promoting a comprehensive and contextualised view of contributions to research.

The inclusion of the interactive timeline feature and the Narrative CV section is aimed at further enhancing and enabling qualitative evaluations. Paired with evidence-based information, this qualitative perspective should allow for a more comprehensive assessment of research quality and productivity and should leave enough flexibility for research institutions or researchers to adapt the tool to their needs.

As research assessment evolves, it is crucial to avoid simply replacing traditional metrics with new indicators that risk being misapplied. The focus

13 https://www.revaluation2024.eu/

14 The presentation is available in Open Access on Zenodo. https://doi.org/10.5281/zenodo.14531056

should remain on fostering a responsible evaluation culture that values both the process and the broader impact of scientific work. By collaborating with the GraspOS Pilots and continuously refining the framework based on practical feedback, the project aims to ensure its relevance and adaptability across various contexts.

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