

EUA Roadmap
on Research Assessment
in the Transition to
Open Science

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EUA Roadmap on Research Assessment in the Transition to Open Science

Preamble

The European University Association (EUA) has continuously supported European universities in the transition towards Open Science and, in particular, to Open Access. Upon recommendation of its [Expert Group on Science 2.0/Open Science](#), EUA has developed a variety of initiatives in this area, as outlined in the [EUA Roadmap on Open Access to Research Publications](#). That roadmap mainly focused on introducing Open Access as the main model of accessing research publications. Looking ahead to the more global transition towards Open Science, with its broader framework beyond accessing research publications, the Expert Group is starting to address new models of research assessment and evaluation at all levels, as these are instrumental to achieving a fairer, more open and transparent system driven by researchers.

Open Science (which encompasses open research in all disciplinary areas) is not yet an established practice and embedding it in scientific communities remains challenging since it takes a number of different forms. Open Access to research publications represents just one of the necessary stages of Open Science, and Open Science as a whole is still far from its full potential, which requires a substantial transformation based on the principles of sharing and collaboration. New future quantitative and qualitative models of research assessment and evaluation must reflect and promote such a novel attitude.

The topic of research assessment, namely the search for improved ways of assessment, is becoming increasingly important for the scientific community at large and for a variety of national and European level policy makers. This development is inexorably linked to the transition towards Open Science.

New approaches to research assessment at all levels (e.g. of research publications and projects, of researchers, and of laboratories and universities) are emerging, reflecting the urgent need to change the current paradigm. Multifactorial and multidimensional assessments, taking into account a wide range of parameters beyond the typical journal impact factor, are needed. The European Commission, in the framework of its activities on Open Science and Horizon 2020, has also developed several initiatives on research assessment. It has set-up working groups and published reports on [metrics](#), [rewards](#) and [skills](#) for Open Science.

The present EUA roadmap was approved by the EUA Council at its meeting on 4 April 2018, in Zurich (Switzerland). It follows on from a recommendation of EUA's Research Policy Working Group and has been prepared by the EUA Expert Group on Science 2.0/Open Science. This roadmap addresses a selection of topics related to new approaches in research assessment, including the assessment of research outcomes, researchers and research units and organisations (laboratories, research centres and universities). With this document, EUA aims to raise awareness and support institutions in the development of research assessment approaches that focus on research quality, potential and future impact, and that take into account Open Science practices.

EUA acknowledges the variety of possible approaches to research assessment, which are dependent on the specifics of each institution's profile, academic disciplines, and the degree to which institutions are linked to external private and public organisations. EUA further outlines its vision for the future of research assessment and how it can contribute to a swift transition towards Open Science.

The state of play in research assessment and EUA's vision

Research assessment is applied in a variety of situations. It may refer to the assessment of: research (research outcomes, such as publications and data, research projects); researchers, namely for career progression and; research groups and larger research units and organisations (laboratories, research centres, universities). Normally, research assessment systems depend heavily on national policy and are conducted by research funding bodies or similar entities.

Current research assessment systems require the development of new, more appropriate research assessment paradigms and rewards systems to support the transition to Open Science and to improve the quality of assessment. This has been recognised by many universities and other stakeholders (e.g. [the report by the European Commission Working Group on Rewards under Open Science](#)). Today, research assessment and reward systems generally do not reflect important Open Science contributions, such as curating and sharing datasets and collections, documenting and sharing software (source code), or devoting time and energy to high-quality peer review. New approaches to research assessment that take into account Open Science contributions need to be identified and thoroughly discussed by academic communities.

Current research assessment and reward systems are largely based on publication metrics, which often equate the assessment of quality and impact of the individual research article with crude interpretations of the prestige and impact of the journal or other outlet used for publication. Journal impact factors (JIF, CiteScore, SNIP, SJR etc.) have become popular, but are misleading simplifications of individual research contributions.

EUA's view is that the dominance of the journal impact factor leads to two main problems:

1. the quality of an article produced by researchers is not evaluated directly, rather through a proxy, i.e., the reputation of the journal it is published in;
2. this situation reinforces the dominant position of commercial academic publishers and disproportionately adds to their power in shaping the way research is funded and conducted.

The quality of a journal article should be assessed based on the merit of the research/article itself, not on the reputation of the journal in which the article is published.

EUA is committed to encouraging and supporting changes in research assessment based on peer-review and precise article-level metrics that contribute to a fairer and more transparent evaluation of research. These would focus on quality, openness, potential, originality, scientific and possible societal impact. An evaluation paradigm that takes into account multiple factors is critical in changing researchers' behaviours and attitudes, easing their transition to the demands of a more open and transparent scientific system.

In line with this vision, EUA signed the [San Francisco Declaration on Research Assessment \(DORA\)](#) in 2016. To take its activities forward in this area, the Association has formulated the following objectives and action plan for research assessment in Open Science.

Objectives

The overall objective of this roadmap is to encourage the reflection and development of novel research assessment approaches that recognise and reward high-quality research and its innovative potential, while taking into account the individual profiles of institutions, the characteristics of different academic disciplines and the contributions to Open Science.

EUA will mainly direct its attention to the development of novel research assessment approaches focusing on the evaluation of research outcomes and research projects. It will also support academic institutions in the area of researcher assessment. EUA will support its members by raising awareness, collecting and sharing comprehensive data on research assessment, which will inform future recommendations on research assessment to European universities.

In its activities linked to the process of research assessment, EUA will concentrate on the following areas:

- Encouraging the development of flexible, transparent, fair and robust research assessment approaches that take into account the need to recognise and reward Open Science contributions. These approaches should also adapt to differences in all academic disciplines, inter- and multi-disciplinary research, and those between fundamental and applied research.
- Promoting flexible, transparent, responsible and robust approaches in the career assessment of researchers, particularly encouraging assessment practices that take into account the different stages of researchers' careers.
- Supporting European universities and national rectors' conferences in developing and implementing new approaches for research assessment, namely regarding the career assessment of researchers.

Priority actions

EUA will focus its efforts on the following actions:

Information gathering and sharing

- Gathering information from European universities and national rectors' conferences on relevant topics on research assessment and its linkages to Open Science. This information will be collected mainly through existing EUA data-gathering instruments, namely the annual Open Access Survey.
- Monitoring relevant developments and initiatives from other stakeholders in the field of research assessment (e.g. national authorities, European-level organisations, European Commission, international initiatives).

- As an additional action, EUA will monitor the development of new research communication platforms and raise awareness on the importance of a growing number of new types of open publishing platforms. These platforms may make available publications, research data, software and other forms of research and educational materials and will, consequently, become integral parts of the research process and its assessment.

Dialogue with universities and other stakeholders

- Engaging in dialogue with university leadership and researchers in order to raise awareness about new models for research assessment and their linkages to Open Science.
- Engaging in dialogue with other relevant stakeholders, in particular the European Commission, on their emerging evaluation/assessment models developed in the framework of Open Science.
- Organising workshops or other types of events with the objective of discussing and sharing information on the main issues related to new research assessment models as prerequisites of the transition to Open Science.

Policy and good practice recommendations

- Proposing recommendations for research assessment based on input gathered by the Association and taking into account the need to develop flexible, transparent, responsible and robust approaches for different academic disciplines, for basic and applied research, and for multidisciplinary research, among others.
- Proposing recommendations for researcher assessment that take into account the need to develop strong, adaptable, transparent and responsible approaches adapted to the different stages in academic careers.

Additional resources

[Assessing Europe's University-Based Research](#), Expert Group on Assessment of University-Based Research, RTD. C4, 2010

[Evaluation in Research and Research Funding Organisations: European Practices](#)

A report by the ESF Member Organisation Forum on Evaluation of Publicly Funded Research, ESF, Strasbourg, 2012

[Bibliometrics: The Leiden Manifesto for research metrics](#), D. Hicks et al., 2015, Nature, vol. 520, 429-431

[Evaluation of Research Careers fully acknowledging Open Science Practices: Rewards, incentives and/or recognition for researchers practicing Open Science](#), European Commission, DG Research and Innovation, 2017

[EUA Roadmap on Open Access to Research Publications](#), EUA, Brussels, 2016

[Open Access in European universities: results from the 2015/2016 EUA institutional survey](#), Rita Morais, Julian Bauer and Lidia Borrell-Damian, EUA, Brussels, 2017

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[The Metric Tide: Report of the Independent Review of the Role of Metrics in Research Assessment and Management](#), Wilsdon, J. et al., 2015, DOI: 10.13140/RG.2.1.4929.1363

[Next-generation metrics: Responsible metrics and evaluation for open science](#), European Commission Expert Group on Altmetrics, Brussels 2017

[Statement by three national academies \(Académie des Sciences, Leopoldina and Royal Society\) on good practice in the evaluation of researchers and research programmes](#), Académie des Sciences, Leopoldina and Royal Society, 2017

[A reputation economy: how individual reward considerations trump systemic arguments for open access to data](#), Fecher, B. et al., 2017, DOI: 10.1057/palcomms.2017.51

The European University Association (EUA) is the representative organisation of universities and national rectors' conferences in 47 European countries. EUA plays a crucial role in the Bologna Process and in influencing EU policies on higher education, research and innovation. Thanks to its interaction with a range of other European and international organisations EUA ensures that the independent voice of European universities is heard wherever decisions are being taken that will impact their activities.

The Association provides a unique expertise in higher education and research as well as a forum for exchange of ideas and good practice among universities. The results of EUA's work are made available to members and stakeholders through conferences, seminars, website and publications.

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