



Criteria for a transparent and rigorous evaluation of the researchers and their research teams

“Evaluation and Open Science (CoESO)” Committee of the French Academy of sciences

The community of scientific researchers is, in general, very open to the principles of the Open Science, which offers free and open access to scientific publications and data. However, a major obstacle to its implementation currently lies in evaluation practices. An evolution of these practices appears necessary, as recommended by the DORA declaration¹ signed by many institutions, including the French Academy of sciences².

Sharing data and scientific advances ensures that discoveries will be disseminated more quickly and to a greater number of people. Also, by doing scientific results and data available for discussion and criticism by a larger audience, ensures a more rigorous and ethical research.

In this evolving context, it is legitimate that researchers - who rightly want their research activities to be recognised at national and international levels - wonder about what will be the modalities of the evaluation of their scientific work and research projects. Their questionings concern (i) the concrete criteria that will be used by universities and research organisations for researcher’s appointment or promotion, (ii) the new rules for the evaluation of research projects by national or European funding agencies, and (iii) the exact criteria for scientific awards.

The Committee on Evaluation and Open Science (CoESO) of the French Academy of sciences is convinced that the principles of Open Science will only be accepted and implemented by the whole scientific community if the evaluation is based on clear, objective, transparent and pre-determined criteria. Therefore, the CoESO suggests the following criteria, in a non-exhaustive way:

1. Prioritise qualitative evaluation based on a narrative, together with a selection of 5-10 publications (depending junior or senior researchers), the main message and novelty of each article being explained in a few lines.
2. Depending on the context (nature of the open position or promotion, nature of the project, etc.), enlarge the evaluation criteria to the different aspects of the research careers, such as teaching and training of young people, valorisation (patents, licensed patents, creation of start-ups, industrial collaborations, software, tools), leadership (management of teams, projects, etc.), teamwork capacity, impact of the research at national and international levels (networks, societal and regulatory spin-offs, emergence of a new discipline, etc.), reviewing activity, popularization efforts, data sharing, openness to multidisciplinary research, etc. The aim is to go beyond the mere production of scientific articles.

¹ [DORA English V2.pdf \(sfdora.org\)](#)

² [Press release: The Academy of Sciences ratifies the San Francisco Declaration on DORA | Press releases | Press | Passing on knowledge \(academie-sciences.fr\)](#)



3. Only use bibliometric data in a contextualised and robust way, in relation to the qualitative analysis carried out beforehand. Do not use the impact factors of journals.
4. Homogenize, as far as possible, the evaluation criteria at an international level, while respecting the different scientific and eventual national cultures.
5. Carry out the evaluation using simple documents to be filled in and offer the candidates as much freedom as possible to organize his/her application for a better promotion of his/her career pathway.
6. Avoid bureaucracy, as well as administrative and financial jargon that is often difficult to understand.
7. Encourage an assessment that considers atypical and original careers pathways, integrates specific life circumstances at an appropriate level, and encourage public/private and private/public mobility.
8. Consider all the talents which are essential for the smooth running of research, as well as the complementarity needed for the proper functioning of the structures; overall, reward the teamwork.
9. Encourage, as far as possible, hearings and oral exchanges with candidates for a position or for granting a research project with high stakes; for the evaluation of teams, site visits of a duration compatible with the size of the entity to be evaluated is mandatory. For evaluations involving important issues, go well beyond the simple reading of the scientific file.
10. Provide the human and financial resources necessary for an objective and thorough evaluation of researchers and teams, while avoiding multiple evaluations for limited purposes. Too much evaluation kills the evaluation.
11. Prioritise the high quality of the reviewing committees, free of any conflict of interest and with an international component which must become the rule.
12. Ensure that the members of the reviewer committee have a sufficient degree of knowledge of the context associated with the evaluation and ask them to be as explicit and factual as possible in the presentation of their report.
13. In appropriate cases, allow for a right of reply to the reviewers' comments, based on factual evidence.
14. Encourage the researchers to attend international conferences, which represent a unique opportunity to allow recognition of their scientific accomplishment and to initiate future international collaborations and/or internships for young people.
15. In this context, it is important to ensure that the evaluation conditions are considering the ecological impact of their practices (medium and long-distance travels), without undermining the quality of the scientific exchanges.



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French Academy of sciences

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