



Instructions for reviewing funding applications – panels

Special funding for EuroHPC, quantum computing and high-performance computing 2021

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1 Role of experts and the Academy of Finland

The Academy of Finland funds cutting-edge and innovative research aiming at significant scientific breakthroughs. Our funding is based on open competition, independent peer review and responsible science principles. We grant funding to researchers and research teams as well as to the most promising junior researchers through several funding instruments (see Appendix 1).

Experts are invited to review the scientific excellence of the submitted funding applications. In most cases, the applications are reviewed and ranked in expert panels. However, external reviewers may be used to support the panel review or as independent reviewers.

Both individual experts and panel members are esteemed, mostly international researchers in the field of reviewed applications.

After receiving the panel review reports, decision-making bodies (research councils or subcommittees) make the final funding decisions. The decisions are based on a peer review of scientific quality and panel ranking, but factors related to science policy may also influence the decisions. Examples of such factors are the promotion of equal opportunities for all genders, the advancement of junior researchers' careers and impact beyond academia.

2 Secrecy and ethics

According to the Finnish Act on the Openness of Government Activities, research plans, abstracts, progress reports and reviews are secret documents. Application documents should therefore be handled and stored with due care and confidentiality.

The Academy of Finland is committed to following the guidelines of the Finnish Advisory Board on Research Integrity for responsible conduct of research. The guidelines also apply to reviewing funding applications, research programmes and scientific disciplines.

All reviews must be handled confidentially, competently and impartially, based on the criteria set for the review process. Care must be taken to ensure that the review complies with general stipulations about conflicts of interest. Prior notice must be given if a reviewer has economic or other affiliations or significantly different schools of thought in relation to the applicant under review. This is a way to avoid conflicts of interest.

As a reviewer, you are not allowed to disclose any information concerning application documents or reviews to outsiders, nor are you allowed to use this secret information to your

own benefit or anyone else's benefit or disadvantage. You may not reveal to outsiders that you are assessing the research plan of a particular researcher. If you are contacted by anyone, including the applicant, who has questions about the application or reviews, please advise them to contact the Academy of Finland.

Confidentiality must also be maintained after the review process has been completed. Reviews are secret documents, but applicants will have access to the panel review reports on their own application after the funding decisions have been made. An applicant shall not disclose to third parties secret information obtained on the basis of party status and concerning other persons than the party themselves. The draft reviews and external draft reviews are also secret documents unless otherwise stated in the applicable legislation or required by court order.

Reviewers are guilty of research misconduct if they misappropriate research ideas from applications. The quality of the review is not a research-ethical issue unless the review has been conducted carelessly, which may give an appearance of a review that deliberately either underrates or overrates the applicant under review.

Disclosing the contents of research plans to third parties or contacting applicants personally without explicit agreement to do so are also regarded as instances of inappropriate behaviour on the part of reviewers. Once the review has been completed, you are required to destroy all application documents and any copies made of them.

After the funding decisions have been made, the Academy will publish a list of names, current positions and institutions of all individual reviewers and panel members used in the call. In addition, the applicants will see the names of all panel members in the panel review report. If requested, the names of reviewers that have supplied the draft reviews will also be disclosed to the applicant (under the Finnish Act on the Openness of Government Activities).

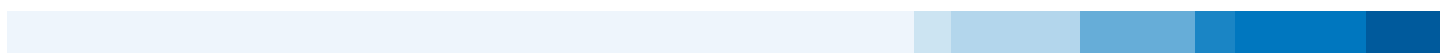
3 Conflicts of interest

As a reviewer you are required to declare any personal interests according to the criteria below. You must disqualify yourself if you can in any way benefit from the approval or rejection of the application. You must also disqualify yourself in the following circumstances:

- You have collaborated with the applicant (e.g. you have co-authored and published an article or manuscript with the applicant in the past three years, been involved in the preparation of the application, or are involved in the publication or application of the results).
- You have been a superior, subordinate or instructor of the applicant in the past three years.
- You are applying for the same post as the applicant.
- You are applying for funding from the Academy from the same funding instrument.
- The applicant is a close person to you. A close person is:
 - a) your spouse (also de facto), child, grandchild, sibling, parent, grandparent or a person otherwise close to you (e.g. fiancé/e or a close friend), as well as their spouses (also de facto)
 - b) a sibling of your parent or his/her spouse (also de facto), a child of your sibling, or your previous spouse (also de facto)
 - c) a child, grandchild, sibling, parent or grandparent of your spouse as well as their spouses (also de facto), or a child of a sibling of your spouse
 - d) or a half-relative comparable to the above-mentioned persons.

You are also disqualified if your impartiality may be endangered in any other way, or if you feel that you have a conflict of interest and are therefore disqualified to review the application.

If you identify any conflicts of interest, please notify us as soon as possible.





4 Reviewer's declaration

Please acknowledge that by accepting the task of a reviewer you guarantee not to disclose the information you receive and not to use it for anybody's benefit or disadvantage as stated in section 2 above (Secrecy and ethics). Further, you affirm that you will immediately notify the Academy if you have a conflict of interest in one or more applications.

5 Review and ranking

5.1 Review criteria and rating scale

The main criteria in the review are:

- project's relevance to call
- societal impact
- scientific quality, novelty, and innovativeness of the research as well as its impact within the scientific community; relevance and depth of multidisciplinary
- feasibility of research plan and quality of research environment
- competence of applicant(s) and/or research team in terms of project implementation (please note that we also welcome applicants who are new in the field of high-performance computing but who have a strong background in their own field of research (as per the objectives of the call).
- collaborative networks, researcher mobility, and researcher training
- responsible science.

All funding-instrument-specific review criteria and review instructions are presented in Appendix 1. The same instructions can also be found in the [Academy's online services](#).

At all levels of the review process, please pay close attention to the potential for breakthrough research.

Written reviews: Evaluative comments are particularly valuable to the decision-making bodies. After the funding decisions have been made, the applicants can access the panel review report

on their own application. The review also provides the applicant with important feedback.

Reviewers should therefore:

- write evaluative rather than descriptive comments (avoid copying text directly from the application)
- write comments under each sub-item
- write coherent comments in the passive voice, which can be used, if agreed, as such in the panel review report.

Numerical evaluation: The consistency between the numerical rating and the written comments is particularly important. In the draft review (before the panel meeting) the numerical evaluation is made with a rating scale ranging from 6 (outstanding) to 1 (insufficient). In the final reviews (in the panel meeting) the scale ranges from 6 (outstanding) to 3–1 (fair to insufficient).

Draft rate	Description	Final rate
6 (outstanding)	Demonstrates extremely high novelty and/or innovation; has potential to substantially advance science at global level; presents a high-gain plan that may include risks	6 (outstanding)
5 (excellent)	Is very good in international comparison – contains no significant elements to be improved	5 (excellent)
4 (good)	Is in general sound but contains some elements that should be improved	4 (good)
3 (fair)	Is in general sound but contains important elements that should be improved	1–3 (fair to insufficient)
2 (poor)	Contains flaws; is in need of substantial modification or improvement	
1 (insufficient)	Contains severe flaws that are intrinsic to the proposed project or the application	

5.2 Responsible researcher assessment

When reviewing the competence of the applicant, please pay attention to that the Academy of Finland is a signatory of [DORA](#) (link takes you to DORA's website), the San Francisco Declaration on Research Assessment, which makes recommendations for improving research assessment practices. The Academy is also committed to following Finland's national recommendation on [Good practice in researcher evaluation](#). The Academy adheres to the recommendations in its peer-review processes. Applicants are not allowed to include any journal-based metrics in their application nor any other citation metrics.

In particular, you are asked to consider the content and quality of publications, rather than their number or venue of publication, or the impact of the journals in which they were published. We advise you not to use journal-based metrics (e.g. Journal Impact Factors) as a surrogate measure of the quality of individual research articles to assess an individual scientist's contributions. Please note also that other citation metrics used in isolation do not describe the impact, importance or quality of the publication(s) and can potentially be misleading when applied to the peer review. Citation metrics are dependent on the citation practices of different research fields and are therefore not a reliable comparative measure in multidisciplinary panel review.

When assessing researchers' track records and their suitability in delivering the proposed research, you are asked to consider the value and impact of all research outputs. In addition to a complete publication list, applicants are asked to list the ten most relevant publications and ten other key outputs, and to provide appropriate rationalisations. The types of outputs vary between disciplines.

You are also asked to be sensitive to legitimate delays in publication, and personal factors or other types of leave, part-time work and disabilities, which may have affected the applicant's record of outputs. Read more about [responsible researcher evaluation](#) on the Academy's website.

5.3 Before the review panel meeting

Before the meeting takes place, each application is assigned to at least two panel members who then prepare draft reviews and give preliminary ratings to the applications. A third panel member (read-only/reader) is assigned to read the application to be able to form a general view of it. All draft review reports will be made available to all panel members at least one week before the meeting, and therefore the **given deadline for the drafts is essential**. In some cases, an external draft review may be requested from an expert outside the panel to provide additional knowledge pertaining to a particular field.

5.4 Review panel meeting (online)

The panel members have access to all applications assigned to the panel, barring conflicts of interest (see section 3). At the meeting, the panel will discuss the applications, placing particular emphasis on the strongest ones. The panel prepares one consensus panel review report on each application based on the discussions and/or the draft reviews and decides the final rating.

After the panel has completed the review of the applications during the panel meeting, it will also be asked to rank the strongest applications. The applications are ranked based on the review criteria used and the instrument-specific objectives (see Appendix 1) – no additional criteria are used.

6 How to review applications in the Academy's online services

Please use the [Academy of Finland's online services](#) (link takes you to the online services via the Academy's website) to review applications. Both draft reviews and panel review reports are completed in the online services. You can access the items of the research plan directly from the corresponding review form questions. However, we do expect you to read the full application. You can find the review instructions and offline versions of all our review forms under [Guides for reviewers](#) on our website.



7 Responsible science

7.1 Research ethics

The Academy of Finland requires that the Finnish Advisory Board on Research Integrity guidelines [Responsible conduct of research and procedures](#) (link takes you to the Board's website) for handling allegations of misconduct in Finland be followed in all Academy-funded research. We also require that researchers follow ALLEA's (All European Academies) [European Code of Conduct for Research Integrity](#) (link takes you to ALLEA's website) when engaging in international collaboration.

The Academy will not process a funding application if the applicant has been found guilty of research misconduct in the three years preceding the year of the call. If we find out about the misconduct during the funding period, whatever is left of the funding period will be added to the three-year limit. If the applicant appeals the decision on the misconduct, and the appeal is successful, we will process the applicant's new applications following normal procedures. Read more about the [ethical questions](#) on the Academy's website.

7.2 Equality and nondiscrimination

The Academy of Finland's research funding promotes equality and nondiscrimination as part of responsible science. To secure responsible reviews and decision-making, the Academy is, in accordance with its [Equality and nondiscrimination plan 2019–2020](#), committed to defining the means to support combining work and family life and the research careers of women in all funding opportunities. Therefore, career breaks due to family leaves cannot be evaluated negatively in the evaluation process.

The Academy requires that all Academy-funded research promotes gender equality and nondiscrimination. Academy reviews and decision-making emphasise the importance of promoting equality and nondiscrimination either in the suggested project or in the wider society. Gender is not part of the information in the applications under review.

In the review of applications, the Academy asks reviewers to pay attention to the unconscious bias that affects us all. Unconscious bias refers to a positive bias towards our “ingroup” and a negative bias towards our “outgroup”. For example, when you are assessing whether the research is groundbreaking and whether the applicant is competent enough to carry out the proposed project, pay special attention to the possible unconscious biases that you might have and that could have an impact on your evaluation. The very act of realising hidden biases makes them less powerful.

In review (especially in panels), it is easier to detect unconscious biases in others than in yourself. We ask you to be prepared to call out bias when you see it.

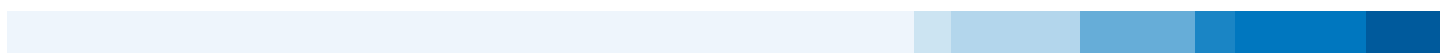
7.3 Open science

The Academy of Finland is committed to promoting the principles and practices of open science to improve the quality, responsibility and social impact of science. The goal is to make all outputs produced and used in research (research publications, data, methods and metadata) widely available for reuse. The principles of open science must be pursued with due attention to good scientific practice and law. The degrees of data openness may justifiably vary, ranging from fully open to strictly confidential. Read more about [the Academy of Finland’s open science policy](#) on our website.

The Academy of Finland is a member of cOAlition S and uses Plan S principles and practices in its funding guidelines. In addition, the Academy applies [the National Policy for Open Access to Scholarly Publications](#). When reviewing publication plans, reviewers are asked to take note of the Academy’s open access policy and value the applicants’ efforts to publish in OA journals or use other alternatives that secure the immediate open access of articles. All peer-reviewed articles written in Academy-funded projects should be published with immediate open access. Researchers may use OA journals, platforms, repositories or journals that commit to full OA by 2024.



When reviewing applicants' preliminary presentations on data management and open access to research data, reviewers are asked to take note of the Academy's research data policy and value the applicants' effort to open the research data collected during the research. Reviewers are also asked to support well justified arguments, if the applicant states that no research data is collected or gives understandable reasons for not opening the research data. The funded projects submit a full research data management plan after the positive funding decision has been made.





ACADEMY OF FINLAND

Appendix 1

Review form and instructions for Special funding for EuroHPC, quantum computing and high-performance computing 2021

