



European X-Ray Free-Electron Laser Facility GmbH

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Proposal Review Panels

Terms of Reference

as of 26 March 2018

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1 Scope and structure of the PRPs

Access to beamtime for non-proprietary research at European XFEL is granted on the basis of peer review of scientific proposals. From the early user experiments on, a peer review process using external expert panels will be established. This process is described in this document. The peer review process shall be fair and transparent.

With reference to Section 5 of the Council *“Policy for the allocation of beam time at the European XFEL Facility”*, as last amended by the European XFEL Council at its 20th meeting on 26–27 November 2015, *“the review committees shall be grouped according to scientific instruments. Each committee shall be composed of experts from scientific and instrumentation fields relevant to the respective instrument. Therefore, each proposal should be evaluated for its scientific excellence by a review committee whose members are specialists in the specific areas of science and instrumentation for the scientific proposals competing for time at this instrument.”*

The following Proposal Review Panels (PRPs) will be established gradually from the early user experiment phase:

- Scientific Instrument FXE
- Scientific Instrument HED
- Scientific Instrument MID
- Scientific Instrument SCS
- Scientific Instrument SPB/SFX
- Scientific Instrument SQS

Their establishment will follow the availability of the relevant instrument in a specific call for proposals.

The results of the PRPs (ranked lists of proposals) will be the guide for the European XFEL management to award beamtime. European XFEL has the discretion to consider aspects beyond the strict ranking when allocating beamtime. Such aspects may include the increase of diversity, new emerging areas of application, funding restrictions, or other aspects.

2 Members

2.1 Appointments

Members of the PRPs and Chairs are appointed by the European XFEL Management Board. First members will be appointed for a two-year period, with the possibility of a two-year renewal. The duration of further appointments will be confirmed later after a decision on the structure of the PRPs for steady-state operation of the European XFEL facility¹. The appointments need to make sure that highly qualified scientists are engaged in the areas of science and methodologies of the respective instrument, with good international balance, mainly from the community of contracting party countries and associated partners. Appointments shall strive to have overlap in order to avoid swapping a large fraction of a PRP at a single instance.

The Science Advisory Committee (SAC) of the European XFEL, as part of its supervisory role of the beamtime allocation process, will be informed about the composition of the PRPs as well as new appointments, renewals, and external referees^{2,3}. It shall be attempted, but is not mandatory, to have a SAC member in each PRP.

The size of a PRP should reflect the required expertise and therefore be kept flexible.

¹ Section 5 of the *“Policy for the allocation of beam time at the European XFEL Facility”*, as last amended by the Council on 26–27 November 2015

² Section 1.2 of the *“Policy for the allocation of beam time at the European XFEL Facility”*.

³ Art. 2 para. 2 of the European XFEL Convention: *“The assessment and recommendation of proposals concerning experiments to be carried out and concerning the use of the European XFEL Facility are overseen by the Company’s Scientific Advisory Committee (Article 16 of the Annex)”*.

2.2 Chairs

PRP Chairs shall be responsible for the conduct of their respective PRPs. They will be the prime contact for the European XFEL Management Board and the User Office (UO) organizing the review process. The Chairs shall assign each proposal to three reviewers and name one as lead reviewer. If the necessary expertise is missing in a PRP, the Chairs shall alert the UO in a timely manner and, if possible, suggest external reviewers. The Management Board will invite the evaluations by these external reviewers. Chairs are invited to suggest additional PRP members, in case the PRPs are missing an important area of expertise, or new members when terms are ending.

Chairs will bear the responsibility for the correct recording of final decisions on the scores for each proposal and supervise the taking of executive minutes of the meeting, although the practical tasks are generally assigned to liaison scientists or, if needed (e.g. in the event of applicability of Section 4.2 below), to other members of the PRP.

After the meetings, Chairs shall provide the Management Board with the executive minutes. In addition, brief statements about particular observations at the review meetings will be conveyed in written form to the Management Board and SAC (cf. Section 3.6 below). SAC and other governing bodies of the company may invite Chairs for statements at their respective meetings.

2.3 Vice-Chairs

Vice-Chairs will be appointed by the European XFEL Management Board in each PRP. In case of exceptional unplanned events that prevent the Chairs to attend the meetings of the PRPs, or complete any of their tasks timely as described above, the Vice-Chairs will be requested to take over by the European XFEL Management Board.

2.4 Ordinary members

Ordinary PRP members shall review the assigned proposals and score them until the deadline. Normally, a proposal is assigned to three PRP members.

One of them will be assigned by the Chair as lead reviewer for the proposal and shall report on the proposal during the review meeting, as required.

2.5 External referees

In special cases, in particular if critical expertise is missing inside the PRP, external referees can be appointed by the European XFEL Management Board. External referees have the same obligations as PRP members, but typically have access to a specific number of proposals only and will provide their review in writing in a timely fashion before the review meeting.

2.6 Liaison scientists

PRP Chairs will be assisted by liaison scientists appointed by the Management Board on the basis of a proposal by the Scientific Directors about suitable candidates among the European XFEL scientific staff from an instrument different from the one related to the PRP in which they assist. Liaison scientists shall support the PRP in technical aspects of the reviews. They will normally have the task of drafting the executive minutes of the meeting.

3 Conduct of the reviews

3.1 Indicative timeframe for review meetings

In the following an indicative time frame for the execution of the beamtime proposal review and allocation process is given. It is understood that this time can vary slightly due to specific arrangements and restrictions. However, the given review step target dates shall be respected as much as possible in order to enable proper evaluation.

t_0	Deadline for proposals
$t_0 + 2.5$ wks	Distribution of proposals to PRP by UO
$t_0 + 4.5$ wks	Proposal assignment to reviewers by Chairs

- $t_0+ 7.5$ wks Deadline for evaluations by reviewers to be collected by UO
- $t_0+ 8.5$ wks PRP meetings and final ranking of proposals
- $t_0+ 9.5$ wks Executive minutes finalized
- $t_0+ 13.5$ wks Scheduling and allocation of proposals completed
- $t_0+ 14.5$ wks Outcome of reviews and invitations to proposers

3.2 Review meetings

Review meetings shall be held in person. They are typically planned as two-day meetings. It is expected that all PRP members attend the meetings. Costs for travel and living subsistence are covered by European XFEL following the same rules as for committee members (e.g. SAC members).

In very exceptional cases, and with prior approval by the Management Board, review meetings can include video-telephone-conference (VTC) connections to PRP members if these cannot participate in person. In this case, the attendance of the VTC shall be restricted to the PRPs in their composition as for regular meetings. Similar arrangements may apply to external referees.

3.3 Information provided to PRPs before the review meetings

Panel members shall have access to all proposals submitted to their PRP.

Information about available beamtime to be scheduled for user experiments and the specific conditions of FEL operation and experiments in the allocation period for the particular proposal review shall be made available to the PRPs at the opening of the reviews.

Preliminary safety check information shall be made available with the relevant proposals. Complete assessments shall be made available to the PRPs at their meetings. Feasibility information shall be made available prior to the PRP meetings.

3.4 Criteria for proposal evaluation

The following main criteria shall be used in evaluation of the proposals:

- Expected scientific impact
- Originality/new scientific applications
- Maturity of experiment plan
- Need for European XFEL and specific instrument
- Scientific/methodological risk for successful conduct
- Prior results

3.5 Proposal grades

The purpose of the reviews is to ascertain the scientific excellence of submitted proposals and to rank them following this criterion. However, feasibility considerations will play a major role in beamtime allocation from the early user experiment phase on the way to steady operation of the facility.

Proposal scores range from 1.0 (inadequate—not to be allocated) to 5.5 (excellent). Panel members are encouraged to make use of the full scale with decimals when assessing scientific merit.

A description of the scores is given below:

5.5 - 5.0 Outstanding

4.9 - 4.0 Excellent

3.9 - 3.0 Very good

2.9 - 2.0 Good

1.9 - 0 Not recommended for beamtime in the present format

Ranking is done by proposal grade. In case two proposals have equal grades, the PRP shall indicate how these are ranked and provide reasons for such ranking. All proposals in one PRP shall be ranked.

No pro rata ranking will be applied, and it is not intended that the PRPs rank proposals of different PRPs against each other.

User consortia proposals following the scheme for priority access shall be evaluated by the PRP for scientific merit. They receive only “YES” or “NO” as evaluation results, indicating whether their conduct is scientifically meaningful. No scores will be given. These proposals will not be ranked by the PRP, neither against each other nor in comparison to regular proposals.

3.6 Executive minutes and Chair statements

3.6.1 Executive minutes

In order to document the review process, each PRP shall produce confidential executive minutes of the review meeting.

The executive minutes will be recorded in the form of a table containing the following information:

- *Pre-filled fields*
 - Proposal number and title
 - Main proposers/principal investigators
 - Their institute(s) and country
- *Fields to be filled during the meeting*
 - Final score after review committee discussion (from which the final ranking should appear)
 - Shifts requested vs. recommended
 - Short comment to be used as feedback to users
 - Notes and other information (e.g. conflicts of interest)

The executive minutes will be stored in the user portal and accessed by the UO and the Management Board.

3.6.2 Chair statements

After the meeting, the Chairs shall write brief statements about the following:

- Particular observations made during the meeting (e.g. suggestions for improvement or further development, general issues, need for additional expertise in the PRP, advice on strategic instrument development required)
- Feedback on general priorities applied to the ranking of proposals by the PRP

These brief statements shall be collected by the UO through a formal procedure. The documents will be conveyed to the Management Board, SAC, and, if requested, to other governing bodies of European XFEL.

4 Good scientific practice in peer-reviewed allocation

With reference to the ethical conduct and research integrity principles outlined in the *European Charter for Access to Research Infrastructures*⁴ published by the European Commission in 2016 and based on the *European Code of Conduct for Research Integrity*⁵ (issued by the European Science Foundation (ESF), All European Academies (ALLEA), and the European Federation of

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https://ec.europa.eu/research/infrastructures/index_en.cfm?pg=access_ri

https://ec.europa.eu/research/infrastructures/pdf/2016_charterforaccessto-ri.pdf

Section 4 (e): “*Research Infrastructures and Users should undertake the necessary actions to adhere to the standard codes of conduct and ethical behaviour in scientific research and to research integrity.*”

http://www.allea.org/Content/ALLEA/Themes/Scientific%20Integrity/Code_Conduct_Research_Integrity.pdf

The *European Code of Conduct for Research Integrity* drafted by the European Science Foundation (ESF) and the European Federation of National Academies of Sciences and Humanities (ALLEA) sets out eight principles that researchers need to abide to: honesty in communication, reliability in performing research, objectivity, impartiality and independence, openness and accessibility, duty of care, fairness in providing references and giving credit, and responsibility for the scientists and researchers of the future.

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http://www.esf.org/fileadmin/Public_documents/Publications/Code_Conduct_ResearchIntegrity.pdf

In particular, Section 5 of the *Guidelines for Good Practice Rules* in the *European Code of Conduct* establishes the guidelines concerning reviewing and clearly state that the same standard and rules, originally developed for publication-related conduct, also apply to other review processes:

- “*An editor or reviewer who has a relevant potential conflict of interest – which may be personal, academic, political, commercial or financial – should, ideally, withdraw from involvement in any [...] decision. If the conflict is considered minor or unavoidable it should be disclosed [...].*”
- “*Reviewers should provide thorough, accurate, objective, and justifiable assessments in a timely manner.*”
- “*In the review [...], confidentiality must be maintained.*”
- “*Reviewers and editors shall not make any use of the data or interpretations presented in submitted manuscripts without the author’s permission.*”
- “*The same standards and rules apply in the review process with regard to projects or programmes submitted for funding, rewards or reconnaissance purposes.*”

National Academies of Sciences and Humanities in March 2011⁶), the European XFEL Management Board and the staff involved in the reviews shall ensure that special care is devoted to confidentiality of the peer review process and management of possible conflicts of interest in a transparent way, in the interest of facility users and reviewers.

4.1 Obligation of confidentiality

All the material and information accessed or issued by reviewers and staff involved in the reviews shall be treated confidentially by all parties involved, and their contents shall not be disclosed to third parties. This also implies that review issues and related topics shall not be discussed outside the PRP meetings by reviewers, referees, and involved staff.

Communication between proposers and PRP members, external reviewers, or liaison scientists about the proposal and the scientific review process is not permitted. However, as an exception, in the processes of safety evaluation and technical feasibility, the respective staff may contact the proposers to clarify important safety and technical issues, if the need arises, under the obligation of confidentiality.

4.2 Conflict of interest

Indicatively, a conflict of interest may arise:

- When beamtime PRP members are named as co-proposers on a proposal submitted to the same PRP in which they serve.
- In case beamtime PRP members are from the same research organization as the authors of the proposal submitted to the same PRP in which they serve. Attenuation to the principle may apply for larger organizations with several departments or facilities. In this case, the PRP Chair will have to assess the degree of the conflict of interest and how it affects the review

⁶ The current activities of the Working Group on Research Integrity at Science Europe build on and carry forward previous work conducted by relevant initiatives such as the ESF-ALLEA Forum and the resulting European Code of Conduct for Research Integrity.

process, if needed, with support by the European XFEL Management Board.

- In case beamtime PRP members have any commercial, financial, or political interest (e.g. they are involved in an organization or a project that may benefit, directly or indirectly, from any decision made).
- In case beamtime PRP members have a close personal link (e.g. family) to the authors of the proposal submitted to the same PRP in which they serve and/or a close professional link to the authors of the proposal submitted to the same PRP in which they serve (e.g. in case a recently supervised student or postdoc associate is one of the authors of the proposal).

Declarations about conflicts of interests must be made at the beginning of the PRP meetings and these declarations must be recorded in the executive minutes of the meeting with respect to the relevant proposal(s).

As a consequence of a declared conflict of interest, the relevant participants in the PRP meetings will have to leave the room during discussion of the proposal(s) in question. In the situation where the Chair has a potential conflict of interest and will not participate in the discussion, another PRP member will temporarily take over the duties of the Chair for the specific case. If the conflict applies to liaison scientists, they shall not attend the discussion, and other PRP members will temporarily take over for their tasks.

If, during the meetings, other additional potential conflicts of interest become clear, the relevant PRP member or liaison scientist must declare these and leave the room during discussion of the specific proposal(s).

4.3 Reporting scientific integrity issues

Suspicious or allegations of scientific misconduct related to the review or beamtime allocation process shall be reported in writing to the Managing Directors of the European XFEL, who will decide on appropriate investigations and subsequent required measures, including communication and submission of the case to SAC. In any case, reports on integrity issues shall be treated confidentially.