



International  
**Human Frontier  
Science Program**  
Organization

## **INTERNATIONAL HUMAN FRONTIER SCIENCE PROGRAM**

# **THE PEER REVIEW PROCESS: INFORMATION AND INSTRUCTIONS FOR REVIEW COMMITTEE MEMBERS**

***DEADLINE FOR EVALUATIONS: 9 January 2024***

### **Technical note:**

HFSP is using **ProposalCentral** <https://proposalcentral.com/review/Login.asp> for applications and reviews. Instructions to connect to your reviewer profile and access the applications assigned to you are provided separately.

**Please note that it is still best to read applications on site, and only download the project plan (click “app details”), not the entire proposal (don’t click “single print”).**

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## **PART I: INFORMATION**

### **1. INTRODUCTION**

The purpose of this document is to describe the procedures used by the HFSP to evaluate grant applications. Applicants submit letters of intent in the spring, which are reviewed by the Review Committee (RC). The RC scores are submitted to a small Selection Committee (SC) consisting of current and former members of the HFSP review committees, who meet and select the teams to be invited to submit full proposals in September. The RC reviews the full proposals and makes recommendations on their relative merits.

Recommendations from the RC are presented to a subgroup of the Council of Scientists (COS) which, within the available budget, forwards a list of awards for approval of the Board of Trustees (BOT). The BOT is responsible for overall policy and for the allocation of resources to the various forms of support.

Information contained in the Guidelines for Research Grants will not be repeated here.

### **2. CHRONOLOGY FOR THE 2023 APPLICATIONS**

#### **a. Letters of Intent**

30 March 2023	Deadline for receipt of letters of intent via HFSP web site
Late-April	Letters of intent available on web for RC members
Mid-May	Receipt of RC ratings via HFSP web
Early June	Top-ranked letters of intent sent to Selection Committee
Late June	Deadline for receipt of Selection Committee ratings
Late June	Meeting of Selection Committee
Early July	Invitations issued to selected teams to submit full proposals

#### **b. Full Proposals**

12 September 2024	Deadline for receipt of full proposals
October	Briefing meeting Applications sent to mail reviewers and RC members
November-December	Reports from mail reviewers made available for RC members
9 January 2024	Deadline for receipt of scores from RC members
22-24 January	Meetings of RC in Strasbourg
Early March	Advice of Recommendation committee
Late March	Approval of BOT
Early April	Announcement of awards

### **3. CONFIDENTIALITY**

All documents concerning applications, their assessment, and related matters, must be treated in confidence. In particular, all information contained in the letters of intent and the full proposals, reviews by referees and discussions at meetings of the relevant bodies (Board of Trustees, Council of Scientists, Review Committee and Selection Committee), are strictly confidential. The documentation should never be used for any other purposes. Committee members must not give or discuss with applicants or referees any information relating to the results of the review of a specific application, nor must they offer opinions on the chances of success or failure of a specific application after the Review Committees have met. All requests for information relating to applications or the review process should be referred to the Secretariat. We ask you to destroy all applications (letters of intent and full proposals) after the announcement of the awards.

### **4. CONFLICT OF INTEREST**

No RC member with a conflict of interest may participate in the review. RC members who have a personal relationship, are employed at the same institution, or have been (in the last five years) or are collaborating with the applicants must declare any conflict when an application starts to be considered. He/she will leave the meeting during discussion of the application and will not register a numerical rating. The Chair is responsible for resolving areas of uncertainty.

### **5. SELECTION OF MEMBERS OF RC**

Criteria for selection include scientific excellence, demonstrated reviewer ability and judgement, and a good working knowledge of English.

The selection is made rather complex by the necessity for the RC to include [HFSP member countries](#), and at the same time to maintain an optimal distribution and balance of scientific expertise on the RC as well as an acceptable gender balance. The Secretariat solicits suggestions for membership amongst RC members (especially those retiring), the Chair of the RC and the COS. The Chair is appointed by the COS after being advised by the Secretary-General. Additional criteria for these positions include proven leadership and managerial abilities. Members are normally appointed initially for a 1-year term, which can be extended for a further 3 year-term. The Chair may serve for two years.

In addition, the COS appoints one of its members as an observer to attend the RC meeting.

### **6. SUMMARY OF PROCESS FOR RESEARCH GRANT APPLICATIONS**

#### **a. Letter of intent**

Submission and review of the letters of intent is performed online via the ProposalCentral web site. The letter of intent form is structured to collect explicit statements from the applicants related to the criteria relevant to HFSP's priorities. About 1% of the letters of intent were ineligible and another 11% were 'triaged' as inappropriate following examination by three scientific directors and two senior members of the review committee. Only those applications receiving five negative opinions are removed from the competition.

After this, each letter of intent is assigned to two RC members. The RC members are asked to score the letters of intent according to the criteria: Novelty/Innovation, Interdisciplinarity (includes novel combinations of expertise) and Need for Collaboration. They are also asked to place the letters of intent in one of four groups in order of priority and to write brief comments on each proposal. The top-rated letters of intent are then passed on to the Selection Committee (SC) members, who in turn place them in one of 3 groups in order of priority. The SC meets to discuss the highly ranked proposals and decides on the teams to be invited to submit a full proposal. Applicants are informed of the decisions in early July, and the [Guidelines for Full Proposals](#) are sent to the invited teams.

## **b. Full proposals**

Invited applications are submitted mid-September. Within four weeks after the deadline, the Secretariat:

- Assigns the application to three RC members (see below) who will lead the review of the application at the RC meeting.
- Assigns mail reviewers. These assignments take into consideration suggestions made by the applicants on the application forms but are not bound by them. The RC members have the opportunity to examine the list of invited reviewers and suggest additional names. The mail reviewers are requested to submit a written evaluations but no numerical scores.

In mid-October, a remote meeting is held to brief RC members regarding the review process, share details relevant for the current cycle and allow for questions. At about the same time, the applications are made available on the ProposalCentral website for review. RC members can access the applications and all received mail reviews during the review process. The Secretariat ensures that at least two (and usually three or more) mail reviews are received for each application. The three RC members are required to submit a numerical score and comments on each application to help the other RC members in preparing the meeting and the Secretariat to formulate feedback to the applicants.

Prior to the RC meeting, the numerical scores and comments of the three RC members responsible for review are made available to all RC members. All applications and mail reviewer's reports will be available via our website prior to the RC meeting.

Recurrent problems encountered on full proposals are that:

- i. The project failed to integrate all of the team members into the plan or did so in a 'hand waving' fashion. This was most notably the case in which physicists, modelers or computational biologists were supposed to interact with biologists. It was often clear that the partners had not thought sufficiently about their collaboration so as to give a minimum of detail as to what really would be done (e.g. estimates of forces to be measured, the starting model to be used or refined, or the nature of the algorithms to be used).
- ii. The initial idea had not been developed in the full proposal and there was not a serious plan with analysis of the difficulties of the different steps and alternative approaches if one of the proposed experiments failed.
- iii. A more extreme case of ii. in which the whole project depended on validation of the basic approach by a simple experiment and if this failed the whole project would fail.
- iv. There was an expertise missing, or one of the team members was clearly inadequate and present for non-scientific reasons.

- v. Modeling and computational methods remain vague. In the case of applications with **theoretical components** (e.g. mathematical modelling, bioinformatics), the theoretical approaches and their interaction with experimental strategies should be clearly described.

## **7. THE REVIEW COMMITTEE MEETING**

### **A. ROLE OF THE COMMITTEE CHAIR**

The non-reviewing chair is central to the functioning of the RC meeting and is directly responsible to the COS for ensuring that the RC functions smoothly, effectively and objectively, according to the policies of the HFSP and its committees. The chair outlines the process of review, clarifies any issues regarding evaluation, provides information regarding any HFSP policies that may affect the deliberations, and underscores confidentiality and conflict of interest rules.

The Chair:

- is required to be fully conversant with HFSP policies affecting the procedures of Research Grants awards
- ensures that the RC functions in accord with HFSP policies and procedures
- ensures that each application receives fair and impartial attention by the RC
- ensures that opinions expressed by Mail Reviewers are fully integrated into discussion of applications
- ensures involvement of the full RC in recommendations on each grant
- ensures that specific concerns of ethics and of other HFSP requirements are attended to by the RC
- summarises the points to be passed on to the applicants concerning the decisions made
- reports on the proceedings of the RC meeting to the COS subgroup

### **B. PROCEEDINGS AT THE REVIEW COMMITTEE MEETING**

The process is, by tradition, quite flexible. The Chair will discuss with RC members the detailed process and procedures to be followed during the meeting. These must, of course, be consistent with rigorous peer review, taking into consideration that the main criteria by which applications are judged are scientific originality and excellence and the interdisciplinary nature of the proposal. Also to be considered are the need for international, preferably intercontinental collaboration to achieve the aims of the research, its importance for studying complex biological systems, and the career stage of the team members.

More specifically, factors to be considered include:

- the originality of the hypotheses presented and the significance of the questions asked (is this a cutting edge frontier project?)
- the interdisciplinary and international / intercontinental nature of the collaboration
- the appropriateness of the research plan and methodology
- the significance of work conducted previously and the potential of the proposed work to elucidate new and important knowledge
- the applicants' knowledge of the field as reflected in the literature reviewed
- the justification for funding by the HFSP

(These criteria are given in detail in the [Guidelines for Full Proposals / LI Guidelines.pdf](#) and in the [Guidelines for Mail Reviewers](#)).

**The following is a suggested process for the RC meeting:**

### **1. The calibration process**

To make sure that all RC members use the scores in a similar way (see Annex), 6 to 10 applications will be discussed in the beginning of the RC meeting to calibrate the process. These will be selected such that they include applications that have received high scores, low scores or very divergent scores.

a. The Primary Reviewer (RC1) presents his/her assessment of the application, describing strengths and weaknesses, areas of originality, the applicants' competence, and shortly assesses the comments of the Mail Reviewers, pointing out areas of agreement/disagreement with his/her views. The second and third RC member (RC2 and RC3) then speak briefly, concentrating on points of agreement or disagreement with the first, and on any that may not have been addressed appropriately by the first.

b. The Chair then leads discussion among all RC members. Special concerns of eligibility, ethics, or other points are discussed and, if necessary, flagged for action by the Secretariat. The chair then summarizes the discussion, briefly identifying the strengths and weaknesses in the application.

c. The Chair then asks the three RC members responsible to give their final scores and suggests a range of scores. Using this as a guide, the other RC members then enter their individual and independent scores. RC members who intend to score outside the suggested range announce this by hand raising. At the end of the process a list of all the applications with scores and ranks is established, and the Committee is so informed. Scores of 7 and above are considered for funding within the limit of funds available.

### **2. The main meeting sessions**

After the calibration session and the first coffee break, the remaining applications will be subject of discussion. The same procedure as in the calibration process (a. to c. above) is suggested. Given the large number of proposals, presentations on those that have received very low scores may be kept very short.

The proposals for RG-Program and for RG-Early Career are discussed in separate sessions.

After the general discussion of all proposals, we aim to give the option of re-discussion to allow RC members to take up certain applications again on specific conditions.

An essential component of all meetings is the final review of the whole meeting and a general discussion of procedures and policy. RC members should therefore remain for the entire meeting.

### **8. AFTER THE MEETING**

The final ranking is transmitted to the Recommendation Committee for approval. Later during their annual meeting, the Chair reports to the COS on any other relevant issues that arose at the meeting of the RC.

### **9. FEEDBACK TO APPLICANTS**

**a. Letters of intent:** Upon request applicants are informed of the assessment in general terms and the reason(s) that the project was not retained for a full proposal. For applications discussed by the Selection Committee, the Secretariat prepares brief comments based on the comments by committee members and makes these available to the applicants.

**b. Full proposals:** All applicants are informed of the result. Based on the written comments by the RC members, the reports of the mail reviewers and the discussion, the Secretariat prepares a summary of the issues raised by the RC and makes these available to the applicants.

## **PART II: INSTRUCTIONS FOR EVALUATION OF FULL PROPOSALS PRIOR TO MEETING**

### **1. TYPES OF GRANTS**

Two types of grant are available and should be reviewed independently.

**Research Grants – Early Career.** Priority should be given to innovative projects involving applicants who are truly in the early stages of their careers. As periods of parental leave or other career delays are taken into account, the 10 and 5 year periods (after obtaining the PhD and a first independent position, respectively) may be extended.

**Research Grants – Program** are open to applicants at all stages of their careers. The team members are expected to develop new lines of research through the collaboration. Even in this category, early career scientists are common, and career stage should be taken into account.

### **2. INNOVATION**

A fundamental goal of the HFSP is to promote productive collaborations between participants with clearly different expertise often involving the combination of disciplines such as chemistry, physics, engineering or computer science with biology. In many cases, scientists from outside the life sciences bring new insights or techniques to an important field of biology, and this should be considered positively. HFSP will support technological projects, but they must have a clear biological application (and preferably include a “proof of principle” biological problem).

### **3. OVERALL ASSESSMENT**

HFSP is a signatory to the San Francisco Declaration of Research Assessment ([DORA](#)) which we consider to be an incentive to evaluate research proposals on the basis of their content and not solely by the criterion of Journal Impact Factors (JIF). Reviewers at all stages of the HFSP grant application process are advised that they should consider the quality of the research published and/or proposed in an application. While productivity may be an important factor, the assessment will be based on the content of articles and not the JIF.

Your assessment of the applications should take into account the following aspects in your ratings and comments:

#### **a. An assessment of the applicants**



- comment on their research experience, significant contributions to this or other fields and previous productivity, mainly considering whether they are prepared to perform the proposed project, and whether it is novel for them, compared to their ongoing work.

#### **b. An assessment of the proposals**

- identify: the **purpose** of the proposal  
the **hypotheses** to be tested, or the **questions** to be answered  
the **objectives** to be achieved  
the **approaches** proposed and the discussion of alternate strategies
- consider the **strengths and weaknesses** of the projects
- assess the scientific merit and potential of the work proposed
- note that, in order to encourage truly innovative projects, preliminary data are not required
- in the case of established laboratories, assess whether the proposed project is new for the laboratory, or if the applicants will continue to work along well-established lines
- assess the **need for collaboration** and whether the proposal truly **transcends disciplines or brings together novel combinations of expertise and different approaches to the problem**
- an appreciation of the degree of risk. See the TIPs in the [Guidelines for Full Proposals](#) for a discussion of HFSP's concept of risk. A high risk/high return project is considered positively in the review procedure

#### **c. No budget**

Applicants will receive a flat sum depending on team size. If applicants have included budget elements, you do not need to comment on this in your review.

### **4. SPECIFIC POINTS TO BE CONSIDERED**

#### **a. Size and composition of team**

Applications should normally be from smaller teams (up to 4 team members) and have only one team member from any one country. Deviations from these general recommendations are acceptable only if the innovative and interdisciplinary nature of the team is significantly enhanced.

#### **b. Ethics and other matters**

The committee is encouraged to identify special concerns that may arise, for example, from consideration of ethics, laboratory safety, eligibility, consistency with HFSP policies and other such issues. Such concerns, however, must not prevent the RC from evaluating an application placed before it and, unless they directly affect the scientific merit, must not influence the rating.

## 5. RATINGS

**IMPORTANT DEADLINE FOR SENDING RATINGS AND COMMENTS**  
**JANUARY 9<sup>th</sup> 2024**

### a. Scientific Score

The main criteria by which applications are judged are scientific originality and excellence and the interdisciplinary nature of the proposal (notably a novel combination of expertise in this domain). Also to be considered are the need for international, preferably intercontinental collaboration to achieve the aims of the research and its importance for studying complex biological systems. Collaborations should be "necessary" so as to avoid applications that are simply a bundling of parallel projects that can be performed independently in different laboratories.

<b>9.0 – 10.0</b>	<b>Truly frontier</b>	<ul style="list-style-type: none"><li>- cutting edge frontier science, high risk – high reward, highly original, likely transformative, paradigm-shifting in a broader field</li><li>- very compelling plan for close collaboration of all team members, novel methods and/or combination of disciplines</li><li>- new direction of research for the team members</li></ul>
<b>7.0 – 8.5</b>	<b>Outstanding</b>	<ul style="list-style-type: none"><li>- cutting edge frontier science, with potential for major progress in the broader field, convincing original components</li><li>- convincing plan for collaboration of the team members, appropriate combination of disciplines and methods</li><li>- project novel to the team members</li></ul>
<b>5.0 – 6.5</b>	<b>Excellent but not within the realms of HFSP</b>	<ul style="list-style-type: none"><li>- quality science but not frontier and lack of collaborative interaction</li><li>- less convincing plan for collaboration, classical combination of methods/disciplines</li><li>- next logical (but still excellent) step in the applicants' ongoing research (fundable by other funders)</li></ul>
<b>3.0 – 4.5</b>	<b>Less competitive</b>	<ul style="list-style-type: none"><li>- sound but not particularly imaginative or novel, likely leading to incremental progress</li><li>- parallel projects, redundant competence or important competence missing in the team</li><li>- continuing ongoing work</li></ul>
<b>&lt; 3</b>	<b>Poor</b>	<ul style="list-style-type: none"><li>- scientifically flawed</li><li>- team members lack the required competence</li></ul>

**Please use the entire scale of scores from 1 to 10, in steps of 0.5, according to the criteria listed above. Applications should only be considered “truly frontier” if they fulfil all listed criteria. Only proposals in the upper two categories, with scores of 7 or higher, will be considered for funding.**

### b. Written Comments

You are asked to provide concise written comments on the main points of your assessment, which will help other committee members to prepare for the meeting. These comments will not be sent to applicants but will be used as a guidance for all RC members in their evaluations and by the Secretariat for providing feedback to the applicants.

## **6. PREPARATION FOR THE MEETING**

All applications will be presented at the meeting, but for some, with low scores from all reviewers, presentation may be kept very short. To ensure a lively discussion, we ask you to look carefully at all applications, even those outside your own area of expertise. If you notice applications that fall within your own field of expertise but were not assigned to you, please examine the full proposal to prepare for the discussion.

The secretariat will provide print-outs of some documents (scoring table, planned program, list of applications with conflicts of interest etc...) at the meeting. You will need a laptop to follow the meeting and submit your final scores at the meeting.

## 7. ANNEX to Peer Review Process, Part II, Section 5

Use of the 1 – 10 scale.

The following table shows the distribution of each Review Committee members' scores in the 2023 round of applications. It is intended to show the different interpretations of the instructions. While there may of course be variation from the average in the small group of applications that you will score, **please try to score using the criteria given in Section 5 Ratings.**

Scientific scores	1	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
RC Member 1	1					1				4	3	3				1	
RC Member 2		1					1		1	4	1				1		
RC Member 3			2		1					2	1	1		1	1	1	
RC Member 4				1		2		1	2		1	1		1	1	1	
RC Member 5				1	2			1	1	1	4		1	2			
RC Member 6					3				1	1	4		1	1	1	1	
RC Member 7					1	1			3	1		3	1	2	1		
RC Member 8					1		1		1		4	4	2				
RC Member 9						2			1		2		1		2	1	1
RC Member 10						2				1	1			1	4		
RC Member 11						2				3			2	1	2		
RC Member 12						1	2			2	1	2		1			
RC Member 13						1	2		1		4		2				
RC Member 14						1		1		2	2	2	1		2	1	
RC Member 15						1	1	1	4	1					2		
RC Member 16						1					1	3	2		2		
RC Member 17							3			1	1		2	1	3	1	
RC Member 18							1			2			1	2	2	1	
RC Member 19							1	1	1	1		1	2	1	2	3	
RC Member 20							1		1	1	2		2	1			
RC Member 21										3	1			2	2	3	
RC Member 22										3		1	2		1	1	
RC Member 23										1	1	3	1	1	1		
Total	1	1	2	2	8	15	13	5	17	34	34	24	23	18	30	15	1

## **RULE OF CONFIDENTIALITY**

Reviewers are expected to exert the highest level of ethical standards when reviewing applications for HFSP. Notably they will:

- consider all applications as confidential and will ensure that confidentiality is maintained if they consult a colleague. They will not use previously undisclosed information contained in an application for their own research.
- provide constructive and objective assessments of the applications.
- disclose any connection to the applicants if the relationship might be considered a conflict of interest or otherwise bias the review. If in doubt, please contact the HFSP office ([grant@hfsp.org](mailto:grant@hfsp.org)).
- destroy copies of applications after review.

## **CONFLICT OF INTEREST**

The HFSP considers you to have a conflict of interest if you

- have or had a personal relationship with the applicant(s)
- have recently been (< 5 years) or are currently collaborating and/or publishing with the applicant(s)
- are employed by the same institution as any of the applicants

## **DORA standards**

HFSP is a signatory to the San Francisco Declaration of Research Assessment ([DORA](#)) which we consider to be an incentive to evaluate research proposals on the basis of their content and not solely by the criterion of Journal Impact Factors (JIF). Reviewers at all stages of the HFSP grant application process are advised that they should consider the quality of the research published and/or proposed in an application. While productivity may be an important factor, the assessment will be based on the content of articles and not the JIF.