



Organizational and process-level review of the HFSP support mechanisms

Tender due date: 30 November 2021

Motivation

The International Human Frontier Science Program Organization (HFSP) operates in its fourth decade supporting international research collaborations in the life sciences and the program prepares for drafting a new strategic plan for the years beyond 2022.

The Board of Trustees wishes to undertake an independent review to inform HFSP's strategic planning and to prepare for the consideration of future HFSP funding at the 2022 Triennial Conference of HFSP Members (TCHM).

The outcome of this review should be presented to the Board for their extraordinary meeting in March 2022 so as to prepare for the TCHM early June 2022. It will serve as a key component of the decision making process to approve a new Strategic Plan for the years 2023 to 2025 and beyond.

Since the beginning of the HFSP operations in 1990 the program has been reviewed extensively and most recently in 2018 by an independent agency with a focus on bibliometric analysis that included questionnaires sent to awardees, alumni and reviewers. The focus of the current review is therefore not on outcome of HFSP funded research and the performance of the awardees. Rather the Board is interested in receiving independent counsel with regard to questions related to the organization and processes that govern HFSP operations and support mechanisms.

Background

HFSP was initiated at the Venice Economic Summit (G7) in June 1987 following a proposal by Prime Minister Nakasone of Japan. The initiators of the International Human Frontier Science Program Organization were Canada, the European Communities, France, Germany, Italy, Japan, the United Kingdom of Great Britain and Northern Ireland and the United States of America. The Human Frontier Science Program was implemented in accordance with its implementing scheme established by the Economic Summit of member countries and the European Communities at the intergovernmental meeting held in Berlin on July 26-28, 1989, and subsequently revised by the founding members and Switzerland (joined in 1990) at the intergovernmental meeting held in Tokyo on January 21-22, 1992.

It is governed by the Board of Trustees composed of appointees from HFSP Members, currently Australia, Canada, France, Germany, India, Israel, Italy, Japan, New Zealand, the Republic of Korea, Singapore, Switzerland, the United Kingdom of Great Britain and Northern Ireland, the United States of America, and the European Commission. The Council of Scientists provides scientific advice to the Board of Trustees.

Programs

HFSP is an international cooperation supported by the world's leading scientific countries promoting fundamental research in the life sciences with special emphasis on novel and interdisciplinary research, international and, in particular, intercontinental collaboration, and support for young investigators.

HFSP funding complements national programs to enable collaborations in a scientific landscape that changes fast. Novel approaches coming from different disciplines hold great promise to address the most important problems in understanding complex life. The challenge for all scientists is to look beyond their original expertise and broaden their horizons by working with collaborators they have never interacted with before and by moving into new fields of research. HFSP is at the forefront of such interdisciplinary, collaborative research. Through its different funding schemes, it supports frontier, potentially transformative 'out-of-the-box' proposals and encourages discovery research projects that may contain risk. Successful projects challenge existing paradigms by using novel approaches and techniques; they address important problems and barriers to progress in the field.

The life sciences have emerged as a leading scientific area in which there is a convergence of approaches from physics, mathematics, chemistry, computer science and engineering in solving biological questions. Therefore, HFSP supports research into the complex mechanisms of living organisms, ranging from the biomolecular level to the whole organism by involving scientists from outside the life sciences as part of research collaborations and as postdoctoral fellows. To this end, the Program and Early Career Grants are specifically geared to fostering interactions between scientists from different disciplines and this is a major factor in the review of applications in these programs. In this context, HFSP supports Cross-Disciplinary Fellowships to equip young scientists from outside biology with the skills needed to tackle problems in the life sciences.

Since its establishment in 1989, HFSP has demonstrated the value of creating a framework for competitive, collaborative, international research of the highest calibre and for providing young scientists with the opportunity to emerge as talented researchers capable of shaping the science of the future.

HFSP implements its Program through the following mechanisms of research support:

Postdoctoral Fellowships are selected by the Fellowship Review Committee.

- **Long-Term Fellowships** – for young life scientists within three years of obtaining their PhD who wish to broaden their scientific experience in a foreign laboratory.
- **Cross-Disciplinary Fellowships** – specifically for scientists with a PhD in non-biological disciplines to bring new perspectives to research in the life sciences.

Research Grants are selected by the Grant Review Committee.

- **Early Career Grants** – grants for interdisciplinary teams of young researchers who are within the first five years of their first independent positions and located in different countries.
- **Program Grants** – for interdisciplinary teams of researchers in different countries at any stage of their careers.

Since 1990, more than 1000 research grants involving some 4000 scientists, and more than 3000 fellowships have been awarded. Researchers from more than 70 countries have received HFSP funding so far. Detailed information on the HFSP programs is available in the funding section of the HFSP website; further information can be provided upon request.

Scope of Project

HFSP seeks independent analysis and feedback on operational aspects of the two main funding mechanisms that support postdoctoral researchers and international teams of scientists. Both exist since the very beginnings and have been updated occasionally to reflect ad-hoc input for change from the leadership and/or the awardees community (updates on salaries, parental leave policy etc.).

While HFSP has undergone regular program reviews, there has not been a recent analysis of process level aspects with an emphasis on established procedures or whether both schemes are the most suited mechanisms to support 21st century frontier research in the life sciences. The current review should therefore place an emphasis on two aspects for which the questions listed below offer a starting point for the analysis:

Part I: Appropriateness of existing instruments/schemes:

1. Is the HFSP support through Research Grants and Postdoctoral Fellowships still the appropriate way in the 21st century life sciences to generate the best in frontier science? Are the current HFSP mechanisms still appropriate to attract applications for truly frontier research, that is internationally collaborative, and of a type not normally fundable through national schemes?
2. Given the mission of the HFSP, are there other instruments that would serve that purpose in a better way?
3. How could HFSP improve its monitoring to achieve better attribution and acknowledgement of its awards?
4. Is HFSP making the most use of the loosely established network of HFSP awardees and alumni to promote its mission and values?
5. Life science in the 21st century has changed. Should HFSP adapt its support to reflect the changes in the funding landscape?

Part II: Appropriateness of the selection process:

1. Is the selection process for Fellowships and Research Grants appropriate for identifying real frontier research?
2. What aspect or condition in the application criteria of the current award types could be improved to make the award even more impactful?
3. Are application criteria missing that are more suitable to provide diversity and inclusion across the broad spectrum of scientific fields and nationalities that apply for HFSP awards?
4. What part or aspect of the current review and selection process could be improved so as to optimize use of resources?
5. Based on our current selection process, are there ways we could reduce the potential for subconscious bias in reviewing applications and selecting reviewers that help HFSP?
6. Benchmarking HFSP vis-à-vis other support programs and selection processes of current HFSP members.
7. Could the balance of reviewers in terms of country vs expertise be improved?

Proposal Requirements

Organizations interested in carrying out this review are invited to submit proposals indicating:

- Their understanding of the tasks described in the terms of reference given below,
- A description of their approach and a critical assessment of the methodology to be employed,
- The proposed timeline with milestones for the review,
- An itemized proposed budget outlining costs of personnel, travel, consumables and other items,
- The persons to be involved in the review.

The review will be overseen by the Senior Management. An first interim report should be provided by end of January 2022 and a second interim report by the end of February 2022 (eventually in the form of a

presentation during a retreat of the Board of Trustees) and the final report must be provided by April 15th, 2022.

Expected Start date for review: 15 December 2021 or earlier.

The responsibilities of the Contracting Party will include the preparation and design of the study as well as the actual conduct of the evaluation and preparation of the report. Information about awards and publications needed for the review will be provided by HFSP.

Proposals must address the questions in the Terms of Reference described in this document. Modifications to the Terms of Reference and questions may be suggested, with justification. The proposal should contain the following sections:

Understanding of Problem: Proposals should indicate the bidder's understanding of the tasks outlined in the Terms of Reference and critically discuss the suitability of the items in the Terms of Reference for providing reliable answers.

Methodology: An outline should be given of the methods to be used in the review, together with a critical discussion of their strengths and weaknesses.

Schedule and Budget: A project schedule for the review must be provided, with itemised costs for each stage. The amount of time each member of the review team will spend must be stated. Bidders are encouraged to present and cost-out alternative options for methodological components.

Project Team: A brief curriculum vitae of each team member should be included, indicating relevant experience for the present project.

Contact at the HFSP Secretariat

Any questions and all tenders should be sent by email to:

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