

Application guidelines for HFSP Research Grants Award year 2024

Recent changes:

Teams with two members from the same institution are not eligible.

HFSP requires an ORCID ID from all applicants.

Renewal applications of Research Grants – Early Career will no longer be admitted.

Even stronger emphasis will be placed on the potential of projects to extend the frontiers of life sciences

Deadlines:

- Compulsory initiation of a Letter of Intent by obtaining a 7-digit LOI ID (1 XXX XXX):
 21 March 2023
- Submission of a Letter of Intent: 30 March 2023
- Submission of Full Proposals: mid-September 2023, on invitation only

These guidelines provide the essential information necessary to submit a research grant application for the award year 2024. Please read the guidelines carefully to establish whether your project falls within the funding scope of the HFSP. See also 'Frequently asked questions' and 'Writing a letter of intent' for detailed tips. If you have further questions, please contact the HFSP Grant Office: grant@hfsp.org
HFSP will open the application site by late January 2023. Detailed instructions for how to log in and use the application site will be available here before the opening of the site.

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1. Overview

1.1. Objectives of HFSP Research Grants

The International Human Frontier Science Program (HFSP) strives to strengthen open scientific inquiry by initiating international collaborative, interdisciplinary and cutting-edge basic research in the life sciences.

The International Human Frontier Science Program Organization (HFSPO) develops and implements the Program. The aim of the Program is to promote, through international cooperation, basic research focused on the elucidation of the sophisticated and complex mechanisms of living systems, for the benefit of all humankind. It aims to complement, not duplicate, the frontier life science programs of the countries that financially support HFSPO.

HFSPO attaches highest importance to novelty, scientific merit, internationality, and interdisciplinarity.

Research topics may include biological functions at all levels of analysis: for example, studies on genes and individual molecules, intracellular networks, intercellular associations in tissues and organs, and networks underlying the complex functions of entire organisms including cognitive functions, as well as populations or ecosystems.

1.2. Distinguishing Features of the HFSP Research Grant Program

- **Novelty:** The Human Frontier Science Program (HFSP) supports projects that challenge existing paradigms and extend the frontiers of life sciences by using novel approaches and techniques. To stimulate daring ideas and development of new methods which entail risks, preliminary results are not required in research grant applications.
- **Teams of scientists**: HFSP supports teams of normally 2-4 scientists. Team members should not have collaborated before, they will normally not have published original research together, and the project must be significantly different from their ongoing research.
- **Scientific merit**: HFSP projects are potentially transformative in addressing important fundamental problems at the frontiers of the life sciences or in crossing barriers to progress in the life sciences.
- **Internationality**: HFSP supports novel international, preferably intercontinental collaborations that involve scientific exchanges across national boundaries.
- Interdisciplinarity: HFSP supports interdisciplinary projects. The participation of scientists from disciplines outside the traditional life sciences such as physics, chemistry, computational biology, engineering, mathematics, nanoscience, physics or psychology is highly encouraged.
- Early career scientists: HFSP places special emphasis on encouraging scientists early in their careers this is expressed both in a special scheme for Early Career scientists and in encouraging scientists early in their careers to participate in the Program Grants.
- Two kinds of research grants are available, the Research Grants Early Career and Research Grants Program. The following text applies to both unless stated otherwise.
- Award sum: Detailed budgets are not required. Depending on team size, a fixed sum is awarded, to each team, over three years, depending on team size (awarded 2-member teams will receive 300 000 USD and 4-member teams 500 000 USD annually, if all members have their labs in different countries).

1.3. Summary of the Application Process

The first step in the application process for Research Grants is to connect to the application site (see <u>item 8</u>) and initiate a Letter of Intent by **21 March 2023**. This will allow applicants to submit a "letter of intent" to apply for a grant. The deadline for receipt of this letter is **30 March 2023** for awards to be announced in March 2024.

Projects will be pre-screened upon reception by a small scientific committee (three HFSP Scientific Directors and two members of the Review Committee) for the eligibility of the applicants and for concordance with the scientific scope (see section 2). Any project that does not meet the requirements (see sections 3 and 4) will not be sent for review, and the Principal Applicant will be informed as soon as possible.

The remaining letters of intent will be evaluated by the Review Committee (see a list of present members here). Review committee members evaluate and score the applications following the criteria of novelty/originality/frontierness, interdisciplinarity as well as the qualification and integration of the team (see the reviewers guidelines here). In a second step, a Selection Committee will decide which applicants are invited to submit a full proposal. Applicants will be notified in early July 2023 whether they are invited to submit a full proposal, with a deadline mid-September 2023. More details are provided in section 8, "How to Apply".

2. Scientific scope

HFSPO funds projects in basic research studying fundamental problems on all organizational and trophic levels of life sciences. Research projects may range from biological functions at the molecular and cellular level up to the level of biological systems, including cognitive functions. All levels of analysis are supported: for example, studies on genes and individual molecules, intracellular networks, intercellular associations in tissues and organs, and networks underlying the complex functions of entire organisms, populations, or ecosystems.

The HFSP funds novel collaborations that bring scientists with distinct expertise together to focus on problems at the **frontiers** of the life sciences. The potential of a project to move the frontiers of life sciences and lead to a breakthrough, is a major criterion in the review of HFSP research grants, and it is understood that projects with this potential may entail high risk.

HFSPO does not fund:

- 1. Research of a purely applied nature. For example:
 - projects of a primarily clinical and pharmaceutical nature are only considered if they allow new insights into fundamental biological mechanisms of disease;
 - projects aimed at developing methods of diagnosis or treatment, including the search for potential drug targets or advanced trials of drugs under development;
 - applied research in engineering, biotechnology, or nanotechnology, that does not address a fundamental biological problem;
 - projects directly concerned with agricultural or forestry problems such as crop yield or breeding and environmental problems such as pollution.
- 2. Research aimed at developing novel methods or the study of analogs or models of biological activity **unless** these methods allow new biological questions to be answered in the context of the aim of HFSP to fund fundamental research.
- 3. Observational projects or systematic screening approaches.

- 4. Large-scale data collection studies without a convincing rationale for the collection and detailed methodology for the data analysis; this includes systematic multi-species-omics analyses of populations or ecosystems, which do not address a fundamental biological question of general interest. However, studies of the mechanisms of species-species interactions or their co-evolution are eligible.
- 5. Research in for-profit environments (but collaborations are allowed).
- 6. Proposals representing standard or incremental approaches, obvious next steps in the field or the laboratory of one or more applicants (routine projects) and proposals that do not represent significant changes in research direction from previous work of the applicants are unlikely to receive funding.

3. Eligibility criteria and application rules

3.1. Structure of the research team

Scientists applying for a HFSP research grant must be organized as an **international research team** (with emphasis on intercontinental collaborations). Applications from individual researchers are not eligible. The HFSP research team may include 2 to 4 (rarely 5) members, whereby one member of the team is designated as the Principal Applicant and the others as Co-Applicants.

All team members must have obtained a research doctoral degree (PhD, MD or equivalent) before the LOI submission deadline and lead a research group (however small). All team members must be able to independently determine the course of the HFSP-funded project and have freedom to administer the awarded grant. "Post-docs" are not eligible.

HFSPO promotes new interdisciplinary collaborations across the world. Therefore, team members are expected to work in different disciplines and have their labs in different countries; for the rules on the country of team member affiliation, please see 3.5.

HFSPO promotes new research collaborations. Therefore, the team members should not have collaborated before, they will normally not have published together and must propose a project significantly different from their ongoing research.

Co-authorship in scientific publications is generally considered the result of a past or present collaboration, which is contrary to the spirit of the Program. However, some joint publications may be considered acceptable, for instance a multi-author review summarizing the field or a joint publication in a different field resulting from a much earlier collaboration. Applicants will need to enter the number and titles of co-publications between team members in the application form to guide the review committee in their assessment. More than three co-publications are very likely seen as proof for an ongoing collaboration and strongly reduce the chance of funding.

HFSP encourages diversity and welcomes applicants independent of gender, origin and age.

3.2. Principal Applicant

The international team must designate one of its members as the Principal Applicant. The Principal Applicant must be located in an HFSPO member country (see 3.5.). However, current or former CDA awardees can act as the Principal Applicant in an HFSP Research Grant irrespective of the location of their laboratories as long as the team includes at least one Co-Applicant from an HFSP member country. The Principal Applicant will be responsible, on behalf of the team, for planning and coordinating the research. She/he will also act as the liaison with HFSPO and be required to submit annual budgets as well as progress reports. If, on the basis of those progress reports, the Principal Applicant considers that a team member

is not contributing to the project as planned, then she/he may propose to HFSPO a reduction in that member's budget, or, exceptionally, ask them to leave the project. If a team member changes institute, HFSPO will require the Principal Applicant to confirm that this move will not be deleterious to the project.

3.3. Affiliation

The Principal Applicant must be working at a non-profit academic institution. The team may include members from for-profit organizations if their expertise is necessary for the project. However, such team members may not receive any funds and will not be considered in calculating the amount of award (see item <u>5.2.</u>). All active appointments have to be declared in the application form, specifically if an applicant has affiliations in two different countries.

The inclusion of scientists from low- or middle income countries as team members is strongly encouraged, specifically if there are plans to collect data in these countries.

3.4. Number of team members

The number of team members should normally be 2-4 unless a fifth member is clearly essential for the interdisciplinary nature of the project. Teams of 5 members are rarely successful. Teams grouping several independent investigators as one single team "member" (with "hidden partners" in a de facto consortium), are not eligible.

3.5. Country of affiliation

The Principal Applicant of the international team must be located in one of the HFSPO member countries (but see 3.2). Co-Applicants can be located in any country.

Different branches or campuses of the same university (e.g. NYU in New York and Shanghai) or organization (e.g. EMBL or MPI) are counted as the same affiliation.

The member countries are*:

Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Cyprus (EU part), the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, India, the Republic of Ireland, Israel, Italy, Japan, the Republic of Korea, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, New Zealand, Poland, Portugal, Romania, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, the United Kingdom, and the United States of America.

*South Africa and Norway are in the process of joining as full members at the beginning of 2023 and hence the call is fully applicable to them as full members.

3.6. Internationality

- a. Research project with all team members in one country (including cases in which a member moves after the LOI submission) are not eligible.
- b. Clear priority will be given to **intercontinental** collaborations.
- c. Teams with 2 members from the same institution are not eligible to apply.
- d. A proposal from a team with three or four members where two team members have their laboratories in the same country is eligible only if the team can demonstrate that this collaboration is essential to maintain the frontier and interdisciplinary character of the proposed research. In such rare cases, two scientists from one country will be considered as 1.5 team members, for calculating the award sum, see also the FAQ).
- e. When applicants have two affiliations in different countries, both will be considered active and will be taken into account for eligibility and for calculating the budget if the team is successful.

3.7. Concurrent applications

- a. **No individual may be an applicant on more than one letter of intent in the same review round**. ALL applicants (both RG-Early Career and RG-Program, as Principal Applicant or Co-Applicant) have to be aware of this rule. If anyone applies on two or more Letters of intent, these will all be removed from the competition.
- b. Scientists cannot hold an HFSP Research Grant and an HFSP Fellowship, at the same time.
- c. Holders of HFSP Career Development Awards may apply for HFSP Research Grants (see also 3.2.).

3.8. New applications from previous awardees

- a. Scientists cannot hold more than one HFSP award at any one time. Those who currently hold an HFSP research grant (as Principal Applicants or Co-Applicants, even during any no-cost extension) are not eligible to apply for a second research grant. Awardees from 2019 and 2020 may apply for a new grant if it starts after termination of the current award (which means after approval of the final financial report), and if the project and team members are distinct from the current grant. Awardees from 2021 and 2022 are not eligible.
- b. Any applicant (Principal Applicant or Co-Applicant) who has been awarded an HFSP research grant (as Principal Applicant or Co-Applicant), since award year 2019, must provide information about the objectives and outcome of the former project, together with a statement of its relationship to the current application. This can be added in a few sentences at the end of the CV. Applications bearing a strong similarity to previous awards, either in team composition or topic of research, will not be considered eligible.

3.9. Project

Applicants should take into account HFSPO's mission "to fund basic research focused on the elucidation of the sophisticated and complex mechanisms of living organisms". Accordingly, HFSP funds only applications that address a fundamental problem or mechanism at the frontier of the life sciences. Grant applications may take the character of exploratory or discovery grants that are based on ideas and concepts. For that reason, preliminary data are not required.

HFSP recognises that such research inherently contains risks and therefore may not be supported by other funding schemes. Applicants are expected to address the risks and outline mitigation strategies allowing them to reach their goals.

Novel combinations of expertise are a major feature of HFSP-sponsored projects and those involving truly novel interdisciplinary collaborations will have a higher chance to be awarded. Slightly modified conditions apply for Early Careers (see <u>4.2.</u>). Projects are expected to propose new lines of research through the collaboration and must be distinctly different from all team members' other research funded by other sources.

The collaboration between **all team members** must be absolutely necessary to achieve the aims of the project. "Concerted action" programs, in which each team member performs a self-contained project under a general theme without extensive interaction with the other team members are not considered to be collaborative and will not be supported.

Modeling contributions are strongly encouraged, but need to be clear. Reviewers are expecting details of the mathematical methods and an appreciation of the limits of the proposed approach.

See also the <u>FAQ</u> sheet for tips and common reasons for rejection.

3.10. Publications

HFSP is a signatory to the San Francisco Declaration of Research Assessment (<u>DORA</u>) 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. HFSP reviewers are asked to consider the influence of candidates' publications (including <u>preprints</u> deposited on public servers) in advancing knowledge in a given field (or throughout biology). (https://www.hfsp.org/Use-of-Preprint-Servers)

4.Two types of award

In addition to the above general requirements for all Research Grants, the following conditions apply specifically to the two schemes:

4.1. Research Grants - Program (RG-Program)

Research Grants - Program are meant to allow teams of independent researchers to develop **new** lines of research through a new collaboration. Priority will be given to novel research projects with the potential to extend the present frontier of the life sciences and teams including members from outside the life sciences. Applicants for RG-Program are encouraged to include independent investigators early in their careers as members of their team.

4.2. Research Grants - Early Career (RG-Early Career)

These awards have formerly been known as Young Investigator's Grants. They are meant to encourage outstanding scientists in the initial period of their independent careers, to formulate novel and promising research projects. Typically, "Early Career" team members will have completed one or two periods of postdoctoral training and recently been appointed to independent staff positions that allow them to initiate and direct their own independent lines of research.

Formal eligibility requirements for RG – Early Career (in addition to those valid for all RG)

- Early Career applicants should be project leaders directing a research group. They must have full
 responsibility for the day to day running of their laboratories and full control of the HFSP funds.
 A scientist who has an established research theme with personnel (students and technicians)
 assigned to this theme may be considered independent. In such cases, written confirmation may
 be requested from the Head of Department (or equivalent) that the applicant is able to carry out
 the research independently.
- All members of an RG-Early Career team must be within 5 years of obtaining an independent position and must have obtained their first doctoral degree (PhD, MD or equivalent) no longer than 10 years before the deadline for submission of the Letter of Intent. Exceptions may be made for periods of parental leave, compulsory military service or absence for medical conditions, but not for periods of unemployment.
- "Postdocs" are not eligible to apply.

Recognising the challenge of establishing an independent research group at an early stage of a career, special consideration will be given to the overall level of interdisciplinarity in RG-Early Career applications. Early career investigators will be expected to propose projects with team members having distinct expertise and coming from different disciplines of the life sciences if not from outside the life sciences.

5. Budget

5.1. Use of funds

The research institutions must provide the facilities and equipment necessary for members to carry out their proposed research. The funds provided by the HFSP are not intended to replace or supplement current domestic programs nor to provide basic institutional infrastructure. They are to be used specifically to support new international collaborative programs.

5.2. Amount of award

The HFSP budget is determined in US dollars. While payments may be requested in another currency, the amount in that currency will be determined by the exchange rate against the US dollar at the time of each transfer and thus may vary from year to year. HFSP reserves the right to transfer funds in local currency.

- a. The intended mode of funding in the 2024 cycle is as follows but may be subject to revision to take into account HFSPO's budget: \$300,000 for a team of 2; \$400,000 for a team of 3; \$500,000 for a team of 4 or more members. These figures represent the amount awarded to the whole team per year for a period of 3 years.
- b. Two members from the same country have to constitute an interdisciplinary collaboration. They will be awarded an amount equivalent to 1.5 team members (currently \$350,000 for a team of '2.5' and \$450,000 for '3.5' team members).
- c. In the case of a two-member team with one member in a for-profit institution, the total annual award will be reduced to \$150,000. In other cases, the for-profit member will not be included when calculating the amount of the award.

5.3. Tenure of Grant

Each grant is awarded for a period of three years

5.4. Method of payment

In the event of an award being made, the distribution of funds will be proposed by the team. The funds will be transferred by the HFSPO to each team member's institution separately.

5.5. Financial reporting

Institutions will be required to maintain complete lists of all expenditures from the HFSPO award. A financial report based on these lists will be required for the full three years of the award, organised by the Principal Investigator at the end of the grant. In addition, all invoices, pay-slips, etc. must be retained for at least two years after the end of the grant period in case of audit. Reporting practices may be subject to modification during tenure of the grant if required by the HFSPO Board of Trustees or auditors.

5.6. Permissible and impermissible expenses

A budget is **not** required at any stage of the application process. The following information is provided to allow applicants to understand the scope of expenditures permitted in case an award is made.

5.6.1. Equipment

Purchase of equipment must be essential for the new collaboration which is proposed. Purchase of equipment to supplement current domestic programs is not allowable. Participating laboratories should already be equipped to pursue their current research.

5.6.2. Materials and supplies

Costs of reagents, animals, disposables, computer software necessary for the scientific collaboration.

5.6.3. Services

Consulting services and computer services *specific to the project*, including rental fees (fees for computer or telephone networks may be included in the indirect costs (see 5.6.7.).

5.6.4. Salaries

No salary support (including summer salaries) for the Principal Applicant, Co-Applicant or other faculty, institutional staff such as secretaries or laboratory managers, and no student tuition fees may be paid.

Salaries may be provided for research assistants (post-doctoral scientists, graduate students, technicians) essential for the new collaborative project.

5.6.5. Communication expenses

Publication costs (including open access fees), article translations, mail, express courier services.

5.6.6. Travel and per diem

- Travel costs and per diem allowances (up to three months each year), for team members and their personnel visiting other team members.
- Travel costs and per diem allowances for field work or visits to research facilities.
- Scientific meetings or training courses related to the HFSP project.
- Costs for attending the annual awardee meeting organised by the HFSP.

5.6.7. Indirect costs (overheads)

No more than 10% of the direct costs of the award, at each research institution, may be used for indirect costs.

6. Ethical considerations

Awardees must observe the highest ethical standards in conducting all research supported by the Program. If awarded, all team members have to agree to conform strictly to the national and institutional codes of practice, regulations and laws, which govern the ethical conduct of scientific research in his/her own institution. Institutions must inform HFSPO if national or institutional codes of practice, regulations, or laws have been infringed in the performance of the award. All awardees must also agree not to undertake any research jointly with scientists in another country where experimental procedures, which are forbidden in his/her own laboratories/institutions are permissible. Examples of national guidelines can be found via links on https://www.hfsp.org/Good-Scientific-Practice or HFSPO's policy on scientific misconduct available on the HFSP website.

7. Intellectual property rights and publications

HFSPO will not claim any intellectual or commercial property rights that may be generated through the research it sponsors. HFSPO will not become involved in any dispute which may arise about the ownership of such rights. The assignment of any such rights (and any income arising from them) is to be determined by the procedures and regulations which apply in the laboratory/institution in which the research is conducted.

In considering the possible commercial importance of discoveries which arise from research sponsored by the Program, all awardees must agree that submission of manuscripts for publication of these discoveries in scientific journals will not be delayed for more than 45 working days after the manuscript is completed.

An acknowledgement of support by the Human Frontier Science Program must be included in all publications resulting from work carried out under the grant.

8. How to apply

See also ProposalCentral Guide

Deadlines:

- Compulsory initiation of a letter of Intent (by obtaining a 7-digit LOI ID 1 XXX XXX): 21 March
 2023
- II. Submission of Letters of Intent: 30 March 2023

Please read the guidelines and the document 'Writing a letter of intent' carefully to establish whether your project is clearly in tune with the aims and requirements of the HFSP Research Grant program.

The main steps in applying are as follows:

- 1. The research team must designate one member as Principal Applicant, who will be responsible for final submission of the letter of intent. Note the requirement that the Principal Applicant must have his/her primary laboratory in a member country. See Item 3.3. of the guidelines for more detail. The Principal Applicant will first have to set up a personal account on Proposal Central (if not already in the PC database)
- 2. In setting up the team, the Principal Applicant must ensure that no team member is a Principal Applicant or Co-Applicant on another proposal (see Item 3.7. in the guidelines). Failure to ensure this will result in all those applications being withdrawn from the competition.
- **3.** The Principal Applicant must initiate the Letter of Intent by obtaining a seven-digit LOI ID (1 XXX XXX) on the ProposalCentral site (see ProposalCentral Guide). This will give access to the online application form and further instructions concerning the online submission (including the addition of the other team members). It is essential to initiate the Letter of Intent as soon as the team has seriously decided to submit a letter of intent, but by 21 March 2023 the latest.
- **4.** The composition of the team can be modified up to the final submission date. However, all team members must be designated as co-applicants on the online form, and each team member has to enter their own CV information and publications before the submission deadline. Each team member should also provide information on their contribution to the project in one of the fields assigned for subprojects.
- **5.** The letter of intent must be **submitted by 30 March 2023**. No changes can be made to the letter of intent after final submission.
- **6.** The Principal Applicant will be notified in early July if the team is invited to submit a full proposal. The deadline for invited full proposal will be mid-September 2023.

9. Technical tips

On the letter of intent application portal, instructions for each section will be given and a user guide is available below. If new problems are reported to us, tips will be added to the relevant pages to help in the submission procedure. Please notify us at grant@hfsp.org if you encounter problems.