



## Application guidelines for HFSP Research Grants Award year 2022

**Recent changes:** Please note that the names of the sub-programs have been changed. Research Grants - Early Career were previously called Young Investigator Grants, while Research Grants – Program were just named Program Grants. This change had the aim to avoid perceived age discrimination. The eligibility requirements for both schemes remain unchanged.

Teams with two members from the same institution are no longer eligible to apply.

### Deadlines:

- Compulsory initiation of a Letter of Intent by obtaining a LIXXXX/2022 reference number by March 18<sup>th</sup>, 2021
- Submission of a Letter of Intent: March 30<sup>th</sup>, 2021
- Submission of Full Applications: mid-September 2021, **on invitation only**

These guidelines provide the essential information necessary to submit an application for an HFSP Research Grant that would be awarded in 2022. Applicants should read the guidelines carefully, in particular the scientific scope of the program and the eligibility criteria. 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](mailto:grant@hfsp.org)

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## 1. Overview

### 1.1. Objectives of HFSP Research Grants

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

The Human Frontier Science Program Organization (HFSP/O) 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 organisms, for the benefit of all humankind. It aims to complement, not duplicate, the frontier life science programs of the countries that financially support HFSP/O.

HFSP/O 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, 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 by using novel approaches and techniques. To stimulate daring ideas and innovative approaches 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:** Projects should be potentially transformative in addressing important fundamental problems at the frontiers of the life sciences, or 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, computer science, engineering, mathematics, nanoscience or physics is highly encouraged.
- **Early career scientists:** The 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** (previously called Young Investigator Grants) 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 the team size, (a 4-member teams, for instance, receives 465 000 USD per year).

### 1.3. Summary of the Application Process

The first step in the application process for Research Grants is to connect to the HFSP extranet site (see [8](#)) and obtain a reference number LIXXXXXX/2022 by **March 18<sup>th</sup>, 2021**. This will allow applicants to submit a “letter of intent” to apply for a grant. The deadline for receipt of this letter is **March 30<sup>th</sup>, 2021** for awards to be announced in March 2022.

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 [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/innovative elements, interdisciplinarity and team integration/collaborative elements (see [Review Guidelines](#)). In a second step, a Selection Committee will take the decision which applicants are invited to submit a full application. Applicants will be notified early July 2021 whether they are invited to submit a full application, with a deadline mid-September 2021. More details are provided in [section 8](#), “How to Apply”.

## 2. Scientific scope

HFSP funds projects in basic research studying fundamental problems on all organizational and trophic levels of life sciences. 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 novelty/innovative aspect of the project is a major criterion in the review of HFSP research grants (see link to [Review Guidelines](#)), and it is understood that projects at the frontier of the live sciences may entail high risks.

#### HFSP 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 problems such as crop yield, forestry 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 a research doctoral degree (PhD, MD or equivalent) and must lead a research group (however small). All team members must be in the position to 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 original research together and must propose a project significantly different from their ongoing research.

Co-authorship in scientific publications is considered the result of a past or existing research collaboration which is contrary to the spirit of the Program. However, a maximum of two publications with co-authorship of team members are acceptable if these are not the result of joint research work but, for example, a multi-author review summarizing the field or a joint publication in a different field not related to the topic of the current HFSP grant application. Teams where members have joint publications are advised to inquire with the grant office prior to submitting their letter of intent. Applicants have to enter the number of co-publications between team members in the application form to guide the review committee in their assessment.

#### 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 HFSP Career Development 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 HFSPO 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, propose that they be asked to leave the project. If a team member changes institution, 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 [3.6.](#)). All active appointments have to be declared in the application form, specifically if an applicant has affiliations in two different 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. Team members must have genuine collaborations, and each team member is expected to carry out their part of the project as proposed.

### 3.5. Country of affiliation

The Principal Applicant representing the international team must be located in one of the HFSP [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.

### 3.6. Internationality

The aim of the program is to foster research collaborations between laboratories in different countries. Therefore, teams must meet the following conditions:

- a. A research project with all team members in one country is 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 of three or four members where two members have their laboratories in the same country is eligible if the team can demonstrate that this collaboration is essential to maintain the frontier and interdisciplinary character of the proposed research. In these cases, two scientists from one country will be considered as 1.5 teams, for calculating the award sum, see also the [FAQ](#).
- e. When applicants have a double affiliation in different countries, both will be considered active and will be taken into account for eligibility and when calculating the budget for successful teams.

### 3.7. Concurrent applications

- a. **No individual may be an applicant on more than one letter of intent in the same review round.** If anyone applies on two or more letters of intent, as Principal Applicant or Co-Applicant, and including both RG-Early Career and RG-Program as well as Renewals of an RG-Early Career (formerly named Young Investigator grant, see below), these will all be removed from the competition.
- b. Holders of HFSP Career Development Awards may apply for HFSP Research Grants (see also [3.2](#)).

### 3.8. Renewals for Early Career teams

Renewals may be considered only for Early Career (previously named Young Investigator) teams in the third year (or the period of a no-cost extension) of a current award (currently awardees from 2017 and 2018). The Principal Applicants of eligible Early Career (Young Investigator) teams will be contacted directly by HFSP with the conditions and application instructions. This will be highly competitive and such applications will be considered in competition with the new full applications. This possibility may not be retained in future cycles.

### 3.9. New applications from previous awardees

- a. Scientists cannot hold more than one HFSP award at any one time. Those who are currently receiving support from an HFSP research grant (as Principal Applicants or Co-Applicants) are not eligible to apply for a second research grant. However, awardees from 2018 may apply for a new grant if it only starts after termination of the current award (which means after approval of their final financial report), and if the project and team members are distinctly different to those of the current grant. Awardees from 2019 and 2020 are not eligible.
- b. Each applicant (Principal Applicant or Co-Applicant) who has been awarded an HFSP research grant (as Principal Applicant or Co-Applicant), since award year 2016, must provide information about the objectives and outcome of the former project, together with a statement of its relationship to the current application. Applications bearing a strong similarity to previous awards, either in team composition or topic of research, will not be considered eligible.

### 3.10. Project

Applicants should take into account HFSP'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. Therefore, 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. Special conditions apply for Research Grants - Early Career (see [4.2.](#)). Projects are expected to propose new lines of interdisciplinary research through the collaboration and must be distinctly different from the applicants' 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.

Modelling contributions are 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 [FAQ](#) sheet on the HFSP site for tips and common reasons for rejection.

### 3.11. Publications

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. HFSP reviewers are asked to consider the influence of candidates' publications (including [preprints](#) deposited on public servers) in advancing knowledge in a given field (or throughout biology).

## 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 new, innovative research projects 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 (see [“Recent changes”](#) for explanation). They are meant to encourage outstanding scientists in the initial period of their independent careers, to formulate innovative and promising research projects. Typically, “Early Career” team members will have completed one or two periods of postdoctoral training and be 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 the academic unit 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 teams may not always have members from outside life sciences but will be expected to propose projects with team members having distinct expertise and coming from different disciplines.



## 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 the research and international collaboration within the awarded HFSP project.

### 5.2. Amount of award

- a. The current mode of funding is as follows but may be subject to revision to take into account HFSP's budget: \$265,000 for a team of 2; \$365,000 for a team of 3; \$465,000 for a team of 4 or more. 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 should constitute an interdisciplinary collaboration. They will be awarded an amount equivalent to 1.5 team members (currently \$315,000 for a team of '2.5' and \$415,000 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 \$130,000. 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 decided by the team members. The funds will be transferred by the HFSP to each team member's institute separately.

### 5.5. Financial reporting

Institutions will be required to maintain complete lists of all expenditures from the HFSP 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 HFSP Board of Trustees or auditors.

### 5.6. Permissible and impermissible expenses

A budget proposal is **not** required at any stage of the application process. The following information is provided to allow applicants to understand the scope of funding 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.

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.
- Scientific meetings or training courses related to the HFSP project.
- Costs for attending the Awardee meeting organised by the HFSP in the final year of the award.

#### **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 HFSP 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>). [HFSP's policy on scientific misconduct](#) is available on the HFSP website.

## **7. Intellectual property rights and publications**

HFSP will not assert any claim to intellectual and industrial property rights. When a collaborative program is conducted between laboratories in different countries, agreement on the ownership of such rights, or on the distribution of income derived from them, will be negotiated between the collaborating laboratories/institutions. HFSP will not claim any intellectual or commercial property rights that may be generated through the research it sponsors, nor will it become involved in any disputes which may arise about the ownership of such rights.

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

### Deadlines:

- I. **Compulsory initiation of a Letter of Intent by obtaining a reference number: March 18<sup>th</sup>, 2021**
- II. **Submission of Letters of Intent: March 30<sup>th</sup>, 2021**

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 (“Research Teams”) for more detail.
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 obtain a **LIXXXX/2022** reference application number on the HFSP extranet site (at the address <https://extranet.hfsp.org/> this site will be accessible from mid-January 2021). The Principal Applicant will first have to set up an account (if not already in the HFSP database) that will give access to the online application form and further instructions concerning online submission (including the addition of the other team members). It is essential to obtain a 2022 reference number as soon as the team has seriously decided to submit a letter of intent, but by March 18<sup>th</sup>, 2021 the latest. Team members can be modified up to the final submission date. Even Principal Applicants already listed in the HFSP database (e.g., those re-applying from last year) **must** obtain a new 2022 reference number by March 18<sup>th</sup>.
4. All team members must be designated as co-applicants on the online form. **All co-applicants must approve their participation via a link generated by the Principal Applicant** before the application can be completed and submitted. A brief explanation of the contributions of the different disciplinary expertise should be provided in the summary which will be used in guiding the review process.
5. The letter of intent must be **submitted by March 30<sup>th</sup>, 2021**. No changes can be made to the Letter of Intent after final submission.
6. The Principal Applicant will be notified at the beginning of July if the team is invited to submit a full application. The deadline for invited full applications will be mid-September 2021.

## 9. Technical tips

Tips for each section are given on the website itself. If new problems are reported to us, tips will be added to the relevant pages to help in the submission procedure.