Serrapilheira Institute

Support for Brazilian science

Call for Proposals n.4/2020

The institute

Serrapilheira is the first private, non-profit institution geared towards fostering science in Brazil. The institute was founded in 2017 to place value in scientific knowledge and increase science visibility. With the purpose of promoting a culture of science in Brazil, we operate on two fronts: Science and Science Outreach.

1. What this call is for

Supporting to young scientists

This call is designed to help develop the careers of scientists who, in seeking to build or consolidate their research agenda, are **posing big questions in their fields**.

Big questions are those that challenge current scientific knowledge, open up new perspectives for progress, or deepen the knowledge in a certain scientific field. Projects of this nature ask "what", "when", "why", and "how," rather than just posing utilitarian questions like "what is this good for."

Fields of support

Serrapilheira will finance projects that contribute to fundamental knowledge in **Natural Sciences*, Mathematics, and/or Computer Science**.

Interdisciplinary proposals in these fields are also welcome.

Projects we want to support

Serrapilheira will provide flexible financial resources for **creative** and **bold** projects even if involving **risk** strategies.

Projects we won't support

We will not provide funding for projects that are a clear repetition of prior work. There has to be a novel contribution.
Nor will the institute support projects **exclusively** focused on clinical trials, public health studies, development of biomarkers, processes or products.

*** Natural Sciences**
As the institute understands it, this includes all the sciences that examine nature, trying to understand it in the broadest and most essential senses. This category includes, above all: Life Sciences, Physics, Geosciences, and Chemistry.

2. About our support

Allocation of funds
Serrapilheira will finance up to **twelve young scientists** for a **three-year period**, providing funds between **200 thousand to 700 thousand reais.**

When justifying their budget, applicants must request an amount that allows them to reach the goals listed in their project. Serrapilheira understands that amounts for institutional and theoretical needs may vary depending on the fields of knowledge and the various regions in Brazil. Therefore, we expect to receive budgets with amounts broken down within the 200 thousand to 700 thousand reais range.

During the execution of the project, young scientists may have access to additional fund bonus specifically granted to cover **integration and training of individuals from underrepresented groups in research teams**. It is up to the selected scientist to submit an application proposal to gain access to the additional funds. Participation in the bonus grant is voluntary. **Inclusion actions** aim at fostering diversity in Brazilian science.

The way the bonus is going to be implemented to form underrepresented groups in the fields of research will be discussed with each scientist selected under this call. The bonus amounts will depend on the inclusion actions developed and may vary between 10% and 100% of the total amount of the original budget approved for the project. Therefore, applications for diversity bonus funds shall not be part of the budget proposal for the research project.

Renewal
After three years of support, projects **may be renewed annually** for an indefinite period of time. At Serrapilheira's discretion, the execution period may be extended depending on the project's needs.

About the Program
In addition to offering financial resources, the *Science Support Program* fosters training, workshop and integration events among scientists. Through the annual Serrapilheira Scientific Retreats, for example, the Institute aims to train scientists and develop their careers, stimulate interdisciplinary cooperation and foster diversity in science, scientific outreach and open science.

For more information, refer to the Science Support Program.

Support start date

The official support start date is **August 15, 2021**.

Use of funds
Serrapilheira offers flexibility in the use of funds during the execution of the project receiving support. Applicants may use the allocated funds as they see fit for developing their research, as long as the use is associated with the objectives of the project.

The calculation for remuneration of scholarships and salaries for the teams of selected scientists must be guided by the reference values of the Institute (Annex I).

Funding terms and financial management
Funding terms are established by Serrapilheira. Grants are to be used directly on research and must be managed by a foundation chosen by Serrapilheira, not by the scientist's host institution. We encourage host institutions to provide scientists with appropriate conditions for developing their projects. The contract will be signed between the foundation, the scientist, the host institution, and Serrapilheira.

After the contract is made available for electronic signature, all parties must sign it within **four months**. In case the deadline is not met, the contract may be canceled and support for the scientist may not be granted.

Administrative fees
Administrative fees related to the management of the financial support shall be deducted directly from the amounts allocated. Scientists are free to negotiate technical reserves paid out to their host institutions, ranging between 2% and 5% of the allocation amount. This percentage is intended to cover the costs of operation and basic infrastructure provided by the host institutions.

The entity responsible for the financial management of the project, to be appointed by Serrapilheira, shall be entitled to up to **8%** of the project's funds. Therefore, we estimate that the net value for research will vary between **87% and 90%**.

3. Conditions for submission

This call is aimed at young scientists working in Brazil, regardless if Brazilian or of other nationality.
The criteria for submission are as follows:

Year of PhD
Applicants must have received their PhD between **January 1st, 2013 and December 31st, 2018**. This window may be adjusted for **women with children**. Women with one child must have received their PhD between January 1st, 2012 and December 31st, 2018. Women with two or more children must have received their PhD between January 1st, 2011 and December 31st, 2018. The date considered to determine submission eligibility will be the **defense date**, not the date when the diploma was issued.

The date of PhD completion must **strictly comply** with the conditions above.

Affiliation with a Brazilian home institution
Applicants must be conducting scientific research and hold a permanent position - as professors or researchers - at a public or a private university, institute or other entity in Brazil. Partners in technology-based business/startups, and civil servants in technical positions may apply as long as **they are actually conducting research at the institution indicated**.

Master students, PhD students, substitute professors, research fellows, visiting researchers, and volunteer researchers are **not eligible**.

Publication of Scientific Articles
Applicants must be the lead author of at least **two** impactful published scientific articles. The lead author is the scientist who made the largest contribution to the work, and not necessarily the head of the laboratory or leader in the research group.

By “impactful” we mean the article challenged, advanced or increased the knowledge in the field. Therefore, the applicant must justify why the articles are considered impactful based on the **content and intellectual contribution of the texts** (refer to section “How to apply”).

Location of Research
The projects must be carried out in Brazil, although some activity may occur abroad, such as fieldwork or collaborative research. Researchers working exclusively at foreign institutions are not eligible to receive funding from Serrapilheira via this call, and our grants may not be transferred to other countries.

Number of Submissions
Each applicant may only submit **one** application per call and up to **two** applications throughout the period of eligibility. This rule takes effect as of the present call. Previous calls are not considered for this purpose.

Researchers who have received grants from Serrapilheira previously and have not had their grants renewed may apply again.

Language
As the selection of applications will be carried out by scientists working in international institutions, **all fields** in the registration and application forms must be duly filled out in **English**. The **Projects** must also be written in **English**.

Fields of support
Projects must contribute to **fundamental knowledge** in at least one of the following fields: **Natural Sciences**, **Mathematics**, **and/or Computer Science**. As the Institute understands, Natural Sciences include all the sciences that examine nature, trying to understand it in the broadest and most essential senses. This field includes, above all: Life Sciences, Physics, Geosciences, and Chemistry.

Electronic application
Applications must be submitted electronically through the Serrapilheira portal at Fluxx (https://serrapilheira.fluxx.io) within the deadlines set out in this call.

Curriculum vitae
The applicant's curriculum vitae (PDF) must strictly follow the template available at http://bit.ly/2kDe1Z2 and be no longer than two pages. **Resumes in other formats will not be considered**.

Applications that do not meet the above terms will not be accepted.

4. How to apply

Applications will be submitted in two phases: **phase 1 (pre-proposal) and phase 2 (full proposal, to be sent only by candidates selected for this phase)**.

Phase 1: pre-proposal

Submission window of pre-proposal:
November 16 to December 16, 2020 at 3:00 pm (Brasília time zone)

Accessing the application portal
Applicants should access the application portal, which will be open on November 16, 2020, at https://serrapilheira.fluxx.io

1. Registration
Applicants must provide the following information:
- name / email address / telephone number
- institution
- address / city / state / zip code
- gender
- race/ethnicity

2. Eligibility requirements
After completing the registration, applicants are directed to the eligibility requirements page to confirm that they meet the criteria for this call.

3. Application form
After filling out the registration form and eligibility data, applicants are directed to the application form and must complete the **applicant** and **project** sections.

APPLICANT INFORMATION

Personal information
- nationality
- date of birth
- hometown / state / country
- curriculum vitae (PDF), up to **two pages** strictly following the template available at http://bit.ly/2kDe1Z2
- link to curriculum vitae Lattes
- link to Google Scholar profile
- ORCID ID number
- link to laboratory website (optional)
- social media profile (optional)

Academic career

- academic background: undergraduate, master's (if applicable), PhD, post-doctoral (if applicable) studies
- year of PhD dissertation defense
- year joining the host institution
- independent funding to research, not considering scholarships (if applicable)

Publications

• titles of up to five scientific articles published as the lead author or articles in co-authorship (**in which the applicant made the biggest contribution**, not necessarily the head of the laboratory or leader of the research group), with an indication of those that the applicant deems as most relevant

• description of the applicant's contribution to the research in question, and a justification for the selection of these articles, explaining: i. why the applicant is considered the lead author and ii. why they are relevant (4 thousand characters including spaces)

This section will play a critical role in the first assessment of proposals.
We recommend that applicants devote significant time and reflection to this portion of the submission.

ABOUT THE PROJECT

Project title

The project title must be easy to understand for non-experts in the field (up to 150 characters including spaces).

Main field*

- Natural sciences: life sciences, physics, geosciences and chemistry.
- Computer science
- Mathematics

Sub-field* (if applicable)

- Natural sciences: life sciences, physics, geosciences and chemistry.
- Computer science
- Mathematics

Key words*

three keywords to freely describe the sub-field* (i.e.: neurology, symplectic geometry, biodiversity, quantum computing, immunology, astrophysics, geochronology, nanocatalysis).

***Fields and keywords**
These are essential for sending the project to the appropriate evaluators.

Five questions

• What is the fundamental question raised by the project?
(up to 300 characters including spaces)

• What is the project´s testable hypothesis? If the project is exploratory, what is the reason to explore this field?
(up to 600 characters including spaces)

• How will the hypothesis be tested? If the project is exploratory, how will the field be explored?
(up to 600 characters including spaces)

• How will the results of the project advance fundamental understanding in the field?
(up to 600 characters including spaces)

• Why is this project important and timely?
(up to 600 characters including spaces)

This section will play a critical role in the first assessment of proposals.
We encourage applicants to put time and thought into this stage.

Project summary

• **project summary** (up to 4,000 thousand characters including spaces): applicants should summarize their proposals writing in a way that will be intelligible to people who work in the same field, but are not necessarily specialists in their sub-field. The summary should explain:
i. significance and originality of the project
ii. the big question addressed and hypothesis
iii. methodology and goals

Phase 2: full proposals

Applicants selected in phase 1 are **invited** to submit full proposals for phase 2.

Deadline for submission of full proposals:
March to May 2021

Accessing the application portal
Applicants should access the application portal, which will be open in **March, 2021**, at https://serrapilheira.fluxx.io

Then, the following documents must be submitted:

Research project
Applicants must submit a detailed description of the project.
It must contain:

• **title** of the project and **name** of the applicant
• **short summary**
• a comprehensive **introduction** including the current status of the research, the objectives of the proposal, hypothesis, and, if applicable, preliminary data/results
• The **methodology** employed to achieve the objectives (and possible alternative methodologies) and **goals** to be achieved
• a **detailed schedule** as a Gantt diagram
• **Bibliography**

Curriculum vitae (in case of a major change after submission in phase 1)

• curriculum vitae (PDF) must strictly follow the template available at http://bit.ly/2kDe1Z2 and be no longer than two pages. **Resumes in other formats will not be considered**.

Budget
• detailed budget with spending items associated with the project development

Team
• description of the team involved in the project

Open science and diversity in science*
• ideas, lines or guidelines for action in the field of open science and to encourage ethnic-racial and gender diversity in the research team, institution or field of expertise

*This document will not be evaluated as part of the selection process. The information will contribute to the *Science Support Program* by helping to diagnose, map initiatives and identify the needs for the dissemination and implementation of diversity and inclusion among scientists supported by Serrapilheira.

Incomplete proposals will not be considered.

The research project must be between ten to fifteen pages (including the bibliography) and follow the format below:

• page size: A4

• font: Times New Roman

• font size: 12 pt

• line spacing: 1,5

• margins:
2 cm (right and left);
2 cm (top);
1.5 cm (bottom)

5. The selection process

The evaluation of proposals will be conducted mainly by scientists working in distinguished **international** institutions with a diverse gender and racial backgrounds, whenever possible.
A brief outline of the selection process is available in Annex 2.

Phases
Selection will be carried out in two phases.

Phase 1: pre-proposal

Analysis of Compliance
The executive team will assess whether all materials submitted by the applicants meet the criteria for accepting proposals. Only proposals meeting all criteria will be admitted to the selection process.

Analysis of Merit
Pre-proposals will be grouped in clusters according to the field of work (Mathematics, Computer Science, Physics, Geosciences, Chemistry and Life Sciences). Each pre-proposal will be evaluated **individually** by at least two evaluators from each field.

Based on the criteria for **scientific skills, creativity, originality, and structure of the proposal**, the following will be evaluated:

- the academic background of the applicant (curriculum vitae)

-scientific production (scientific production submitted by the applicant)

- research proposal summary (expanded summary and answers to the five questions above)

Each evaluator will send to the executive team a qualification list of up to four applicants per field. The executive team will compare the qualification lists and, in case of discrepancy, discuss with the evaluators. If necessary, additional ad hoc evaluators will be called to decide which applicants will move on to phase 2.

The number of applicants invited to participate in phase 2 will be two to three times greater than the final number of proposals to receive support, i.e. between 24 and 36 young scientists from all fields.

Feedback on pre-proposals not called for phase 2 will not be issued.

Phase 2: full proposals

Analysis of Compliance
The executive team will assess whether all materials submitted by the applicants meet the criteria for accepting proposals. Only proposals meeting all criteria will be admitted to the selection process.

Analysis of Merit
Each full proposal, consisting of the research project, curriculum vitae, budget and team, will be evaluated **individually** by at least two evaluators in the field, according to the criteria detailed below. The evaluators will be the same as in phase 1; if necessary, new ad hoc evaluators will join.

Criteria
Evaluators will score all eligible proposals using a scale of 1 to 7 (1 = poor; 2 = weak; 3 = reasonable; 4 = good; 5 = very good; 6 = excellent; 7 = outstanding) for each one of the criteria listed below.

Quality of Applicants*
• **Scientific skills:** Does the researcher demonstrate the ability to develop research at the frontier of knowledge? Has the applicant published quality articles with methodological rigor? Does the applicant have the potential to seek scientific advances in the field?

• **Creativity and independence:** Is the scientist creative and able to generate their own ideas? Does the applicant have national and international collaboration networks? Does the researcher have the capacity to develop scientific leadership in the field?

*The quality and rigor of the research developed are evaluated, regardless of the number of articles published.

Quality of the proposal
• **Originality**: How original is the question? (proposals cannot be a mere repetition of previous research)

• **Creativity**: Does the project address relevant challenges and/or tackle a big question? Is the project creative and bold?

• **Impact on science:** How wide is the potential impact of the work in the specific field?

• **Structure and presentation:** How well structured is the proposal?

Viability
• Is the research methodology in line with the objectives of the project? Does the team composition meet the proposed demands

for the development of the project? Are the funds requested and deadlines adequate?

Risk*

- How technically difficult or risky is the work to be accomplished?

*Risk analysis will be used to structure a portfolio of supported projects with different levels of risk. This means that the weight given to this criterion will not be decisive in the final score.

Each evaluator will issue an opinion with comments on the review and send it to the executive team. The executive team will compare the opinions and decide jointly with the evaluators whether all applicants will be called for an interview.

Interview

Grouped in panels by each field, the same evaluators who carried out the analysis of merit will conduct a remote interview with the applicants. In this phase, the members of the evaluation panel will have access to the opinions and to all the documents sent by 21the applicant.

Each applicant will make a fifteen-minute presentation and have fifteen minutes to answer questions.

After the oral presentation, each evaluator will score the applicant using a scale from 0 to 7 (1 = poor; 2 = weak; 3 = reasonable; 4 = good; 5 = very good; 6 = excellent; 7 = outstanding), following the criteria in this call, including the applicant's ability to defend and contextualize the project's big question, as well as the ability to demonstrate full understanding in the field of expertise. Executive team members will not evaluate the presentations.

Each evaluator must send a score to the executive team, before discussing it with the other members of the panel. Then, the executive team consolidates the scores and schedules a new meeting with all panel members for a collective debate. During the debate, the executive team will disclose consensus scores and applications which received varying scores. Understanding the arguments for and against applicants not subject to consensus is the responsibility of the executive team with the assistance of independent ad hoc evaluators, if necessary.

At the end of the process, the panel of evaluators for each field will send the executive team a recommended qualification list of up to three proposals, selected by a collegiate decision. Ties are allowed. Each applicant who reaches the final stage of the detailed analysis will receive their relevant feedback.

Final validation

Based on the recommendations of the panels, the executive team consolidates and approves the final list of up to twelve selected

applicants in all fields, taking four factors into account: qualification, availability of funds, risk and portfolio management. The best applicants are selected, regardless of their fields of research.

Due to the factors above, not all proposals from the lists recommended by the panels will be selected; exceptionally, proposals not included in the recommended list can be admitted in the final selection. In this case, the executive team will submit their choice to the chairman of the board of directors of Serrapilheira and justify their decision by email to the members of the selection panels.

The approval of the final list of proposals to receive support will be submitted to the president of the board of directors.

Final considerations

The following will be used as a tiebreaker
Support is given preferably to scientists who do not have independent funds to develop their research. In the event of a draw, proposals submitted by applicants from underrepresented groups in their fields of knowledge in terms of gender and race will have priority.

On the number of evaluators
The number of eligible proposals will determine the number of evaluators that will collaborate with Serrapilheira. It is worth stressing that each pre-proposal and full proposal is evaluated by at least two evaluators.

On sending opinions
Proposals reaching the final stage of the selection process will receive a written opinion by the panel of evaluators in the field.

Unconscious bias warning to evaluators
As part of our methodology, we remind all evaluators to be aware of the existence of unconscious biases and to take this into account during the proposal selection process.

Serrapilheira commits to:
- exclude evaluators who may have any conflict of interest with applicants participating in this call
- ensure that all proposals are evaluated by qualified evaluators

On discretionary support
The executive team is free to support any project received through this call using discretionary funds, meeting merit criteria and following the Code of Ethics and Professional Conduct (in Portuguese).

This document contains Serrapilheira's guidelines to conflicts of interest, fighting corruption, and other issues related to ethics and professional conduct. In this case, the selected scientists will not be part of the cohort of supported scientists through this call and will be considered as discretionary support scientists.

6. Timeline

October 16, 2020
Announcement of Open Call

November 16, 2020
Submission window opens for pre-proposals (phase 1)

December 16, 2020 / 3pm (Brasília time zone)
Deadline for submission of pre-proposals (phase 1)

March 22, 2021
Announcement of names selected for phase 2 and call for full proposal submission

May 21, 2021 / 3pm (Brasília time zone)
Deadline for submission of full proposals (phase 2)

July 15, 2021
Announcement of selected names (up to 12)

August 15, 2021
Support begins

7. Final considerations

Good practices in open science
Serrapilheira requires that raw data and results obtained within the scope of the project over the period of support be published in publicly accessible repositories. This includes but is not limited to, peer-reviewed articles, monographs and programming codes. Scientists supported by Serrapilheira must publish their work in free access journals, or make an open access version available in a repository.

The **Guide to Good Practices in Open Science** is available on Serrapilheira's website at https://serrapilheira.org/nossos-valores/.

Intellectual property
Should the research supported through this call result in patent applications, Serrapilheira will not claim intellectual property rights.

Code of conduct
The proposed research activities must abide by ethical principles and comply with Brazilian law. Grantee Scientists receiving support by Serrapilheira are responsible for compliance with current laws and regulations. Scientists are required to respect the environmental, human and animal health, as well as the right to privacy, physical integrity, data protection and non-discrimination. Violation of any of these rights may result in the cancellation of the grant.

Research integrity
Serrapilheira stands firmly in support of research integrity.
In the event of a proven case of scientific misconduct, such as plagiarism, fabrication or falsification of results during a project funded by Serrapilheira, the financial support will be canceled.

From a legal point of view
Serrapilheira reserves the right to cancel, suspend, modify, review or postpone the selection process under this call, at any time and its sole discretion, by simply posting an announcement in the same communication channels where this call has been published.

No payment or compensation of any sort shall be due to any person, including, but not limited to, potential applicants and applicants who have submitted projects, nor to any institutions to which such applicants or potential candidates are affiliated due their participation and participation of their respective projects in the selection process under this call, should it be cancelled, suspended, modified or postponed.

The preparation of the projects and their respective submission to the selection process under this call are the sole responsibility of the applicants, who shall fully bear related costs. When joining this call, applicants acknowledge that Serrapilheira alone shall conduct the selection process, observing the procedures described herein.

Serrapilheira's process of deliberation and choice of applicants is not subject to appeal, request for review or reimbursement of costs and expenses or payment of damages, should projects submitted not be selected at any stage or phase of the processes described herein.

Serrapilheira may, at any time and regardless of prior consent from applicants or the host institution they are temporarily or permanently affiliated to, develop and conduct, directly or indirectly, studies and research related to the works and proposals submitted herein, including disclosing the results therein, preserving confidentiality of the proposals, in case they have not been made public or are generally known at the time of studies or research, as well as disclosing the authorship of said work and proposals.

In order to preserve the unbiased and equitable nature of the criteria guiding the analysis and choice of competing practices and as a way of preventing potential conflicts of interest and/or breach of the rules under the Serrapilheira Code of Ethics and Conduct, individuals who are married, living under common law marriage, or are kin by blood or affinity, whether by linear, collateral or cross bonds, up to the second degree, with employees, directors, members of the Board of Directors and of the Science Board, or with reviewers or other third party service providers hired for the selection process, are not eligible to participate directly or indirectly in the calls.

Deliberate violation of the restriction rule above by anyone qualifying to Serrapilheira's calls, shall confer the institute, at its sole discretion in terms of convenience and time, the right to exclude the grantee, resulting in the termination of the contract and cancellation of all obligations therein, including financial obligations, with such exclusion never to be deemed to constitute termination without cause.

Exceptions to the rules provided herein shall be decided by Serrapilheira's Board of Directors.

Sources
For preparing this call, including selection criteria and phases, the following sites were used as sources:

https://funding.nordforsk.org/portal/#call/1584

https://www.macfound.org/programs/100change/strategy/

https://research.google/outreach/research-scholar-program/

Contact
chamada@serrapilheira.org

ANNEX 1

Table of Serrapilheira Grants

Type	Amounts
Introduction to Scientific research	BR$ 400 to 1245
Assistant Professor/Researcher	BR$ 1500 to 3300
Master's	BR$ 1500 to 3253
Full Time PhD	BR$ 2200 to 5589
Postdoctoral fellowship	BR$ 4100 to 11060
Young Talent	BR$ 8000 to 18000
Visiting Professor/Researcher	BR$ 4700 to 24000

Serrapilheira employs grant ranges instead of lump sums as it is acknowledged that:

- the cost of living varies significantly between Brazilian cities;

- different socioeconomic conditions of research team members require a thorough assessment; funds to cover transportation, housing and food costs may be added to the grant's final amount; and

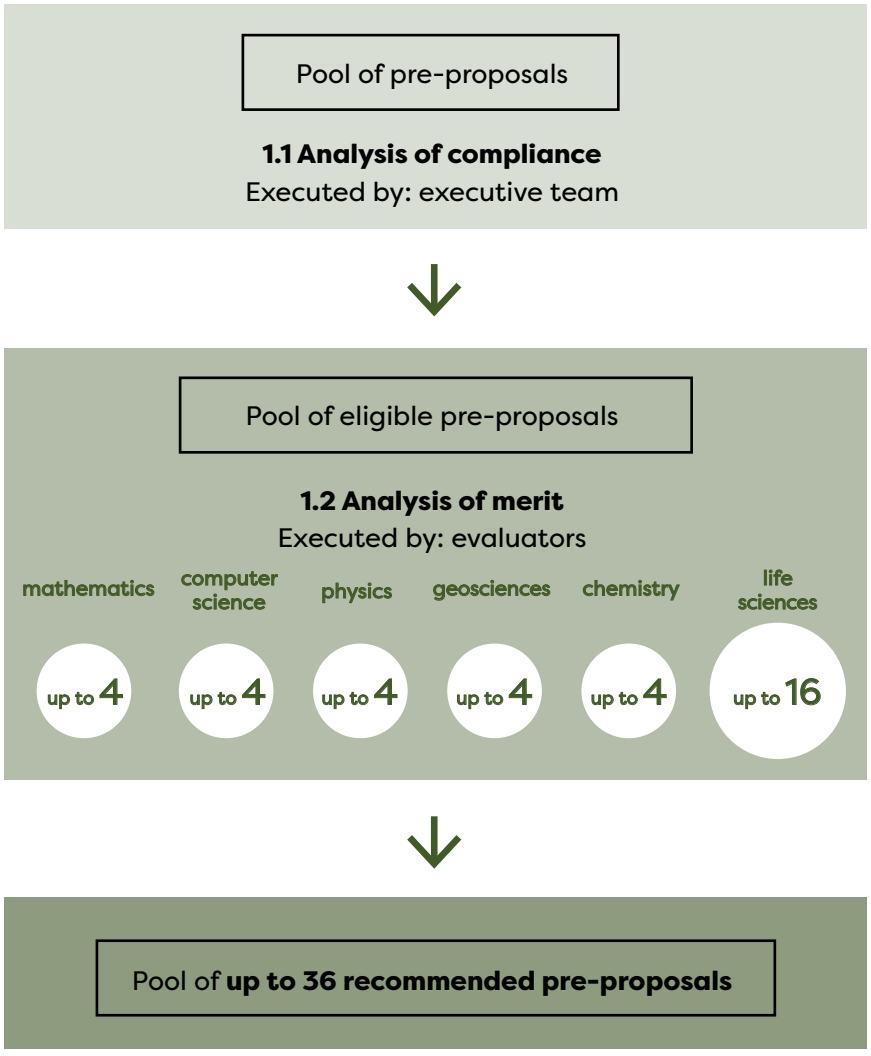
- higher value grants can help attract scientists from abroad.
In addition, the ranges above allow for increases to be considered as a result of good performance.

Serrapilheira has also conferred some flexibility to the criteria for admitting grantees in order to assist them in career transitions. For example, a student may be awarded a temporary grant while waiting for official scholarships from state or federal agencies.

ANNEX 2

Proposal selection process: summary table

Phase 1: pre-proposal



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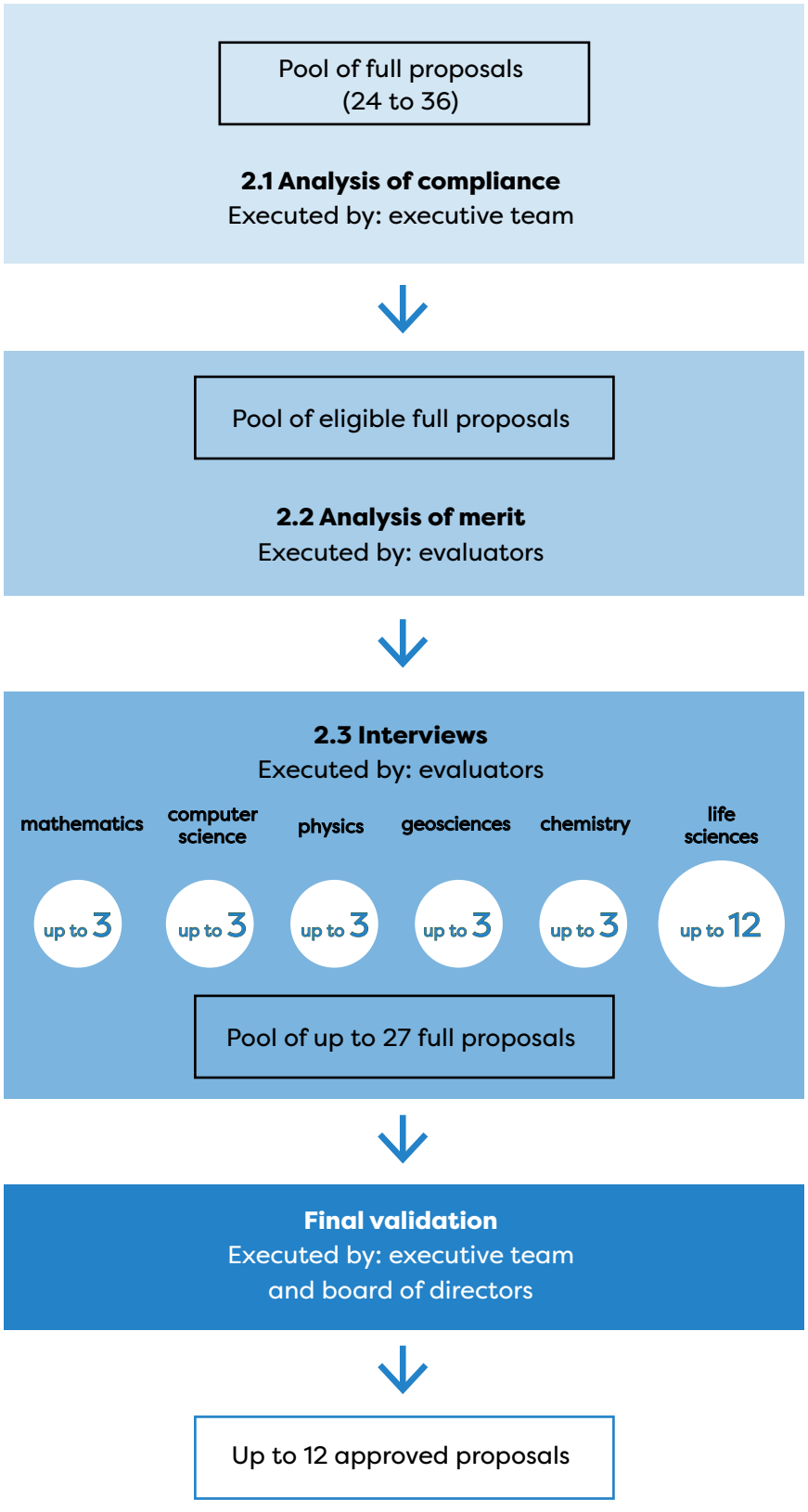
Phase 2: full proposals