

GUIDELINES TO PROPOSE A PWF PROJECT THROUGH THE PWF CALL FOR APPLICATIONS

Physics Without Frontiers (PWF) is organizing projects based on the proposals submitted through the PWF call for applications. The projects are meant to teach, train, and inspire undergraduate and master's students in physics and mathematics from the Global South. The ideas for the projects typically originate from the scientists working in the Global South. The projects are developed in close collaboration with PWF and are conducted by PWF volunteers. These guidelines are designed to help understand better the format of the projects and the application process in order to make your application more successful.

The application process for PWF projects has two stages. The first one is this call for applications, and the second step is a final proposal after selection. In the first stage it is not necessary to have all the details of your project worked up, the emphasis is on the ideas (although details in the proposal are more than welcome!). After the application call ends, PWF coordinators will select a number of applications based on the criteria listed at the end of this document. All applicants will be notified of the outcome. PWF coordinators will meet with the successful candidates to discuss the project and invite them to the second stage of the application process, in which the applicants will be expected to present a final proposal of the project covering in detail all the aspects and including the final timetable, list of all the speakers/tutors and carefully calculated budget. These guidelines are relative to the first stage of the application process.

1. WHAT ONE NEEDS TO KNOW ABOUT THE PROJECT BEFORE WRITING THE PROPOSAL

The following points are designed to help clarify the goals of the project and to match the project better to the needs of your students. We suggest to go through them before writing the application.

WHAT GOALS DO YOU WANT TO ACHIEVE WITH THE PROJECT?

Before proposing a project in a given field, it is very useful to analyze the current situation of the field in the university/country for which the project is meant. What is the immediate goal on which you would like to work? What are the long term outcomes that you hope to achieve with the project? It might be crucial that the students obtain some very specific training unavailable locally or that new topics/courses are introduced to the students. In some cases it is important to inform the students about the application process for further education or to help the faculty design new courses or master's programme, for example. A project can have more than one goal, but it is important to understand them and build the project focussing on them.

WHO IS IT MEANT FOR?

When designing a project, it is crucial to have a clear idea who will benefit from it to be able to decide the appropriate level and structure of the activity. Some PWF projects focus on a single well defined group of participants (like final year of bachelor's physics program at a given university), while others try to attract more varied body of participants (e.g. school in computational materials science which attracts final year of undergraduate and master's students from physics, chemistry, and materials science). It is necessary to estimate the background of the targeted participants and adjust the level of the activity accordingly. Obviously, a single well defined group of participants allows for a more focused activity (uniform background permits more detailed and advanced topics), while the wide pool of participants usually requires a more introductory approach.

It is important to remind that PWF projects are meant for undergraduate and master's level students only.

WHAT TYPE OF ACTIVITY IS MOST SUITED FOR YOUR GOALS?

Within a PWF project, there can be one or more activities planned. PWF activities range from university courses, schools/workshops to roadshows and lecturer's support. Some information can be also found at <https://www.ictp.it/home/physics-without-frontiers-activities>.

University courses are usually a single course given by a guest lecturer (who is a PWF volunteer) either in presence or virtually. Depending on the agreement with the university, the course can be or not graded or mandatory for the accomplishment of the degree requirements. The duration of the course can be anything from only a few lectures (mini course) to a full year course.

Schools/workshops are usually covering one field/topic from very basics to a somewhat more advanced level. They last from only a few days to a few weeks. We strongly advise to recap basic notions in the field, especially if the activity is meant for a wider audience. This kind of activity is designed to include also some hands on/tutorial sessions. In case of longer activities, we also strongly advise to secure a few lecturers/tutors. In most cases it is possible to combine the in-presence lectures/presentations with the online ones, thus allowing for a wider topics coverage and providing contact with a larger number of PWF volunteers.

Online seminars are one-time or periodic virtual event conducted and presented by PWF volunteers. In case of periodic online seminars we can talk about journal clubs or a series of seminars connected by a topic. Logistically, it is likely the simplest activity to organize, but its impact can be huge as it can reach a very large number of participants. Considering the little time involvement necessary to give an online seminar, it is relatively easy to invite top scientists as speakers. This type of activity is suitable only for audience with good internet connection. Also, make sure to have a zoom room available with a strong internet connection (we can also occasionally provide zoom rooms for single events).

Roadshows are probably the most challenging type of activity to organize, where the lecturers/presenters are moving from one university to another for activities lasting roughly one day at each venue. The very nature of the activity requires high level of logistical preparation and is suggested for more experienced organizers. It is beneficial to have a local organizer or helper at each university where the activity is to take place. The topics presented usually are more introductory and motivational.

Support for the departments/lecturers activities have a goal to help faculty to organize a new programme or course at their university (undergraduate or master's level). The format of the activity is highly case dependent. We note that this is the only type of activity which might not focus on undergraduate and master's level students.

Outreach activities usually accompany the main PWF activity (like schools or roadshows). If there is a plan to organize also an outreach activity, please indicate it clearly in the proposal. Outreach activities encompass visits to schools, public lectures, career guidance, virtual lab visits etc.

WHO CAN APPLY?

In principle, scientists working in the Global South will give the idea for the project which is then expected to take place there (if in presence). Every project should have assigned a local organizer who does not necessarily have to be the person who submits the proposal. The proposer can be a scientist or a student with or without a previous experience in organizing activities. If the main

proposer is not also the local organizer, the proposer is expected to give the name of the local organizer in the proposal and to have agreed with him/her on the project goals and the format of the activities, including the scheduling and the venue.

HOW TO CHOOSE SPEAKERS FOR THE ACTIVITY?

If you have a clear idea what topics you would like to have covered in your activity, we encourage you to ask directly the competent scientists in the respective field if they would be available to present/teach at your activity. Many of our PWF volunteers are postdocs and young researchers, even finishing PhD students, so we suggest to start addressing such groups of scientists with requests to take part in your activity. If you are not able to secure the speakers, please, indicate it in your application and, if your application is accepted, we will try to help by contacting the relevant PWF volunteers from our database.

2. PWF APPLICATION

MOTIVATION

Here, please, indicate why the proposed project will be useful for your university/country. It is good if you briefly describe the current local situation in your field and what you expect the impact of the project will be. If you have any long-term objectives, it is good to mention them here.

CONCRETE INFORMATION: DATE/PLACE

Knowing the venue of the main activity and the dates, as close as possible, makes your application stronger. It also indicates that you have already contacted the university (or other institution willing to provide rooms for the activity, maybe even coffee breaks/meals) and that the university overall is interested in the project. PWF is looking for local sponsors of the project and stating it in the application adds a value to the proposal. We note that in this call we are inviting applications for projects in 2025 (April to December) and until March 2026.

PROJECT COORDINATOR

This is the person making the application. Project coordinator is expected to supervise and be responsible of all aspects of the project, from planning and organizing to its running. He/she will be in contact with PWF coordinators and is the key person for each project.

PROJECT PARTNERS

Here, please, list all the institutions and organizations involved in the proposed project. Each institution is expected to have a role in the project, so please indicate it. They will be also mentioned in the poster of the activity, if it gets selected.

PROJECT TEAM

All people involved in the project constitute the project team. List them all here, their affiliations and any prior interactions with ICTP. Indicate clearly the local organizer, if it is not the applicant. The project team members also might be contacted by PWF coordinators in the second stage.

PROJECT ABSTRACT AND DESCRIPTION

Give us the main idea of your project in the abstract, including the goals and targeted participants. In the project description, describe in detail plan of the activity: what the activity is to consist of, who are going to be the speakers, who are going to be the participants and where the activity will take place (indicate not only the university, but also a concrete venue like computer lab of this department, for example). It is good if you can provide a tentative timetable of the activity. Here, it is also desirable to indicate how you plan to judge if the project is successful.

BUDGET

PWF is not a funding body, but a volunteer network. We do have a small amount of funding available and we partner with the local universities, industry or other partners to provide travel grants and other forms of support towards the project. Typically our projects require 1000-3000 euro of funds, to provide travel grants, refreshments, or in some cases equipment for online activities. Universities or local partners are expected to cover refreshments and local costs. PWF can contribute to the budget by providing travel grants. Accommodation for any visiting volunteer is encouraged to be covered by the university or local partners. The grant from ICTP PWF must go to the host university or to the volunteer in the case of a travel grant. Subsistence is not provided. If you have a clear idea of your project, in the budget section of the application provide a detailed breakdown of the budget, and which partner you suggest to provide funding (PWF, university, or local partner). If any travel is expected you should give the details of the travel each volunteer will take (dates, locations) and the estimated cost of the ticket. If you have a less clear idea please provide a rough estimate and we can discuss. A detailed budget breakdown is not required at this stage.

3. CRITERIA FOR SELECTION

PWF favors well-designed projects in the least developed parts of the world. We also aim to organize activities in the countries in conflict and we appreciate if a part of the targeted participants belongs to the underrepresented communities.

Special points in the selection process will be given if the application reveals a clear vision and long term outcomes of the project. Moreover, if such motivation is developed to the point to have a more concrete plan of the activity (including the topics to be covered and possibly speakers, dates, venue) it is likely to be assigned an even higher evaluation score.

The estimated impact of the project locally and on the national level is one of the key parameters for the selection. Thus, it is beneficial to describe foreseen impact for every project. However, if organizers plan to use the project to reach wider goals, like *e.g.*, asking for larger national funding in the future, organizing a conference as a follow up, finding a collaboration to open an experimental lab, there is a chance to enhance the impact enormously. In such cases, please tell us about your plans and which steps you intend to take to realize such objectives (for instance, it can be planning a meeting with government representatives or with the dean of the university). Moreover, proposing additional accompanying outreach activities (see above) is also a plus.

PWF projects are meant to be conducted in partnership with local institutions. If the local institution is willing to partially sponsor the project (e.g. by offering the accommodation for the speakers for free, by providing coffee breaks, meals), it should be mentioned in the proposal. Obviously, proposals requesting a large budget to be financed by PWF will be less likely to be selected, due to our limited funds.