



## The African School of Physics (ASP)

Increase capacity development in fundamental physics and related applications in Africa.

The ASP has evolved to be much more than a school. It is a program of actions with directed ethos toward physics as an engine for development in Africa.

# Guidelines for ASP School and Conference Potential Hosts

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## 1 BACKGROUND

Background on the African School of Fundamental Physics and applications is available on the web site <https://www.africanschoolofphysics.org/>. In this document we highlight requirements for potential host institutions to consider in planning and offering to host an ASP event. The ASP school is organised biennially for 2 weeks in the even years, and the ASP conference is organised biennially for one week in the odd years. The host country of an ASP event is selected 2.5 years before the date of the event. The ASP school will be referred to as “ASP” and the ASP Conference will be referred to as “ACP”. ASP and ACP are organised in alternate years in different countries. Exceptionally, ASP and ACP may be organised in the same country, but still in alternate years. ASP and ACP will be referred to as “ASP events”.

We invite interested host institutions from across Africa to submit proposals for an ASP event.

### 1.1 OBJECTIVE:

To Increase capacity development in fundamental physics and related applications in Africa

### 1.2 NATURE OF ASP SCHOOL

- Graduate summer school every two years hosted by a different African country
- Workshop for high school teachers from the host country
- Outreach to high school learners from the host country
- Continuous coaching and mentoring of students
- Forum to engage researchers, teachers, policy makers, and industry to discuss improvement for greater impact capacity development

### 1.3 CURRICULUM

- Particles and related applications: nuclear physics, particle physics, medical physics, (particle)astrophysics & cosmology, fluid & plasma physics, complex systems;
- Light sources and their applications: light sources, condensed matter & materials physics, atomic & molecular physics, optics & photonics, physics of earth;
- Cross-cutting fields: accelerator physics, computing, instrumentation & detectors.
- Quantum computing & quantum information and machine learning & artificial intelligence;
- Societal engagements: topics related to physics education, community engagement, women in physics, early career physicists and engagements with African policymakers in research and education
- Scientific research topics of particular interest to the host country

### 1.4 STUDENTS

- Applications open to all African and international graduate students
- Aim to attract the best young physics students from throughout Africa
- 60 to 80 students are selected from well over several hundred applicants
- The majority of the selected students are citizen of African countries

### 1.5 HIGH SCHOOL TEACHERS

- Up to 80 teachers from around the host country
- Train teachers for improved skills in the planning and delivery of physics instructions.

### 1.6 HIGH SCHOOL LEARNERS

- Up to 1500-2000 learners (high school pupils) of the 10th to the 12th grade selected from the host country
- Motivate learners to develop and maintain interest in physics



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### 1.7 FORUM DAY

- Platform to engage policy makers, research and education institutes, industries on capacity development and retention
- Platform to discuss the role and impact of ASP
- Platform to discuss and suggest improvement of the ASP program

### 1.8 INTERNATIONAL CONFERENCE: THE AFRICAN CONFERENCE ON FUNDAMENTAL AND APPLIED PHYSICS (ACP)

- ACP is held as a separate event in the odd years.
- Participation open to any scientists, researchers, educators, policy makers including those not involved in ASP
- Discuss the major research directions in Africa
- Foster and improve collaboration between researchers in Africa and the rest of the world
- Increase collaboration between African countries for concerted solutions in matters of education and research

### 1.9 MENTORSHIP PROGRAM

- Provide, at any time, mentoring and coaching to ASP student alumni at the PhD level
- Not a replacement of academic advisors; work with student advisors for greater impact
- Maintain contacts with students and advise them on academic paths and opportunities

### 1.10 LECTURERS and CONFERENCE PARTICIPANTS

- Leading scientists from all over the world including Africa
- Professional talks and peer-reviewed research papers presented and discussed at the conference
- Hands-on tutorials, experimentations and exercises
- Students and early careers poster or oral presentations

### 1.11 FUNDING

- 20 or so research institutes, international organisations, government agencies and universities support the school
- **Strong support from the host country is necessary, both in direct financial contributions and in in-kind support**
- Support from non host African countries is highly desirable

### 1.12 LEGACY & IMPACT AFTER THE SCHOOL

- Maintain contact with the students and support them in their scientific career development, seeking and pursuing higher education and research opportunities
- Active coaching and mentoring of students in collaboration with their academic advisors
- Increase networking among the participants
- Foster scientific collaboration between the host country and international research institutes
- Foster collaboration between the host country and other African countries to address common issues in education and research.



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## 2 HOST REQUIREMENTS FOR ASP OR ACP

The following minimum requirements are recommended in the proposals submitted to host ASP events

### 2.1 Proposed Dates

Ideal dates are during the university and school breaks June – July period since its ideal to run the school in a university environment for cheaper venues and student accommodation

### 2.2 Proposed Venue

Venues for conference (one week) or school (two weeks): Capacity, WiFi access, computing facilities

### 2.3 Local Organising Committee

Loc must be gender inclusive; we encourage you to include women and young people

### 2.4 Conference Programme

The ACP scientific program includes invited and contributed talks, poster sessions, and discussions. The scientific program is developed jointly by the Local Organizing Committee and the Conference International Organizing Committee, ACP-IOC, [ACP-IOC@cern.ch](mailto:ACP-IOC@cern.ch).

### 2.5 Social Events

The following social events must be considered in the proposal.

#### 2.5.1 Welcome Reception

If funding permits a welcome reception can be organised.

#### 2.5.2 Event Dinner

Conference banquet or dinner is a requirement.

#### 2.5.3 Excursion

Excursions to touristic areas and science facilities should be considered.

### 2.6 Physics Outreach during ASP

It is a requirement that outreach activities are part of the programme in order to leave a legacy and contribute to science development from grassroots level, these must include

- A 3- to 5-day outreach programme to local schools during ASP;
- A 3- to 5-day physics teacher development programme during ASP.

### 2.7 Travel & Accommodation

#### 2.7.1 Travel and Entrance Visa Information

#### 2.7.2 Lodging Accommodation

### 2.8 Draft Budget

- A draft budget for the event to include proposed registration fees for the conference (if hosting ACP), costs for student, teacher and learners programme (if hosting ASP) and social events;
- Financial support from the host country is encouraged.



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### 3 DEADLINE TO SUBMIT BIDS

All bids must be submitted by 31 August for an event to be hosted ~3 years later. Selection of the host country of an ASP event is made in December, i.e. about 2.5 years before the event. For example, to host ASP2026, the proposal must be submitted by 31 August 2023; In December 2023 and 2024, the hosts of ASP2026 and ACP2027 were selected and announced, respectively.

The submitted proposals should include the list of the Local Organising Committee (LOC). The LOC should be broad to include members of different institutes with the proposed host countries. The head or spokesperson of the LOC should be clearly mentioned.

The proposal should also mention the venue, the support from local institutes, and the proposed dates.

The ASP International Organizing Committee (IOC) reviews the proposals and makes the host selections. Proposals should be sent to the IOC by the deadline, [ASP-IOC@cern.ch](mailto:ASP-IOC@cern.ch).

### 4 SITE VISIT

Approximately one year before the event, the IOC makes a site visit to the host country to review logistics and make recommendations for improvements before the event.