

Pan-African Physics Roadmap Definition— Societal Engagements

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On behalf of the ASFAP Organization Team

AfPS-2021



<https://africanphysicsstrategy.org/>

Strategy processes— by examples

ESPP

The European Strategy for Particle Physics is the **cornerstone of Europe's decision-making** process for the long-term future of the field. **Mandated** by the CERN Council, it is **formed through a broad consultation of the grass-roots** particle physics community, it actively solicits the **opinions of physicists from around the world**, and it is developed in close coordination with similar processes in the US and Japan in order to ensure coordination between regions and optimal use of resources globally.

Publications: [The deliberate document in 2020](#), [Physics Briefing book 2013](#), [Europe Looks forward 2006](#).



SNOWMASS

The Particle Physics Community Planning Exercise (a.k.a. "Snowmass") is organized by the Division of Particles and Fields (DPF) of the **American Physical Society**. Snowmass is a scientific study. It provides an opportunity for the entire particle physics community to come together to identify and document a **scientific vision for the future** of particle physics in the U.S. and its international partners. Snowmass will define the most important questions for the field of particle physics and identify promising opportunities to address them. The Particle Physics Project Prioritization Panel, will take the scientific input from Snowmass and develop a **strategic plan** for U.S. particle physics that **can be executed over a 10 year timescale**, in the context of a **20-year global vision for the field**.

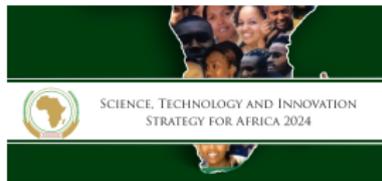


LASF4I

Latin American physicists **began brainstorming** what might go into a formal regional strategy— **inspired** by the longer-term plans developed for Europe and the United States—at professional conferences going **back to 2016**. And in early 2019, **LASF4RI held its first workshops to create such a plan**. Through extensive consultation and meetings, the team worked with physicists across disciplines to come up with the final recommendations. **The LASF4RI completed its first Strategy in April 2021**.



Any planning in Africa?



CONTINENTAL
EDUCATION STRATEGY
FOR AFRICA
2016 – 2025



What is ASFAP?

The **African Strategy for Fundamental and Applied Physics (ASFAP)** becomes essential for Africa, that should take its equal place as a co-leader in the global scientific process, along with all the consequent socio-economic benefits.

- ▶ **Develop a Strategy to increase African education and research capabilities**
- ▶ **Engage African scientists and the international community in the Strategy development;**
- ▶ African Strategy aims **to set the foundation and framework to draw the participation of African physicists**— with inputs from the international communities—in defining education and physics priorities most impactful for Africa;
- ▶ The process will take few years, to end with the release of the strategy report which will suggest the **direction, with actionable items for the next decade**. To be repeated periodically, every 7-10 years for the following decades with a review of the impact of previous Strategies.

ASFAP is co-founded by the Pan-African and African Diaspora physicists



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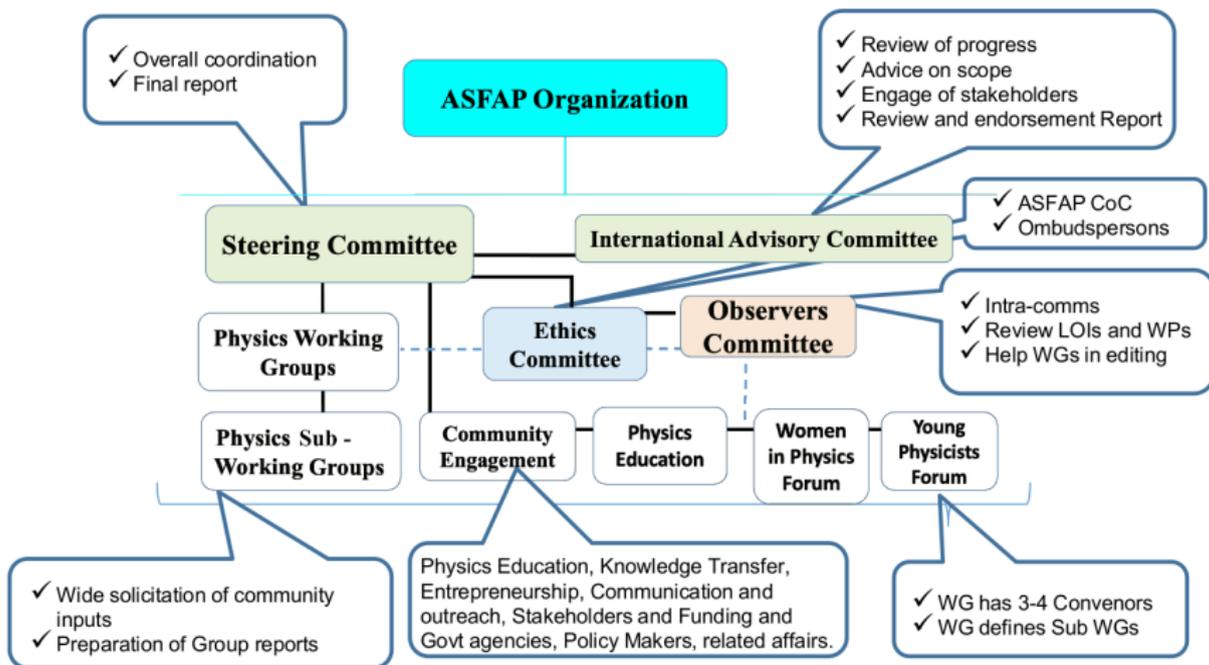
Steering Committee: ASFAP-SteeringCommittee@cern.ch

Proposal and Founding Document

Steering Committee meets weekly
Working Group Conveners meets once every 4 weeks

Monitoring the progress to make sure that all is moving forward smoothly to achieve the goals
of the planning exercise

ASFAP Structure and Organization



ASFAP Working Groups

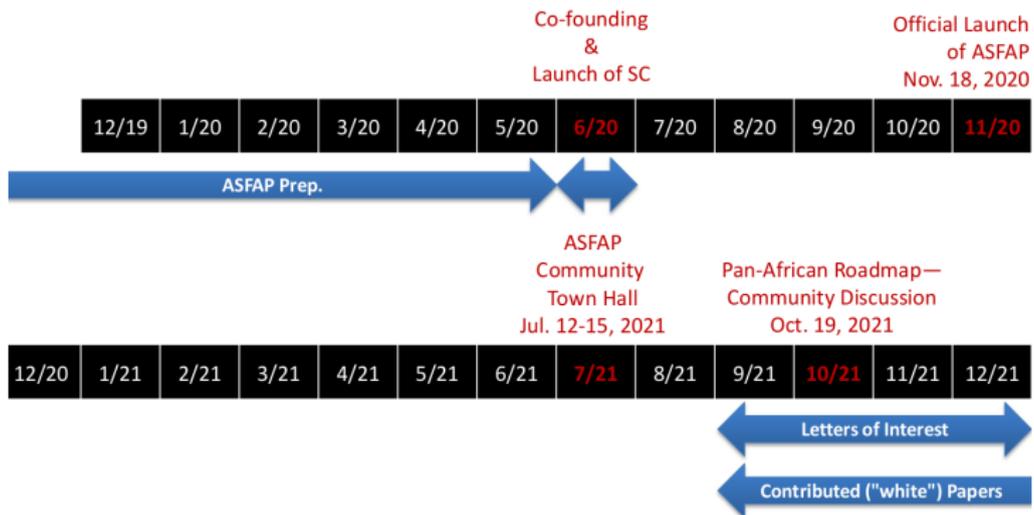
Physics Groups

- Accelerators
- Astrophysics & Cosmology
- Atomic & Molecular Physics
- Biophysics
- Computing & 4IR
- Earth Science
- Energy
- Fluid & Plasma
- Instrumentation & Detectors
- Light Sources
- Condensed Matter & Materials Physics
- Medical Physics
- Nuclear Physics
- Particle Physics
- Optics & Photonics
- Complex Systems

Engagement

- Observers Committee
- Ethics Committee
- Community Engagement
- Physics Education
- Women in Physics Forum
- Young Physicists Forum

ASFAP Timeline



Support and Endorsement



ASFAP Observers Committee

- ▶ The OC is an intermediate body providing an additional link between the working groups and fora, and the Steering Committee.
- ▶ Members of this committee are people with experience in long term planning but also an outstanding involvement with projects in and with Africa.
- ▶ Members participate in WG discussions, they help to review papers, attend meetings and participate in the editing of the reports together with the WGs they are assigned to follow.
- ▶ OC members can help to report any ethics issues or problems the WGs are having.

Observers Committee: ASFAP-Observers@cern.ch

ASFAP Observers Committee Conveners



Dr. Nabila Aghanim
(IAS, CNRS and Université
Paris-Saclay, France)



Prof. Abdesslam Arhrib
(Abdelmalek Essadi University,
Morocco)



Dr. Mary Bishai
BNL, USA



Dr. Samira Hassani
(CEA, France)



Prof. Yassine Hassouni
(Mohammed V University, Morocco)



Prof. Peter Jenni
(Freiburg University and CERN,
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Prof. Oumar Ka
(Cheikh Anta Diop University,
Senegal)



Dr. Claire Lee
(Fermilab, USA)



Dr. Gopolang Mohlabeng
(Queen University, Kingston, Canada)



Dr. María Moreno Llácer
(IFIC, CSIC-University of Valencia,
Spain)



Dr. Clara Nellist
(Radboud University and NIKHEF,
UK)



Dr. Lawrence Norris
(NSBP, USA)



Dr. Uli Raich
(CERN, Austria)



Dr. Lydia Roos
(LPNHE,CNRS and Sorbonne
Université, France)



Prof. José Francisco Salt
(CSIC, Spain)



Prof. Mourad Telmini
(Université Tunis El Manar, Tunisia)

ASFAP Ethics Committee

- ▶ Primarily the custodians of the ASFAP [Code of Conduct](#) (COC).
- ▶ It has 3 parts:
 - **Core principles:** what our community values most
 - **Community guidelines:** expectations of behavior
 - **Accountability:** procedures with an emphasis on early intervention for the wellbeing of all community members



Dr. Chilufya Mwewa
(BNL, USA)



Dr. Samira Hassani
(CEA, France)



Prof. Oumar Ka
(Cheikh Anta Diop University,
Senegal)



Prof. Nithaya Chetty
(University of the
Witwatersrand, South Africa)

Ethics Committee: ASFAP-Ethics@cern.ch

ASFAP Engagement Fora Conveners

Community Engagement



Dr. M. C. U. Ninamureke
(UJ, South Africa)



Prof. J. Mimouni
(UMC, Algeria)



Prof. N. A. Boye-Faye
(UCAD, Senegal)

Physics Education



Dr. S. Ramaila
(UJ, South Africa)



Prof. K. Berrada
(UCA, Morocco)



Prof. M. M. Faye
(UCAD, Senegal)



Dr. U. Raich
(CERN, Austria)



Dr. N. J.e U.a Karemera
(UR, Rwanda)

Women in Physics Forum



Dr. I. Chidinma
(NASRDA, Nigeria)



Dr. M. C. Cyulinyana
(UR, Rwanda)



Dr. D. Mathebula
(UNIVEN, South Africa)

Young Physicists Forum



Dr. M. Laassiri
(UMS, Morocco)



Dr. D. Boye
(BNL, USA)



Dr. B. Mulilo
(UNZA, Zambia)



Dr. A. M. Ebrahim
(SLAC, USA)

ASFAP Community Engagement

- ▶ Improve and sustain strategic engagements with our communities in order to draw support for and strengthen the field of physics.
- ▶ **8 topics :**
 - **Sub-group 1:** Physics communication and outreach
 - **Sub-group 2:** Policy
 - **Sub-group 3:** Technology transfer
 - **Sub-group 4:** E-lab & e-learning
 - **Sub-group 5:** Internet connectivity; internet startup resources
 - **Sub-group 6:** Capacity development and retention
 - **Sub-group 7:** Applications and industry
 - **Sub-group 8:** Business Development and Entrepreneurism

Community Engagement: ASFAP-CommunityEngagement@cern.ch

ASFAP Physics Education

- ▶ Research in fundamental and applied physics needs to be supported by a strong and effective physics education to train the next generation of physicists.
- ▶ The objective is identify where improvements are needed and propose improved methods to prepare and deliver physics instructions or lessons.
 - Promote science-led development on a sustainable basis
 - Contribute to the scientific literacy of High Schools and Universities
 - Revitalize Higher Education

Physics Education: ASFAP-PhysicsEducation@cern.ch

ASFAP Women in Physics Forum

- ▶ Establish a system to encourage more girls to study physics and physical science
- ▶ Promote the recognition of the scientific achievements of senior women physicists within Africa and the international community
- ▶ Increase the scientific productivity and efficiency of women physicists
- ▶ Sit and discuss how to bring everyone to gather on the consensus of inclusivity in Physics
- ▶ Emphasize on the role played by men in this (i.e hear women voice, ...)
- ▶ Strengthen research efforts and training opportunities of young women physicists

Women in Physics Forum: ASFAP-WomenPhysics@cern.ch

ASFAP Young Physicists Forum

- ▶ The ASFAP process is towards a long-term strategic plan
 - Voices of young physicists members are critically important
 - Undergrad & grad students; postdocs, young physicists faculty, engineers ($< \sim 10$ years post-PhD)

- **Encourage** leadership in young researchers in physics
- **Foster** physics among local communities and institutions
- **Connect** young physicists in Africa



UNDERGRAD
(BSc & MSc)

PhD Student

POST-DOC

PI/ Professor

Our Long term vision was fixed to go beyond the African Strategy and develop into an Association of Young African Physicists, affiliated to the African Physical Society.



For Young African Physicists

By Young African Physicists

Young Physicists Forum: ASFAP-YoungPhysicists@cern.ch

Survey

- Collecting opinions & experiences on careers, physics outlook, workplace culture and the impacts of COVID-19.
- Not just for young physicists! Seeking experiences of entire fundamental & applied physics community
- Expected to take 20-30 minutes

AIMS OF SURVEY

- Raise awareness and advocate for change
- Identify specific obstacles to inform policy
- Collect preliminary data for further research

Take the survey [here!](#)

Deadline: Feb. 28, 2022.



ASFAP Communication

► Wiki (<https://africanphysicsstrategy.org/>)

- Organization
- Physics Group/Engagement activities
- Calendars
- News and Announcements
- ...

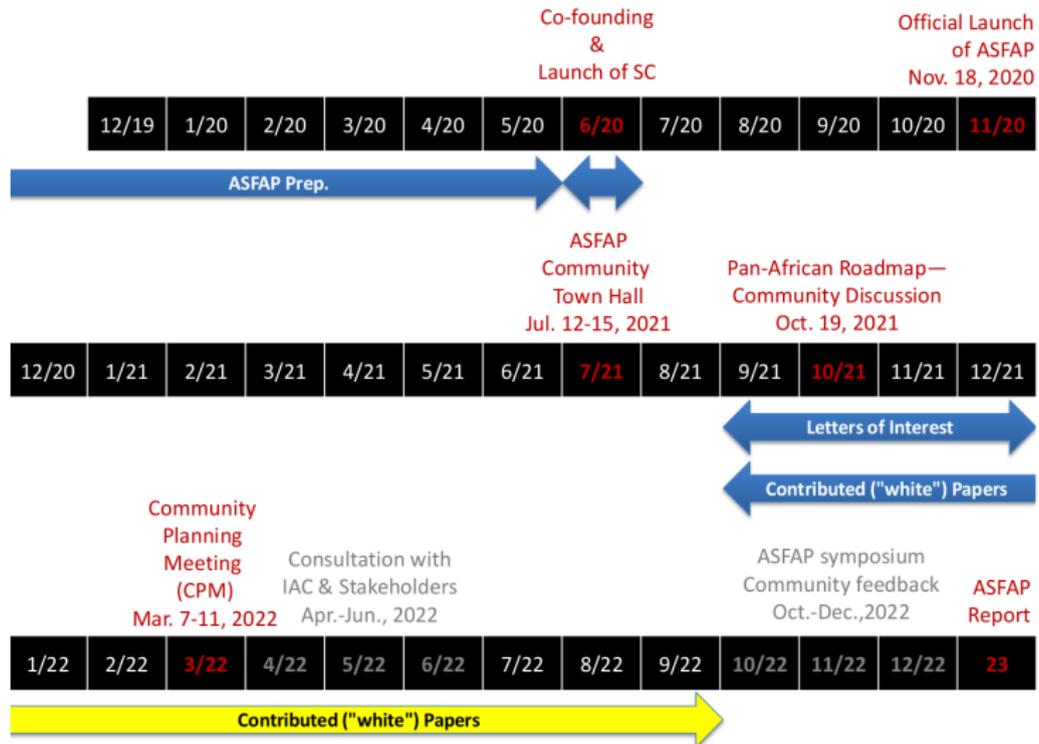
► Email (anyone can join)

- ASFAP-SteeringCommittee@cern.ch
- ASFAP-YoungPhysicists@cern.ch
- Physics Group & Physics Sub-Group mailing lists

The screenshot displays the ASFAP website interface. At the top, the header reads "African Strategy for Fundamental and Applied Physics" with a logo on the left and right. The main content area is divided into several sections:

- MISSION:** A section titled "MISSION" with a sub-section "COMMUNITY INPUTS" containing a link "Call for Letters of Interest". Below this is an "INTRODUCTION" paragraph.
- CALENDAR:** A calendar for October 2021 is shown, with events such as "See ASFAP Steering" and "See ASFAP 10F Meet" on the 1st, 2nd, 8th, and 9th.
- SOCIAL MEDIA:** A "FOLLOW US ON SOCIAL MEDIA" section with icons for LinkedIn and Twitter.
- NEWS:** A "NEWS" section listing items like "1. African Physics Society", "2. African Academy of Sciences", and "3. The Network of African Science Academies (NASAC)".
- NAVIGATION:** A dark sidebar on the left contains navigation links for "Wiki", "DOCUMENTS", "SUPPORTS", "ORGANIZATION", and "PHYSICS GROUPS".

ASFAP Timeline: Next Steps



Get involved with ASFAP!

- ▶ Submit Letter of Interests and White papers.
- ▶ Participate in White Paper study groups
- ▶ Participate in group &/ | (sub)group meetings
- ▶ Encourage your research groups to get involved
- ▶ Encourage institutional credits for those working on this Strategy
 - For people in leadership roles as (sub)conveners and liaisons
 - White papers aim to be published
 - White paper finding reviewed and referenced in the Strategy report

Connect with ASFAP



ASFAP-SteeringCommittee@cern.ch



www.africanphysicsstrategy.org/



ASFAP-LinkedIn



@StrategyAsfap



ASFAP-TWiki



Backup

ASFAP Community Town Hall, July 2021

► **ASFAP kickoff meeting (virtual):**

<https://indico.cern.ch/event/1039315/>

- ~ 147 people participated
- International speakers (15)
- Community voices (22 speakers)



The purpose of the meeting was to initiate a broad and community-driven discussion and action programme, leading to a final strategy document in two to three years' time.

ASFAP Letters of Interest

- ▶ **Letters of Interest** (submission : July 21, 2021 – November 30, 2021):

<https://indico.cern.ch/event/1061921/>

- Informal documents intended to be useful in the first stages of the ASFAP study.
- Help conveners to prepare the ASFAP Community Planning Meeting
- Include opinions, interests and proposals that could further be studied.

African Strategy for Fundamental and Applied Physics

Letters of Interest Submission

21 July 2021 to 30 November 2021

Enter your search term

Overview	Please follow the Call for Letters of Interest to submit your LOI. The letters of Interest should be 2 pages or less, including author list with affiliations, and references. The format is free style; however, a pdf file should be prepared and uploaded as attachment; in the "Content" field, simply mention that your LOI is in the attached file. Alternatively, you may type your LOI in the "Content" field and skip the attachment (least preferred option). Please take a look at the samples of LOIs on this page.
Call for Letters of Interest	
Contribution List	
Book of Letters of Interest	
Steering Committee	You will need to login to submit your Letter of Interest. If you don't have a CERN account, there are 2 options:
ASFAP-SteeringCommittee	<ol style="list-style-type: none"> 1. Scroll down the login page for the option to login with your Facebook, google, etc., credentials; 2. Register your email by filling in this form: https://indico.cern.ch/event/1061921/External/RegistrationAccount.aspx 3. Submit your Letter of Interest by clicking on "Submit new abstract"

Starts 21 Jul 2021, 00:00
Ends 30 Nov 2021, 23:59 UTC

Parviz Malik
Parviz Malik
Kevin Adike Asoyagbe
Sheaban Khalil Ibrahim
Simon Conrad

Samples of Letters of Interest
LOI from Condensed Matter Materials Physics
LOI from Geometry of ASFAP
ASFAP-SteeringCommittee

The call for abstracts is open
You can submit an abstract for reviewing.

Submit new abstract

