



The African School of Fundamental Physics and Applications

a.k.a. the African School of Physics (ASP)

Mounia Laassiri

On behalf of the ASP-IOC

<https://www.africanschoolofphysics.org>

ASP-IOC@CERN.CH

ACP-IOC@CERN.CH



EuPRAXIA_PP Annual Meeting 2024

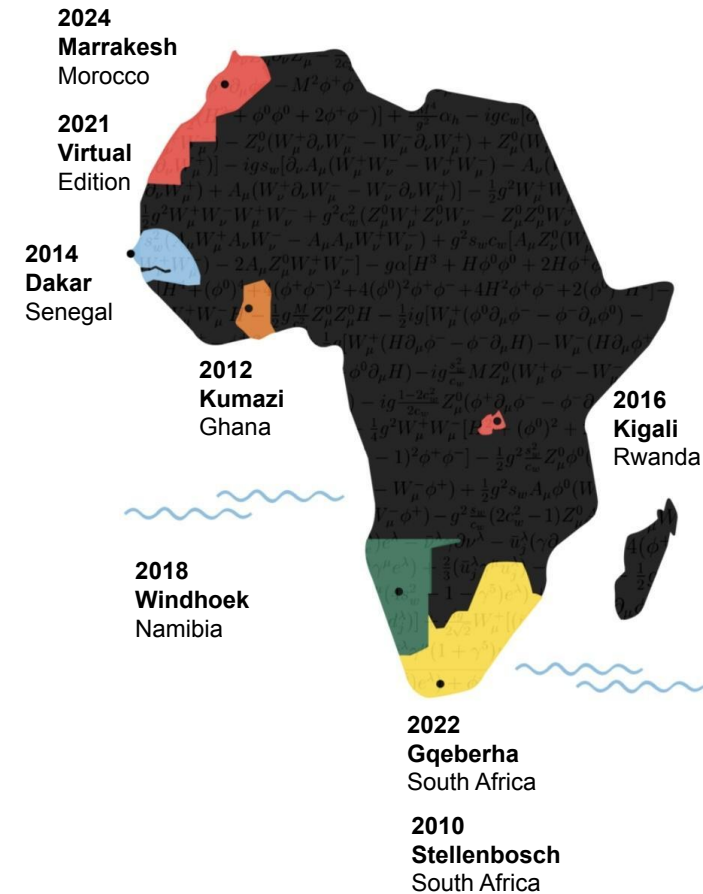
September 27, 2024

Outline



Eight editions completed since 2010!

-  **ASP Mission**
-  **ASP Organisation**
-  **ASP Editions**
-  **ASP Activities**



ASP Mission

ASP as a start-up



A non-profit organization established by a small group of worldwide scientists to stimulate and include more African talented physics students in the world scientific community

The aim of the school is to build capacity in African countries, to harvest, interpret, and exploit the results from physics experiments with particle accelerators, and to increase proficiency in related applications and technologies.



Support financially

- ~85 African students
- 80 high school teachers
- over 1000 learners for a 2-week school
- African researchers for a one-week international conference



Contribute to a world w/ equal access to knowledge



Establish a biennial educative program to be hosted across Africa



Provide high quality classes by international re-known Scientists

ASP Mission

Committees to build momentum— Founding Members



Build strategic partnership and collect financial support from Africa, Europe, USA and Asia via universities, laboratories, UN, and other organizations.



Prof. Bobby Acharya (ICTP & King's College London UK)



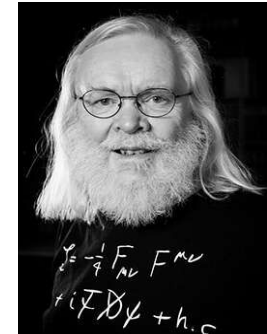
Dr. Kétévi A. Assamagan (BNL)



Dr. Anne E. Dabrowski (CERN)



Dr. Christine Darve (ESS)



Prof. John R. Ellis (CERN & King's College London UK)



Dr. Steve G. Muanza (CNRS-IN2P3)

- Conceptual thinking by **S. Muanza** and **J. Ellis** in 2001 and IN2P3 to trigger.
- International Center for Theoretical Physics (ICTP), **B. Acharya**, as incubator and greatly encouraged by CERN and Fermilab.
- Preparation for the first edition in 2010 led by **C. Darve** and **S. Muanza**.

ASP Mission

Committees to build momentum— Current Members of the IOC



ASP has had a significant impact on the career development of its alumni



Prof. Bobby Acharya (ICTP & King's College London UK)



Dr. Kétévi A. Assamagan (BNL)



Dr. Christine Darve (ESS)



Prof. Fernando Ferroni (GSSI-INFN)



Dr. Mounia Laassiri (BNL)

- Prof. Fernando Ferroni joined the ASP-IOC in 2017
- Mounia Laassiri (ASP2016 Alumna) was invited in 2022 to lecture at ASP2022, and soon afterwards was appointed to the ASP-IOC

ASP Organization

Objectives: Capacity development and retention in Physics in Africa



Local Organizing Committee (LOC)– in the host country

- Local logistics
- Liaise with Education and Research branches of host country government

Assessment of Impact

- Survey of students
- Survey of their Professors
- Follow academic developments

International Advisory Committee (IAC)

- Representatives of funding agencies
- Advise on the program
- Advise of the host country selection

Board of Trustees

- Legal Responsibilities
- Fund raising
- Assess Management's

Spin-Offs

- ASP Mentorship/ Coaching Program Networking and sharing of information
- Align ASP with educational priorities Improve future editions of ASP
- Promote research collaborations Promote research consortia

International Lecturers (IL)

- Design the scientific Program
- Help with the student selections
- Mentor and Coach students continuously



ASP Mission

Sponsorships for Student Participations



*"If each African country supports its participants or contributes 2500 Euros every year to the ASP budget, ASP will be entirely financed by African countries. And *2500 Euros* is marginal even for the least developed country"*

ICTP Support major

- Student participation
- Management of application database
- Arrange student travels

Host Country Support Significant

- In-kind support
- Direct Financial contributions
- Human Resources toward ASP organization

IOC

- Writes Proposals
- Produces Final Reports of Activities
- Seeking permanent financial backing

International Contributions (ASP2024)

- DOE, BNL
- US ATLAS
- **INFN**
- Birmingham, UK
- IUPAP
- UKRI
- NSF
- CERN
- DESY
- APS
- ...

INFN *is supporting ASP since 2012!*

We appreciate the INFN support for the ASP!

African Contributions (ASP2024)

- CSEFRS
- SAIP
- NITheCS (South Africa)

Fund Management

- Funds centralized
- and managed by the
- South African
- Institute of
- Physics (SAIP)

Lecturers and Organizers Supported by External Sources - Significant

Support received then used to maximize student participation



ASP Editions



| ASP | Host Country | Applicants | Students | African Countries | Mentorship | Teachers | Pupils | Conference |
|---------|-----------------------|-------------------|--------------------------------|-------------------|---|----------|--------|-------------------------------------|
| ASP2010 | South Africa | 125 | 65 | 17 | Continuously, even when there is no formal school | | | |
| ASP2012 | Ghana | 138 | 50 | 15 | | | | |
| ASP2014 | Senegal | 330 | 70 | 21 | | | | |
| ASP2016 | Rwanda | 429 | 75 | 28 | Program formalized in 2016. Runs continuously | 20 | 150 | |
| ASP2018 | Namibia | 523 | 85 | 26 | | 63 | > 1200 | +60 |
| ASP2021 | Morocco Online | N/A | 94 | | | | | +649 |
| ASP2022 | South Africa | >416 | ~82: In person ~97: Online | 40 | | ~80 | ~230 | +601 60: In-person 50: Online |
| ASP2024 | Morocco | 534 | ~93: In person ~102: Online | 50 | | ~80 | >1000 | ACP2025 |
| ASP2026 | Kenya | Coming up! | | | | | | |

ASP Activities

Topics of interest



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
- Earth science

Cross-cutting fields

- Accelerator physics
- Computing
- Instrumentation & detectors
- Quantum computing & quantum Information
- Machine learning & artificial intelligence

Societal engagement

- Physics education
- Community engagement
- Women in physics
- Early career physicists

The ASP program is adapted to the interests of the host country, and to the academic majors and levels of the participants!

Morning talks @ ASP2024:

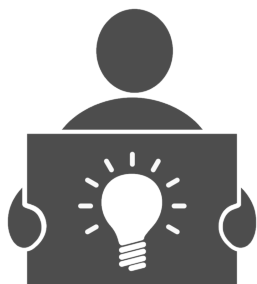
- **1st week:** AAS, DOE Int. Outreach / ASP, ASFAP, NASAC,
- **2nd week:** ICTP-Africa, EIC, CERN-Africa programs, APN

Evening talks @ ASP2024:

- **1st week:** SOAPHYS, Pan-African physics society, status, challenges and path forward, Arab Physical Society, The Square Kilometer Array (SKA), Air quality research
- **2nd week:** Fundamental Physics in North Africa, Public outreach event in Arabic, **EuPRAXIA**, Physics' multidisciplinary and its contributions towards the SDGs & Climate recovery, ...

ASP Activities

ASP Program Expansion



Student Program (3) 2-week intensive school

- 3rd year of University to Ph.D.
- Mostly African Students
- 70-85 Students

High School Teachers Program

1-week intensive workshop

- Train High School Teachers for improved physics teaching

High School Learners Program

1-week learners Outreach

- 10 – 12th grade learners
- Encourage learners to develop and maintain interests in Physics and Applications

ASP Forum 1-day

- Involve Regional policy makers
- Promote spin-off activities in Africa
- Introduce students to policy

ASP Conference Introduced since 2016 1-week International Conference

- Participation of ASP Alumni
- Participation of Research Faculties
- Networking and connections

Mentorship / Coaching Program At all times

- Connect Students with Researchers
- Place students at Laboratories
- Listen to students and help address their academic needs if possible

ASP Activities

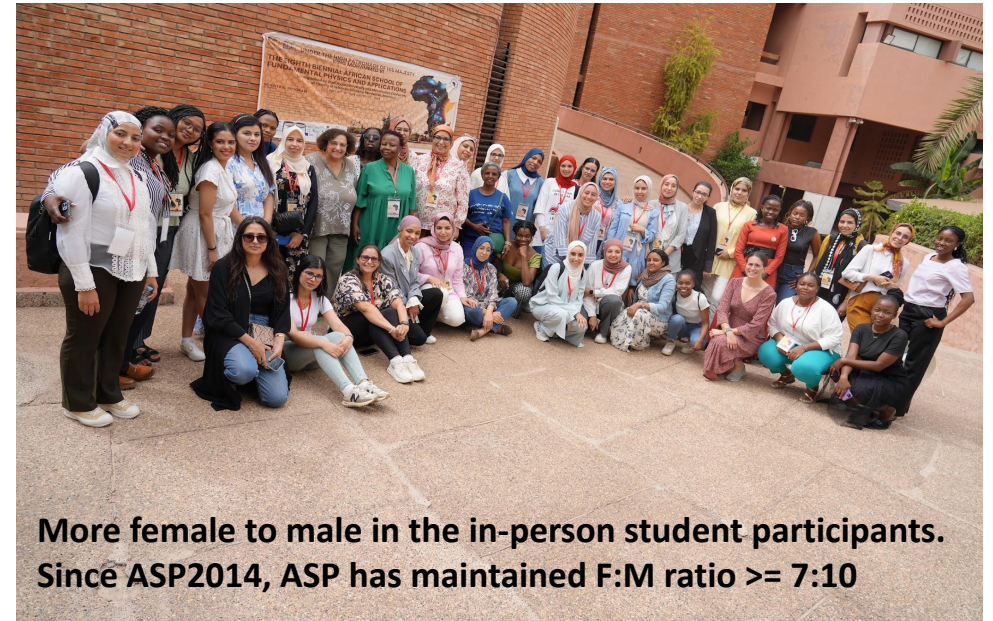
Student program



(3)2-week intensive school:

- Provide full financial support to students and create a scientific melting pot of cultural diversity
- Diversity of academic levels
- Mainly Master and PhD students
- Diversity of education background From theoretical physics to engineering sciences
- Diversity of the countries of origin
- Priority to Sub-Saharan African students
- Women participation (~32 - 50%)

ASP2024 Strong female participation



More female to male in the in-person student participants.
Since ASP2014, ASP has maintained F:M ratio $\geq 7:10$



ASP Activities

High School Teachers Program



Objective

Support teachers' growth in the planning and delivery of physics instructions



1-week intensive workshop:

- ASP2024: 80 teachers
- ASP2022: ~80 teachers
- ASP2018: 63 teachers



ASP Activities

High School learners Program



Objective

Motivate high school pupils to develop and maintain interest in Physics.



1-week learners Outreach:

- **ASP2024:** 5 high schools (as venues), 1038 pupils
- **ASP2022:** 10 high schools, 230 pupils
- **ASP2018:** 39 high schools, 1500 pupils



Program designed such that the lecturers that are not lecturing to students can help with the learners' program

ASP2024

The period of April 15–19, 2024, was chosen to maximize learner attendance while they are still in school.

ASP Activities

ASP Forum



One day. Objective:
Align ASP with the research and education priorities of African countries.

ASP2010
Stellenbosch, South Africa

Dedicated to Knowledge and Transfer of Technology
Dr. D. ADAMS, chief director: Emerging Research areas & Infrastructure, Human Capital and Knowledge Systems.

ASP2018
Windhoek, Namibia

Education and capacity building in Namibia and Africa in general
Dr T. TJIVIKUA, Vice-Chancellor, Namibia University of Science and Technology (Namibia), Dr. R. ADAM (SKA, SA)

ASP2012
Kumasi, Ghana

AfLS and compact acc.
Prof. H. WINICK, Prof. Emeritus, SLAC and Prof. L. SERAFINI (INFN, IT)

ASP2014
Sakar, Senegal

UN support
Dr. H. TOURE, UN ITU Secretary General.
Prof. A. WAGUE and O. KA M. NGOM - US Embassy rep.

ASP2020
marrakech, Morocco

Physics education and research roadmap development and implementation in Africa
Prof. A. Muronga (Nelson Mandela University, SA)
Dr. Raissa Malu (Investing In People (IIP) ASBL)
Oumar Ka (Cheikh Anta Diop University, Senegal)

ASP2016
Kigali, Rwanda

East Afr. Science and New ICTP Center
Rwandan Ministry of Education

ASP2022
NMU, SA

Sustainability of ASP and capacity development & retention in Africa—with the participation of policymaker representatives from Morocco, Senegal, Ivory Coast, Burkina Faso, Benin and South Africa (DSI, NRF, SAIP, SANSA, NMU), and international delegates from Africa, Europe and the U.S.

ASP2024
Marrakesh, Morocco

Strategic engagement with African policymakers in science education and research
2 panel discussions

- “The road to critical skill development for Africa’s growth”
 - With pan-African and international panelists
- Physics outreach efforts by ASP alumni
 - Demonstrate the impact of ASP Consolidate outreach efforts and support .



ASP Activities

ASP– Conference (ACP)



One week:

The physics topics taught at the school form the core of the ASP conference.

Objectives

- Attract ASP alumni
- Attract African research faculties
- Attract international participants not part of ASP
- Foster new research collaborations



ACP2023 @ George Campus, SA

- Number of registrants: 601
- Number of in-person participants: 60
- Peak Zoom connections: ~50
- The ratio Female : Male in the registration is 4:10

Peer-reviewed conference proceedings published by the African Review of Physics.

<http://aphysrev.ictp.it/index.php/aphysrev/issue/view/35>

ACP2021, Online

- Participants from Africa: 563 (34/ 54)
- Participants from outside Africa: 86

ASP Activities

ASP– Mentorship



At all times:

- It runs continuously even when there is no school;
- Open to ASP student alumni in Ph.D. programs;
- Pairing of students to lecturers. Lecturers to mentor and coach them;
 - Not a replacement of academic advisors, rather in addition to / in collaboration with it
- Helps IOC track students after the school;
- Helps answer the questions, "Where are they now?", "What happens to them after they've attended ASP?"
 - These are legitimate questions
 - Mentorship program supplemented by periodic of surveys
- Program formalized soon after ASP2016;
- Through this program, we place ASP alumni in high education programs in South Africa, Asia, Europe and North America.



Participants in the 2018 African School of Physics, which took place in Namibia. Credit: Glibert Tékouté

ASP Activities

Short-Term Visits for Research



Selected ASP alumni to spend 3-6 month at BNL for research

Assigned to work in research groups according to majors

2019 (9)
2022-2023 (6+)
2023-2024 (6)

22 alumni
From 10 countries

Areas of concentration:

Astrophysics & cosmology, nuclear physics, particle physics, light sources & materials characterization, nanoscience, nuclear instrumentation, radionuclide production & medical physics, particle accelerators, HEP computing.



June-December 2019



From left to right: in front, Christelle Ekosso (Cameroon), Dr. Mounia Laassiri (Morocco); standing, Diallo Boye (Senegal), Dr. Somiealo Azote (Togo), Jesutofunmi Fajemisin (Nigeria), Hassnae El Jarrari (Morocco), Dr. Kétévi A. Assamagan, Raymond Yogo (Kenya), and Yves Kini (Burkina Faso). Heba Sami Abdulrahman (Egypt), not in the figure, arrived in September.

July-December 2022



From left: Asmaa Aboulhorma (Morocco), Zainab Soumami (Morocco), Kétévi A. Assamagan, Antalia Rabarisoa (Madagascar), Xola Mapekula (South Africa), Kayode Dada (Nigeria), Rado Fanantenana (Madagascar)

July-December 2023



From left: Fatima Bendecca (Morocco) Kétévi A. Assamagan, Gloria Maithya (Kenya), Augustin Sokpor (Togo), Aissata Ly (Senegal)

ASP Activities

Public engagement in the host country's language



Event targeted the general public, in-person or online

@ASP2024

- *The Power of Curiosity (Not Just in People, But in Nature)*
 - *The Golden Age of Islamic Science*
 - *The Evolution of Physics*
 - *Modern Physics: Bigger Questions*



<https://indico.cern.ch/event/1417241/timetable/?view=standard#b-567908-evening-news-public-0>

UNDER THE HIGH PATRONAGE OF HIS MAJESTY KING MOHAMMED VI
THE EIGHTH BIENNIAL AFRICAN SCHOOL OF FUNDAMENTAL PHYSICS AND APPLICATIONS (ASP2024)
Co-organized by Cadi Ayyad University and Mohammed V University
at Faculty of Sciences Semlalia, Marrakesh, Morocco
April 15th-19th and July 7th-21st, 2024

Arabic Talk

تاريخ موجز في الفيزياء

حمزة ابوحنيد
جامعة عبد الملك السعدي

كيف تطور العلم من الفلسفة اليونانية وصولاً إلى الكواركات والتقريب السوداء؟ عرض تفاعلي حول جزء من تاريخ تطور الفيزياء، بدءاً من التساؤل حول مصدر طاقة الشمس وصولاً إلى مناقشة كيفية تكون المادة في الكون.

16 July 6:30 PM 2024

Logos of participating institutions: CERN, ICTP, THE UNIVERSITY OF BIRMINGHAM, INFN, Ministry of National Education, etc.

ASP Activities

ASP– Online lecture series

Online Lectures started during Pandemic

- The following series have been captured in [Indico](#)
- Series 1 (May 7-Nov 19, 2020): ASP lecturers, see [the topical version by LINXS](#)
- Series 2 (Nov 24-Jan 02, 2021): Photons and Neutrons, see [LINXS version](#)
- Series 3 (since Feb 16, 2021): ASP Alumni

More organizational lectures:

International Association for Physics Student (IAPS) [\(09/02/2021\)](#)

ASP Mentorship Program [\(12/11/2020\)](#)

NB: Most videos are available on the given Indico and gathered [in the Video Playlist](#).



SEARCH



HOME

ABOUT

THEMES

YOUNG RIS

GOING ON

RESOURCES

CONTACT

Selected Lectures from the African School of Physics (ASP)

ESS, being one of the partners in ASP, have helped us to collect some selected lectures from the African school of physics. These lectures are chosen because of their relevance to synchrotron and neutron methods. These lectures are listed in 11 categories in order to make it a bit easier for the viewer

<https://www.linxs.se/ASPOnlineSeminars>



ASP ONLINE SEMINAR

Sep. 17th, 2024
13.00 pm (UTC)

TOWARDS ENHANCING COMPUTATIONAL CAPABILITIES IN AFRICA: THE UNIVERSITY OF BENIN HPC INITIATIVE

Babatunde John Odetayo
PhD Student, Department of Computer Science, University of Benin, Nigeria

[Register Now](#)
<https://indico.cern.ch/event/145264>




ASP ONLINE SEMINAR

March 26, 2024
13.00 pm (UTC)

ON THE TRAPPING OF COLD NEUTRONS IN NANO-SCALED FABRY-PEROT RESONATING CAVITIES & NEUTRON LIFETIME CONSIDERATIONS

Prof. Malik Maaza
UNESCO UNISA ITL/NRF Africa Chair in Nanosciences & Nanotechnology

[Register Now](#)
<https://indico.cern.ch/event/1392961>



What's next?

In October, we will have an ASP2024 Alumni Oral Presentation

ASP2024

A flashback to our recent school!



UNDER THE HIGH PATRONAGE OF HIS MAJESTY KING MOHAMMED VI

THE EIGHTH BIENNIAL AFRICAN SCHOOL OF FUNDAMENTAL PHYSICS AND APPLICATIONS (ASP2024)

Co-organized by Cadi Ayyad University and Mohammed V University at Faculty of Sciences Semlalia, Marrakech, Morocco

April 15th-19th and July 7th-21st, 2024

ASP MISSION
To 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

SCIENTIFIC PROGRAM

TOPICS

- Nuclear & Particle Physics
- Medical and Radiation Physics
- Applied and Industrial Physics
- Theoretical and Computational Physics
- Space Physics, Astrophysics & Cosmology
- Physics for Sustainable Development
- Condensed and Materials Physics/Biophysics
- Capacity Development and Retention Discussion
- Physics Education, Outreach and Communication

ACTIVITIES

- Outreach for Secondary Schools April 15th-19th, and July 15th-19th, 2024
- Physics lectures, tutorials and hands-on experimentation for students, July 7th-21st, 2024
- Workshop for High School Teachers, July 8-12, 2024
- ASP Forum, July 13th, 2024

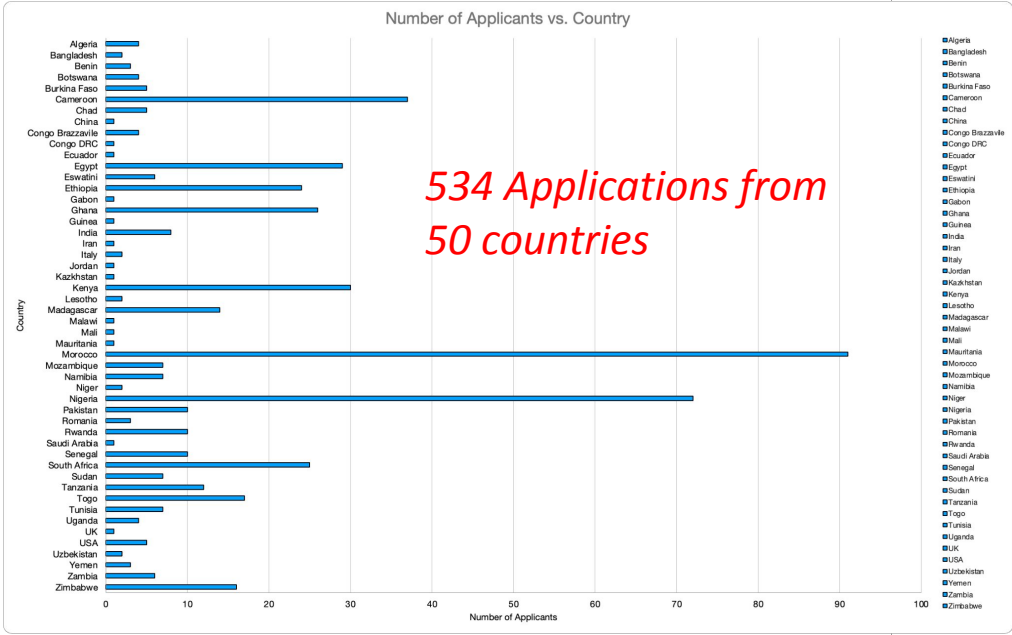
INTERNATIONAL ORGANIZING COMMITTEE (IOC)
B. Acharya (CTP and Kings College London), K. Assamagan (BN), C. Darve (ESS), F. Feroni (INFN), M. Lazzarini (INFN)

INTERNATIONAL ADVISORY COMMITTEE (IAC)
N. Blackburn (BN), M. Campanelli (UCL), D. Charlton (University of Birmingham), S. Connel (University of Johannesburg), A. Dabrowski (CEBN), T. Ekelof (Uppsala University), J. Ellis (Kings College London), L. Eouadhir (TUNAP), E. G. Ferreira (USC), H. Gao (BN), J. Govaerts (UCL), J. Gray (ASP), B. Heinemann (DESY), H. Holtkamp (SIAC), J. Huston (MSU), O. Ka (UCAD), Y. K. Kim (Chicago), D. Kabor (IAS), S. C. Lee (Academia Sinica), B. Mataro (SAP), H. Montgomery (TUNAP), S. Muanza (CNRS-IN2P3), R. Nemutudi (Themba LABS), M. Nuamalo (NRF), F. Quevedo (University of Cambridge), L. Rivkin (PSI & EPL), L. Serafini (INFN), H. Severini (Okazaki), P. Secours (Monash), C. Tsamis (CEBN), L. Vaccaro (CNRS-IN2P3), Z. Vladozi (Witwatersrand), H. B. White Jr. (Fermilab), J. Yu (UTA)

LOCAL ORGANIZING COMMITTEE (LOC)
A. Adachour (UCA), A. Arrrib (UM6), A. Belhaj (UM6), D. Benckroun (UH2C), Z. Benabdoun (UCA), A. Bessi (UCA), H. Bouabdji (UM6), M. Daoud (UT), L. B. Driss (UM6), M. Goughiri (UT), Y. Hassouni (UM6), A. Hoummado (AH2ST), A. Jabiri (UCA), T. Khalil (UCA), Y. Khoulaki (UH2C), A. Lahbas (UM6), B. Manaut (UM6B), M. Ouahri (UM6), R. Sebti (UM6)

CHAIRS
Mohamed Chabab (UCA)
Farida Fassi (UM6)

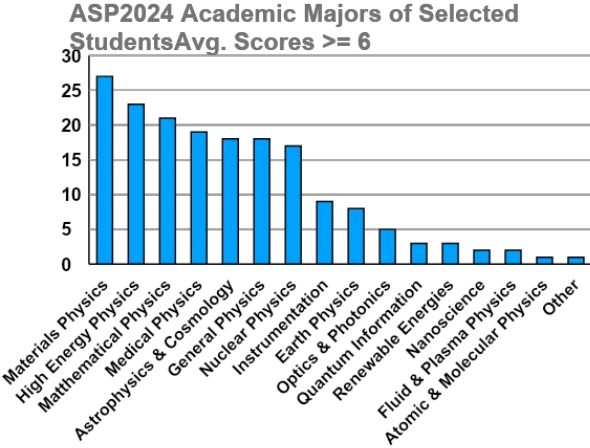
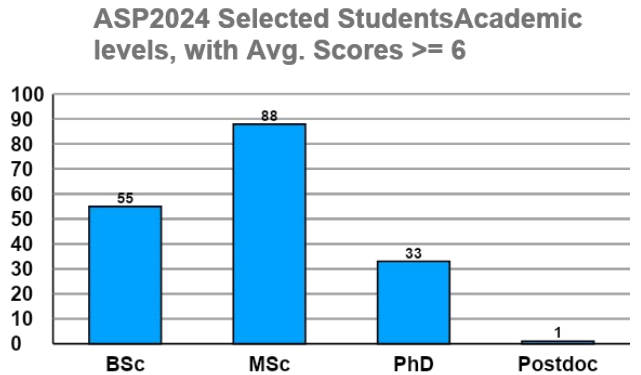
<https://www.africanchoolofphysics.org/asp2024/>



534 Applications from 50 countries



By an international selection committee of 25 members, with selection rules set by IOC, considering funding agency requirements



A few students selected for in-person participation did not travel because of visa issues. They ended up online.

In the in-person participants, there were more female students than male students.



ACP2025— Togo



- The next host country of ASP/ ACP is selected 2.5 years earlier
- The next host invited to join the organization of current ASP/ ACP
- ACP2025/ ASP2026 will be organized in a hybrid modes
- ACP2025 will take place in 2025 in Togo at the University of Lome, September 15-21, 2025
 - We did already start the preparation toward ACP2025
 - Site visit to be scheduled soon with a purpose:
 - Meet the LOC;
 - Secure support from host institute
 - Review logistics and make suggestions for improvements in time for the event
- We will arrange a training program for high school teachers (50-80)
- Further, we will include an outreach program for > 1000 learners
- Looking towards ASP2026 in Kenya
 - A Kenyan delegation was at ASP2024 in Morocco
 - Fundraising efforts start in earnest

ACP2025, University of Lome, Togo
September 15-21, 2025



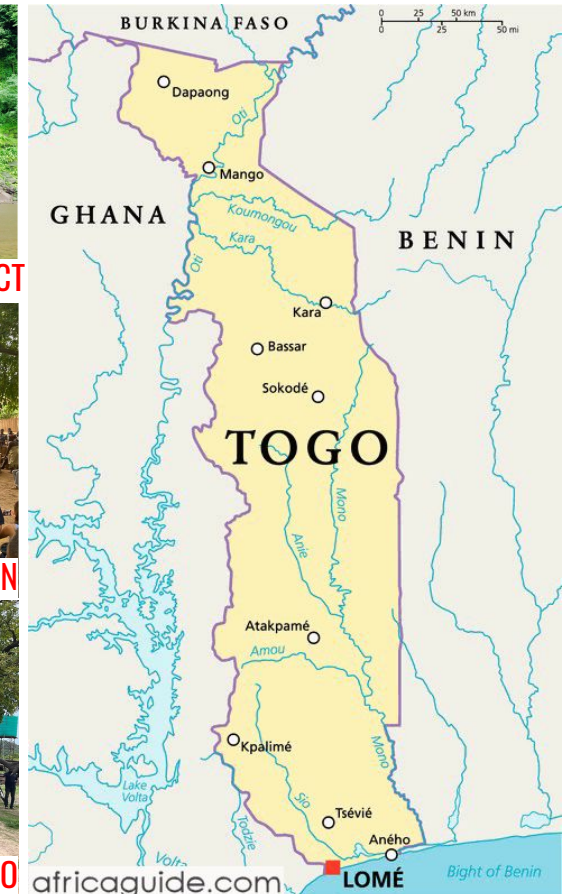
THE LAKE DISTRICT



THE PLATEAU REGION



THE KARA REGIO



ASP2026— Kenya



ASP2026, University of Nairobi, Kenya

Kenyan delegation at ASP2024 in Morocco



Prof. Francis Wanjala Nyongesa discussed the Kenyan preparation towards hosting ASP2026



Prof. Njeri Mburu came to observe the ASP teachers' program



Kenyan National Park



2nd highest mountain in Africa



Kenya's Rich Cultural Heritage



ASP— IMPACT

Dr. Sanae Samsam

- Alumna of ASP2016 and ASP Mentorship Program (with Prof. Luca Serafini)
- Began Ph.D. at La Sapienza University of Rome in 2019, in collaboration with INFN Milan
- PhD completed in April 2023
- PostDoc at INFN Milan, under Luca Serafini (former INFN Research Director & STAR Project Leader)
- Short-term research stay at BNL, Jan–Mar 2024

Dr. Samsam works on the optimization and simulation of spectra produced by Compton X-ray sources. Her work is not only extremely important for the success of the STAR project but also represents a fundamental step towards the realization of the first synchrotron beamline in Africa, a project that is now 20 years old and whose realization would be a precious resource for scientists across the continent.



Dr. Laza Rakotondravohitra
Alumnus of ASP2010
PhD at Fermilab on MINERvA,
Laza was instrumental in getting his country, Madagascar, into DUNE.



Dr. Marie Chantal Cyulinyana
Alumna of ASP2016
PhD, Renewable energies
Uni. of Johannesburg
Rwandan Association of Women in Science & Engineering (RAWISE)



Dr. Benard Mulilo
Alumnus of ASP2010
PhD at RIKEN Japan on PHENIX.
Mulilo has successfully developed a heavy ion physics program in Zambia, and the country has now joined the EIC.



Dr. Diallo Boye
Alumnus of ASP2012
PhD, Dark Matter
Uni. of Johannesburg
Now, working at BNL as a Postdoc on the ATLAS Experiment
Boye is a Goldhaber Distinguished Fellow



Dr. Ann Njeri
Alumna of ASP2016,
Ph.D., Ann Njeri
Alumna of ASP2016,
Ph.D., Astrophysics, University of Manchester, UK
Currently, she is a Research Assistant, NCL, UK
L'Oreal-UNESCO for Women in Science 2024 Rising Talent Award

The Path of a Young African Woman Toward Light Sources

How the African School of Physics and mentorship opportunities have been decisive in navigating my career in the field of physics.

AUTHOR:
Sanae Samsam,
INFN Nazionale di Fisica Nucleare (INFN), Milano, Italy

CONTRIBUTING EDITOR:
Mounia Lazzari

https://apsphysics/The_Path_of_a_Young_African_Woman_Toward_Light_Sources.pdf

The First African Light Source Project Roundtable Discussion at the African Conference of Physics (ACP2023)

Led by accelerator physics experts, a collaborative roundtable unveiled the African Light Source Project (ALS), attracting a global audience.

AUTHOR:
Sanae Samsam,
INFN Nazionale di Fisica Nucleare (INFN), Milano, Italy
Luca Serafini,
INFN Sezione di Milano, Italy
Simon Carroll,
University of Johannesburg, South Africa

CONTRIBUTING EDITOR:
Mounia Lazzari

JANUARY 2024

https://apsphysics/The_African_Light_Source_Discussion.pdf



ASP2024 Outreach Program



courtesy: Sanae Samsam (INFN)



ASP2010
Stellenbosch, South Africa
August 1-21, 2010



ASP2012
Kumasi, Ghana
July 15- August 4, 2012



ASP2014
Cheikh Anta Diop, Dakar
August 3-23, 2014



ASP2016
Kigali, Rwanda
August 1-19, 2016



The African School of Physics is much more than a school. It is a program of actions with directed ethos toward physics as an engine for development in Africa!



ASP2018
Windhoek, Namibia
June 25- July 13, 2018



THE SIXTH BIENNIAL
African School of Fundamental
Physics and Applications
July 19-30, 2021
Virtual Edition
www.africanschoolofphysics.org



ASP2022
Stellenbosch, South Africa
August 1-21 2010



ASP2024
Marrakesh, Morocco
April 15-19 & July 7-21 2024





Grazie

