

# ASP2024—Scientific Program of the 8th African School of Physics

7 Jul 2024, 08:00 → 21 Jul 2024, 20:00 Africa/Casablanca

## Description



The 8th African School of Physics, ASP2024, is planned at Cadi Ayyad University, Marrakesh, Morocco, on July 7-21, 2024. ASP2024 consists of several activities: a program for university students, July 7-21, 2024: we selected 96 students from 534 applications from 50 countries; a training workshop for high school teachers: we expect 80 teachers from Morocco, selected by their relevant Ministry, July 8-12, 2024 and a forum to engage African policymakers in physics education and research on July 13.

The scientific program for high school teachers is available here <https://indico.cern.ch/event/1416196/>

The outreach program to motivate high school learners to develop and maintain interest in physics was carried out on April 15-19, 2024: <https://indico.cern.ch/event/1393743/>

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## SUNDAY, 7 JULY

09:00 → 17:00 **Orientation** ⌚ 8h

## MONDAY, 8 JULY

09:00 → 09:30 **Morning news: Welcome addresses**

09:00 **From Mohammed V University** ⌚ 10m

09:10 **From Cadi Ayyad University** ⌚ 10m

09:20 **From ASP IOC** ⌚ 10m

09:30 → 11:00 **Physics research in Morocco**

09:30 **Fundamental physics research in Morocco** ⌚ 40m  
Speaker: Abdeslam Hoummada (Universite Hassan II, Ain Chock (MA))

10:15 **Applied physics research in Morocco, with renewable energies as a prototype** ⌚ 40m  
Speaker: Amin Bennouna (Cadi Ayyad University, Morocco)

11:00 → 11:30 **Break** ⌚ 30m

11:30 → 13:00 **High Energy Physics: Particle Physics**

11:30 **The Standard Model of particle physics** ⌚ 1h 30m  
Speaker: Dr Mohamed Chabab (Cadi Ayyad University (MA))

13:00 → 14:30 **Lunch** ⌚ 1h 30m

14:30 → 16:00 **Statistics: Statistical Analysis in Physics**

14:30 **Fundamentals of Statistical Analysis in Physics** ⌚ 1h 30m  
Speaker: Robert Cousins Jr (University of California Los Angeles (US))

16:00 → 16:30 **Break** ⌚ 30m

16:30 → 18:30 **Accelerators: Basics**

16:30 **Basics of accelerator physics** ⌚ 2h  
Speaker: Karie Badgley (Fermilab)

18:30 → 20:00 **Dinner** ⌚ 1h 30m

20:00 → 21:30 **Evening news: Public lectures**

20:00 **SOAPHYS (West African Physical Society)** ⌚ 1h 30m  
Speaker: Oumar Ka (Cheikh Anta Diop University, Senegal)

## TUESDAY, 9 JULY

09:00 → 09:30 **Morning news: The African Science Academies**

09:00 **The African Academy of Sciences (AAS)** ⌚ 25m  
Speaker: Malik Maaza (iThemba LABS, South Africa)

09:30 → 11:00 **Sustainable development**

09:30 **Physics for sustainable development** ⌚ 40m  
Speaker: Azwinndini Muronga (Nelson Mandela University, South Africa)

10:15 **IAEA** ⌚ 40m  
Speaker: Najat Moktar (IAEA)

11:00 → 11:30 **Break** ⌚ 30m

11:30 → 13:00 **Statistics: Statistical Analysis in Physics**

11:30 **Fundamentals of Statistical Analysis in Physics** ⌚ 1h 30m  
Speaker: Robert Cousins Jr (University of California Los Angeles (US))

13:00 → 14:30 **Lunch** ⌚ 1h 30m

14:30 → 16:00 **Particle interactions**

14:30 **Particle interactions with matter** ⌚ 1h 30m  
Speaker: Ulrich Goerlach (Centre National de la Recherche Scientifique (FR))

16:00 → 16:30 **Break** ⌚ 30m

16:30 → 18:30 **Detectors**

16:30 **Fundamentals of detectors** ⌚ 2h  
Speaker: Sally Seidel (University of New Mexico (US))

18:30 → 20:00 **Dinner** ⌚ 1h 30m

20:00 → 21:30 **Evening news**

20:00 **Pan-African physics society, status, challenges and path forward** ⌚ 1h

Speaker: Azwinnidini Muronga (Nelson Mandela University)

## WEDNESDAY, 10 JULY

09:00 → 09:30 **Morning news: Outreach**

09:00 **Department of Energy International Outreach** ⌚ 25m

Speaker: Jacqueline Smith (DOE)

09:30 → 11:00 **Astrophysics and cosmology**

09:30 **Standard Model of astrophysics & cosmology** ⌚ 1h 30m

Speaker: Prof. Jamal Mimouni (University Mentouri Constantine1, Algeria)

11:00 → 11:30 **Break** ⌚ 30m

11:30 → 13:00 **Accelerators**

11:30 **Basics of accelerator physics** ⌚ 1h 30m

Speaker: Karie Badgley (Fermilab)

13:00 → 14:30 **Lunch** ⌚ 1h 30m

14:30 → 16:00 **Detectors**

14:30 **Fundamentals of detectors** ⌚ 1h 30m

Speaker: Sally Seidel (University of New Mexico (US))

16:00 → 16:30 **Break** ⌚ 30m

16:30 → 18:30 **Detectors**

16:30 **Advanced detectors & instrumentation** ⌚ 2h

Speaker: Ulrich Goerlach (Centre National de la Recherche Scientifique (FR))

16:30 → 18:30 **Tools**

16:30 **Linux tutorial** ⌚ 2h

Speaker: Mohamed Jedra (Mohamed V University, Morocco, retired)

18:30 → 20:00 **dinner** ⌚ 1h 30m

20:00 → 21:30 **Evening news**

20:00 **Arab Physical Society** ⌚ 1h 30m

Speaker: Prof. Shaaban Khalil Ibrahim (ENHEP Egyptian Network of High Energy Physics (EG))

## THURSDAY, 11 JULY

09:00 → 09:30 Morning news: Physics strategies

09:00 **African Strategy for Fundamental Applied Physics (ASFAP)** ⌚ 25m  
Speaker: Prof. Farida Fassi (Universite Mohammed V (MA))

09:30 → 11:00 Statistics

09:30 **Fundamentals of Statistical Analysis in Physics** ⌚ 1h 30m  
Speaker: Robert Cousins Jr (University of California Los Angeles (US))

11:00 → 11:30 Break ⌚ 30m

11:30 → 13:00 Materials Physics

11:30 **Fundamentals of Condensed Matter & Materials Physics** ⌚ 1h 30m  
Speaker: Halima Zaari (Mohammed V Univeristy, Morocco)

11:30 → 13:00 Tools

11:30 **Linux tutorial** ⌚ 1h 30m  
Speaker: Mohamed Jedra (Mohamed V University, Morocco, retired)

13:00 → 14:30 Lunch ⌚ 1h 30m

14:30 → 16:00 Laser physics

14:30 **Optics & photonics** ⌚ 1h 30m  
Speaker: Andrew Forbes (University of the Witwatersrand, South Africa)

14:30 → 16:00 Simulation

14:30 **Event generation & detector simulation** ⌚ 1h 30m  
Speaker: Mounia Laassiri (Brookhaven National Laboratory)

16:00 → 16:30 Break ⌚ 30m

16:30 → 18:30 Plasma physics

16:30 **Fluid and plasma physics** ⌚ 2h  
Speaker: Oluwole Daniel Makinde (Stellenbosch University, South Africa)

16:30 → 18:30 Simulation

16:30 **Event generation & detector simulation** ⌚ 2h  
Speaker: Mounia Laassiri (Brookhaven National Laboratory)

18:30 → 20:00 dinner ⌚ 1h 30m

20:00 → 21:30 Evening news

20:00 **The Square Kilometer Array (SKA)** ⌚ 1h 30m  
Speaker: Tyler Bourke (SKAO)

FRIDAY, 12 JULY

09:00 → 09:30 Morning news: The African science Academies

09:00 **NASAC** ⌚ 25m

Speaker: Rajaa Cherkaoui (Universite Mohammed V (MA))

09:30 → 11:00 High Energy Physics

09:30 **Flavor physics** ⌚ 1h 30m

Speaker: Mario Campanelli (UCL)

09:30 → 11:00 Libraries

09:30 **Digital libraries** ⌚ 1h 30m

Speaker: Lars Holm Nielsen (CERN)

11:00 → 11:30 Break ⌚ 30m

11:30 → 13:00 High Energy Physics

11:30 **Beyond the Standard Model of particle physics** ⌚ 1h 30m

Speaker: Prof. Shaaban Khalil Ibrahim (ENHEP Egyptian Network of High Energy Physics (EG))

11:30 → 13:00 Materials Physics

11:30 **Atomic and molecular physics** ⌚ 1h 30m

Speaker: Obinna Abah (Newcastle University, United Kingdom)

13:00 → 14:30 Lunch ⌚ 1h 30m

14:30 → 16:00 Simulation

14:30 **Event generation & detector simulation** ⌚ 1h 30m

Speaker: Mounia Laassiri (Brookhaven National Laboratory)

14:30 → 16:00 biophysics

14:30 **Fundamentals of biophysics** ⌚ 1h 30m

Speaker: Tjaart Krüger (University of Pretoria, South Africa)

16:00 → 16:30 Break ⌚ 30m

16:30 → 18:30 Simulation

16:30 **Event generation & detector simulation** ⌚ 2h

Speaker: Mounia Laassiri (Brookhaven National Laboratory)

18:30 → 20:00 dinner ⌚ 1h 30m

20:00 → 21:30 Air quality

20:00 **Air quality research** ⌚ 1h 30m

Speaker: Dr Bertrand TCHANKE (Alioune Diop University)

SATURDAY, 13 JULY

10:00 → 12:00 **ASP Forum: Panel discussion**

Convener: Herman White (Femilab)

10:00 **The road to critical skills development for Africa's growth** ⌚ 2h

**Speakers:** Crépin B PÉNÉ (CAMES Research Director, Côte d'Ivoire), Fatima-Zohra Iflahen (Vice President responsible for Innovation, Research, and Cooperation at Cadi Ayyad University, Morocco), Hamid Bouabid (Director of Scientific Research and Innovation at the Ministry of Higher Education, Morocco), Hicham Benfeddoul (Director, Division of Studies, Research, and Support for Council Bodies, Morocco), Michel Spiro (IUPAP), Raissa Malu (Investing in People ASBL, DRC), Rajaa Cherkaoui (The African Academy of Sciences, AAS)

12:00 → 13:10 **Lunch** ⌚ 1h 10m

13:10 → 14:15 **ASP Forum: The African School of Physics**

13:10 **African school of Physics (ASP) – Alignment, sustainability & impact** ⌚ 20m

**Speaker:** Mounia Laassiri (Brookhaven National Laboratory)

13:35 **Feedback from an ASP alumna** ⌚ 15m

**Speaker:** Dr Sanae SAMSAM (INFN Milano)

13:55 **Towards ASP2026 in Kenya** ⌚ 15m

**Speakers:** Francis Nyongesa (University of Nairobi, Kenya), Victor Odari (MMUST, Kenya)

14:15 → 15:00 **ASP Forum: Special talk**

14:15 **The Long Crisis of Black Masculinity in Racial Capitalism** ⌚ 40m

**Abstract:** In this talk, I explore labor narratives and imaginaries of Black masculinity to explore how racialized ideals of manhood shifted in response to changing capitalist regimes. Complemented by an analysis of Black masculinity vis-à-vis capitalist processes of production, consumption, and commodification, I examine colonialism to the period known as la crise (the crisis) as a narrative arc in Abidjan, Côte d'Ivoire. I draw on my fieldwork examining the livelihoods and lifestyles of underemployed Abidjanais men to illuminate the sustained power of imaginaries even while capitalism affords a deficit of real opportunities.

**Bio:** Dr. Matlon is an urban sociologist and scholar of race and colonial legacies in Africa and the African diaspora. Her scholarship interrogates the ways "Blackness" operates as a signifier, intersects with gender norms, manifests in popular culture, and illuminates our understanding of political economy. Her multiple award-winning book, *A Man among Other Men: The Crisis of Black Masculinity in Racial Capitalism* (Cornell University Press) investigates the relationship between masculinity, work, and globalization in Abidjan, Côte d'Ivoire. Her new book, *Blackness as Being: Black Survival in the Age of Climate Catastrophe* (under contract, Polity Press), bridges literatures on surplus populations, climate change, and racial capitalism to theorize the possibilities and precariousness of species-survival in the Anthropocene. It offers Blackness as an analytic to think with the paradox of precarious possibility – of past and present modalities of survival and of futures alternatively devastating or liberatory.

**Speaker:** Jordanna Matlon (American University, USA)

15:00 → 15:30 **Group photos** ⌚ 30m

15:30 → 16:05 **ASP Forum: Académie Hassan II**

15:30 **Académie Hassan II – vision & plan** ⌚ 30m

**Speaker:** Omar FASSI FEHRI (Permanent secretary of the Hassan II Academy of Science and Technology, Morocco)

16:05 → 17:05 **ASP Forum: Outreach efforts by ASP alumni**

Convener: Herman White (Fermilab)

16:05 **RAWISE** ⌚ 15m

Speaker: Marie Chantal Cyulinyana (University of Rwanda)

16:20 **Elimisha Msichana Elimisha Jamii an Astronomia** ⌚ 15m

Speaker: Tabitha Alango (Maasai Mara University, Kenya)

16:35 **Science Advocacy for the Youth** ⌚ 15m

Speaker: Harris Sop Nkuiate (University of Exeter, England, United Kingdom)

16:50 **Genius in Africa** ⌚ 15m

Speaker: Jesutofunmi Fajemisin (University of South Florida, USA)

17:05 → 17:55 **ASP Forum: Panel discussion: Outreach efforts by ASP alumni**

Convener: Herman White (Fermilab)

17:05 **integration, coordination, resources sharing, support & sustainability** ⌚ 50m

Speakers: Harris Sop Nkuiate (University of Exeter, England, United Kingdom), Jesutofunmi Fajemisin (University of South Florida, USA), Marie Chantal Cyulinyana (University of Rwanda), Tabitha Alango (Maasai Mara University, Kenya)

17:55 → 18:00 **Vote of Thanks** ⌚ 5m

Speaker: ASP2024 LOC (Morocco)

## SUNDAY, 14 JULY

08:00 → 16:00 **Discussions time**

## MONDAY, 15 JULY

09:00 → 09:30 **Morning news**

09:30 → 11:00 **Light sources**

09:30 **Light sources & applications** ⌚ 1h 30m

Speaker: Caterina Biscari (CELLS (ES))

09:30 → 11:00 **Quantum computing**

09:30 **Introduction to quantum computing** ⌚ 1h 30m

Speaker: Mourad Telmini (Tunis El Manar, Tunisia)

09:30 → 11:00 **Small detector labs**

09:30 **Internet of Things** ⌚ 1h 30m

Speaker: Uli Raich (retired)

11:00 → 11:30 **Break** ⌚ 30m

11:30 → 13:00 Nuclear physics

11:30 Nuclear reactions ⌚ 1h 30m

Speaker: Luna Pellegrì (University of the Witwatersrand, South Africa)

11:30 → 13:00 Quantum computing

11:30 Basics of quantum computing ⌚ 1h 30m

Speaker: Mourad Telmini (Tunis El Manar, Tunisia)

11:30 → 13:00 Small detector labs

11:30 Internet of Things ⌚ 1h 30m

Speaker: Uli Raich (retired)

13:00 → 14:30 Lunch ⌚ 1h 30m

14:30 → 16:00 Gravity

14:30 TBD ⌚ 1h 30m

Speaker: Ibrahima Bah (Johns Hopkins University)

14:30 → 16:00 Nuclear physics

14:30 Hadron dynamics ⌚ 1h 30m

Speaker: Mark Dalton (JLab)

14:30 → 16:00 Small detector labs

14:30 Internet of Things ⌚ 1h 30m

Speaker: Uli Raich (retired)

16:00 → 16:30 Break ⌚ 30m

16:30 → 18:30 Gravity

16:30 Gravitational waves ⌚ 2h

Speaker: Eugenio Coccia (IFAE)

16:30 → 18:30 Nuclear physics

16:30 Heavy ion physics ⌚ 2h

Speaker: Aihong Tang (Brookhaven National Laboratory)

16:30 → 18:30 Small detector labs

16:30 Internet of Things ⌚ 2h

Speaker: Uli Raich (retired)

18:30 → 20:00 dinner ⌚ 1h 30m

20:00 → 21:30 Topical sessions: Fundamental Physics in North Africa

Conveners: Julia Lynne Gonski (SLAC National Accelerator Laboratory (US)), Mounia Laassiri (Brookhaven National Laboratory)

TUESDAY, 16 JULY



09:00 → 09:30 Morning news

09:00 ICTP-Africa ⌚ 25m

Speaker: Bobby Samir Acharya (Abdus Salam Int. Cent. Theor. Phys. (IT))

09:30 → 11:00 High Energy Physics

09:30 Particle physics at colliders ⌚ 1h 30m

Speaker: Dave Charlton (University of Birmingham (GB))

09:30 → 11:00 Materials Physics

09:30 Molecular dynamics simulations of hard and soft matter ⌚ 1h 30m

Computational procedure and applications

Speakers: Eckhard Spohr (University of Duisburg-Essen, Germany), Stéphane Kenmoe (University of Duisburg-Essen, Germany)

09:30 → 11:00 Small detector labs

09:30 Internet of Things ⌚ 1h 30m

Speaker: Uli Raich (retired)

11:00 → 11:30 Break ⌚ 30m

11:30 → 13:00 High Energy Physics

11:30 Particle physics at colliders ⌚ 1h 30m

Speaker: Dave Charlton (University of Birmingham (GB))

11:30 → 13:00 Materials Physics

Convener: Victor Odari (MMUST, Kenya)

11:30 → 13:00 Small detector labs

11:30 Internet of Things ⌚ 1h 30m

Speaker: Uli Raich (retired)

13:00 → 14:30 Lunch ⌚ 1h 30m

14:30 → 16:00 High Energy Physics

14:30 Particle physics at colliders ⌚ 1h 30m

Speaker: Dave Charlton (University of Birmingham (GB))

14:30 → 16:00 Nanoscience

14:30 Nanoscience ⌚ 1h 30m

Speaker: Esmeralda Yitamben

14:30 → 16:00 Small detector labs

14:30 Internet of Things ⌚ 1h 30m

Speaker: Uli Raich (retired)

16:00 → 16:30 Break ⌚ 30m

**16:30** → 18:30 **Astrophysics and cosmology**  
Convener: Mathieu JACOBÉ DE NAUROIS (Ecole Polytechnique, France)

**16:30** → 18:30 **Renewable energies**

**16:30** **Photovoltaic research** ⌚ 2h  
Speaker: Mmantsae Diale (University of Pretoria, South Africa)

**16:30** → 18:30 **Small detector labs**

**16:30** **Internet of Things** ⌚ 2h  
Speaker: Uli Raich (retired)

**18:30** → 20:00 **dinner** ⌚ 1h 30m

**20:00** → 21:30 **Evening news: Public outreach event in Arabic**  
Convener: Mr Hamza Abouabid (Université Abdelmalek Essaadi)

## WEDNESDAY, 17 JULY

**09:00** → 09:30 **Morning news**

**09:00** **Africa and the Electron Ion Collider (EIC)** ⌚ 25m  
Speaker: Benard Mulilo (University of Zambia)

**09:30** → 11:00 **Accelerators**

**09:30** **Advanced accelerator concepts** ⌚ 1h 30m  
Speaker: Massimo Ferrario (INFN-INF)

**09:30** → 11:00 **ML / AI**

**09:30** **Machine learning and Artificial intelligence** ⌚ 1h 30m  
Speaker: Julia Lynne Gonski (SLAC National Accelerator Laboratory (US))

**09:30** → 11:00 **Small detector labs**

**09:30** **Internet of Things** ⌚ 1h 30m  
Speaker: Uli Raich (retired)

**09:30** **Particle physics workshop** ⌚ 1h 30m  
Speaker: Kenneth William Cecire (University of Notre Dame (US))

**11:00** → 11:30 **Break** ⌚ 30m

**11:30** → 13:00 **High performance computing**  
Convener: Horst Severini (University of Oklahoma (US))

**11:30** → 13:00 **ML / AI**

**11:30** **Machine learning and Artificial intelligence** ⌚ 1h 30m  
Speaker: Julia Lynne Gonski (SLAC National Accelerator Laboratory (US))

11:30 → 13:00 **Small detector labs**

11:30 **Internet of Things** ⌚ 1h 30m

Speaker: Uli Raich (retired)

11:30 **Particle physics workshop** ⌚ 1h 30m

Speaker: Kenneth William Cecire (University of Notre Dame (US))

13:00 → 14:30 **Lunch** ⌚ 1h 30m

14:30 → 16:00 **Dark sector states**

14:30 **Dark matter searches** ⌚ 1h 30m

Speaker: Gopolang Mohlabeng (Simon Fraser University, Canada)

14:30 → 16:00 **High performance computing**

Convener: Horst Severini (University of Oklahoma (US))

14:30 → 16:00 **Small detector labs**

14:30 **Internet of Things** ⌚ 1h 30m

Speaker: Uli Raich (retired)

14:30 **Particle physics workshop** ⌚ 1h 30m

Speaker: Kenneth William Cecire (University of Notre Dame (US))

16:00 → 16:30 **Break** ⌚ 30m

16:30 → 18:30 **High performance computing**

Convener: Horst Severini (University of Oklahoma (US))

16:30 → 18:30 **Light sources**

16:30 **Radiation Sources - FEL's, ICS, and Photo-Muons** ⌚ 2h

Speaker: Luca Serafini (INFN-Milan)

16:30 → 18:30 **Small detector labs**

16:30 **Internet of Things** ⌚ 2h

Speaker: Uli Raich (retired)

16:30 **Particle physics workshop** ⌚ 2h

Speaker: Kenneth William Cecire (University of Notre Dame (US))

18:30 → 20:00 **dinner** ⌚ 1h 30m

20:00 → 21:30 **Accelerators: EuPRAXIA**

Convener: Massimo Ferrario

THURSDAY, 18 JULY

09:00 → 09:30 **Morning news**

09:00 **CERN-Africa programs** ⌚ 25m

Speaker: Emmanuel Tsesmelis (CERN)

**09:30** → 11:00 **High performance computing**  
Convener: Horst Severini (University of Oklahoma (US))

**09:30** → 11:00 **Medical physics**

**09:30** **Radionuclide production** ⌚ 1h 30m  
Speaker: Marco Silari (Politecnico di Milano (IT))

**09:30** → 11:00 **Small detector labs**

**09:30** **Internet of Things** ⌚ 1h 30m  
Speaker: Uli Raich (retired)

**09:30** **Particle physics workshop** ⌚ 1h 30m  
Speaker: Kenneth William Cecire (University of Notre Dame (US))

**11:00** → 11:30 **Break** ⌚ 30m

**11:30** → 13:00 **High performance computing**  
Convener: Horst Severini (University of Oklahoma (US))

**11:30** → 13:00 **Medical physics**

**11:30** **Radiation measurements and dosimetry** ⌚ 1h 30m  
Speaker: Marco Silari (Politecnico di Milano (IT))

**11:30** → 13:00 **Small detector labs**

**11:30** **Internet of Things** ⌚ 1h 30m  
Speaker: Uli Raich (retired)

**11:30** **Particle physics workshop** ⌚ 1h 30m  
Speaker: Kenneth William Cecire (University of Notre Dame (US))

**13:00** → 14:30 **Lunch** ⌚ 1h 30m

**14:30** → 16:00 **Dark sector states**

**14:30** **Dark matter searches** ⌚ 1h 30m  
Speaker: Gopolang Mohlabeng (Simon Fraser University, Canada)

**14:30** → 16:00 **Medical physics**

**14:30** → 16:00 **Small detector labs**

**14:30** **Internet of Things** ⌚ 1h 30m  
Speaker: Uli Raich (retired)

**14:30** **Particle physics workshop** ⌚ 1h 30m  
Speaker: Kenneth William Cecire (University of Notre Dame (US))

**16:00** → 16:30 **Break** ⌚ 30m

**16:30** → 18:30 **Astrophysics and cosmology**  
Convener: Mathieu JACOB DE NAUROS (Ecole Polytechnique, France)

16:30 → 18:30 **Light sources**

16:30 **Applications of Compact Light Sources for X-Ray Technologies** ⌚ 2h  
Speaker: Luca Serafini (INFN-Milan)

16:30 → 18:30 **Small detector labs**

16:30 **Internet of Things** ⌚ 2h  
Speaker: Uli Raich (retired)

16:30 **Particle physics workshop** ⌚ 2h  
Speaker: Kenneth William Cecire (University of Notre Dame (US))

16:30 **The use of radiations in medical imaging and the treatment of patients** ⌚ 2h  
Speaker: Rajaa Sebihi (MOhammed V University, Morocco)

18:30 → 20:00 **dinner** ⌚ 1h 30m

20:00 → 21:30 **Evening news: Discussion**

Conveners: Dr Ketevi Adikle Assamagan (Brookhaven National Laboratory (US)), Mounia Laassiri (Brookhaven National Laboratory)

## FRIDAY, 19 JULY

09:00 → 09:30 **Morning news**

09:00 **African Physics Newsletter** ⌚ 25m

09:30 → 11:00 **Astrophysics and cosmology**

Convener: Mathieu JACOB DE NAUROIS (Ecole Polytechnique, France)

09:30 → 11:00 **Nuclear physics**

09:30 **Nuclear energy research and applications** ⌚ 1h 30m  
Speaker: Melissa Denecke (IAEA)

09:30 → 11:00 **Small detector labs**

09:30 **Internet of Things** ⌚ 1h 30m  
Speaker: Uli Raich (retired)

11:00 → 11:30 **Survey** ⌚ 30m

11:30 → 13:00 **Medical physics**

11:30 → 13:00 **Small detector labs**

11:30 **Internet of Things** ⌚ 1h 30m  
Speaker: Uli Raich (retired)

11:30 → 13:00 **Underground Laboratories**

11:30 **Physics at underground laboratories** ⌚ 1h 30m  
Speaker: Fernando Ferroni (Sapienza Universita e INFN, Roma I (IT))

<b>13:00</b>	→ 14:30	<b>Lunch</b> ⌚ 1h 30m
<b>14:30</b>	→ 16:00	<b>High Energy Physics</b>
	<b>14:30</b>	<b>Neutrino physics</b> ⌚ 1h 30m Speaker: Mary Bishai (Brookhaven National Laboratory (US))
<b>14:30</b>	→ 16:00	<b>Light sources</b>
	<b>14:30</b>	<b>High Brightness Electron Beams for Radiation Sources</b> ⌚ 1h 30m Speaker: Alberto Bacci (INFN-Milan)
<b>14:30</b>	→ 16:00	<b>Small detector labs</b>
	<b>14:30</b>	<b>Internet of Things</b> ⌚ 1h 30m Speaker: Uli Raich (retired)
<b>16:00</b>	→ 16:30	<b>Survey</b> ⌚ 30m
<b>16:30</b>	→ 18:30	<b>Light sources</b>
	<b>16:30</b>	<b>Applications and Practical Implementations of Advancements in Compact Light Sources for X-ray Technologies</b> ⌚ 2h Speakers: Alberto Bacci (INFN-Milan), Dr Sanae SAMSAM (INFN Milano)
<b>16:30</b>	→ 18:30	<b>Materials Physics</b> Convener: Lalla Btissam Drissi (Mohammed V Univeristy, Morocco)
<b>16:30</b>	→ 18:30	<b>Small detector labs</b>
	<b>16:30</b>	<b>Internet of Things</b> ⌚ 2h Speaker: Uli Raich (retired)
	<b>16:30</b>	<b>Radioactivity, X-rays and radiation protection</b> ⌚ 2h Speaker: Rajaa Sebihi (MOhammed V University, Morocco)
<b>18:30</b>	→ 20:00	<b>dinner</b> ⌚ 1h 30m
<b>20:00</b>	→ 21:30	<b>Accelerators: EuPRAXIA</b> Convener: Massimo Ferrario

## SATURDAY, 20 JULY

<b>09:00</b>	→ 09:30	<b>Morning news: Departure info</b>
<b>09:30</b>	→ 11:00	<b>Mathematics in economics: Mathématique financière</b> Convener: Gilbert Tékouté (Executive Management School (EMPS), France)
<b>09:30</b>	→ 11:00	<b>Topical sessions: Fast Radio Bursts (FRBs) or axion searches using pulsar observations</b> Convener: Michael Kavic (SUNY Old Westbury, US)
<b>09:30</b>	→ 11:00	<b>Topical sessions: Quantum Computing</b> Convener: Nicholas Bornman (Fermilab)
<b>11:00</b>	→ 11:30	<b>Survey</b> ⌚ 30m

**11:30** → 13:00 **Mathematics in economics: Mathématique financière**  
Convener: Gilbert Tékouté (Executive Management School (EMPS), France)

**11:30** → 13:00 **Topical sessions: Fast Radio Bursts (FRBs) or axion searches using pulsar observations**  
Convener: Michael Kavic (SUNY Old Westbury, US)

**11:30** → 13:00 **Topical sessions: Quantum Computing**  
Convener: Nicholas Bornman (Fermilab)

**13:00** → 14:30 **Lunch** ⌚ 1h 30m

**14:30** → 16:00 **Closing ceremony**

**14:30** **From Mohammed V University** ⌚ 15m

**14:45** **From Cadi Ayyad University** ⌚ 15m

**15:00** **From the ASP2024 LOC** ⌚ 15m

**15:15** **From the IOC** ⌚ 15m

**16:00** → 16:30 **Break** ⌚ 30m

**16:30** → 18:30 **Departure**

**18:30** → 20:00 **dinner** ⌚ 1h 30m

SUNDAY, 21 JULY

**05:00** → 13:00 **Departure**