

# EPS-HEP 2025



**Monday 7 July 2025 - Friday 11 July 2025**

**PALAIS DU PHARO, Marseille, France**

## **Scientific Programme**

The scientific programme of the EPS-HEP 2025 conference comprises invited plenary presentations and presentations in topical tracks as well as a poster session.

Plenary talks:

*This list is subject to modifications.*

LHC status  
Highlights from CMS  
Highlights from ATLAS  
Highlights from ALICE  
Highlights from LHCb  
Highlights from Belle 2  
Observational cosmology  
Gravitational wave physics  
Dark Matter theory  
Dark Matter and Axion searches  
Open theoretical questions in Neutrino physics  
Recent results from neutrino physics experiments  
Theory prospects in ultra relativistic nuclear collisions  
Recent experimental results in ultra relativistic nuclear collisions  
High energy QCD  
Computational techniques in particle theory  
Recent results in Standard Model physics  
Quarks and Leptons flavour theory  
Highlights from flavor physics and rare decays  
Theory prospects in Standard Model and Higgs physics  
Recent results in Higgs physics  
BSM theory  
Searches for New Physics at the LHC  
Quantum field and string theory  
Detector R&D and computing  
Accelerator R&D  
Outreach/education and EDI  
Artificial Intelligence for HEP  
Sustainability in HEP  
Conference summary  
Parallel session and poster session topics:

## **T01 - Astroparticles, Gravitation and Cosmology**

Most recent results and future perspectives in high-energy astroparticle physics, cosmic microwave background, large-scale structure, cosmology and gravitational waves science.

**Conveners:**

TBA

**Contact:**

TBA

## T02 - Dark Matter

Physics of dark matter, both theory and experiment. Searches at colliders and via direct and indirect detection. Theoretical models behind the DM searches.

**Conveners:**

TBA

**Contact:**

TBA

## T03 - Neutrino Physics

Theoretical and experimental neutrino physics. It reviews recent results from existing detectors and the reach of planned future instrumentations. Most recent theoretical developments are presented.

**Conveners:**

TBA

**Contact:**

TBA

## T04 - Ultra-relativistic Nuclear Collisions

Recent developments heavy ion physics, both experimental and theoretical aspects.

**Conveners:**

TBA

**Contact:**

TBA

## T05 - QCD and Hadronic Physics

Perturbative and non-perturbative regimes of strong interactions, including the production and spectroscopy of heavy and exotic hadrons.

**Conveners:**

TBA

**Contact:**

TBA

## T06 - Top and Electroweak Physics

Recent developments in top quark and electroweak physics, both experimental and theoretical aspects.

**Conveners:**

TBA

**Contact:**

TBA

## T07 - Flavour Physics and CP Violation

Experimental results and theoretical studies regarding the processes depending upon the flavour of quarks and leptons. Particular attention is put on the studies of CP-violation effects, rare decays and violation of the leptonic-flavour conservation and leptonic universality.

**Conveners:**

TBA

**Contact:**

TBA

## T08 - Higgs Physics

Latest experimental results and theoretical developments in the scalar sector of the standard model. Studies on the Higgs boson properties at the LHC and prospects of Higgs measurements at HL-LHC and future colliders. This session will feature a joint session with BSM covering the searches for new scalar states.

**Conveners:**

TBA

**Contact:**

TBA

## T09 - Beyond the Standard Model

Latest direct and indirect experimental searches of physics beyond Standard Model (BSM), new methodologies for BSM searches and recent theoretical and phenomenological progress in BSM.

**Conveners:**

TBA

**Contact:**

TBA

## **T10 - Quantum Field and String Theory**

Recent advances and results in the more formal aspects of theoretical physics.

**Conveners:**

TBA

**Contact:**

TBA

## **T11 - Detectors**

This session is dedicated to detectors both in operation and R&D for future experiments. Efforts towards sustainability are included.

**Conveners:**

TBA

**Contact:**

TBA

## **T12 - Data Handling and Computing**

Data handling and also dedicated to computer, networking and software challenges related to the highly demanding needs of the HEP experiments. Efforts towards sustainability are included.

**Conveners:**

TBA

**Contact:**

TBA

## **T13 - Accelerators for HEP**

Technologies and performances of existing and next-generation accelerators (including HL-LHC) and their potential and impact on present and future particle physics research, including efforts towards sustainability.

**Conveners:**

TBA

**Contact:**

TBA

## **T14 - Outreach, Education and EDI**

It includes topics on science outreach and physics education at large. It also includes essential values, Equity, Diversity and Inclusion in society and their role in fundamental research and institutions worldwide.

**Conveners:**

TBA

**Contact:**

TBA

## **T15 - Quantum technologies in HEP (special topic 2025)**

Special 2025 topic: Two-way relation of HEP with quantum information, quantum computing and quantum technologies. Impact of quantum on HEP and transfer of technologies developed in HEP to quantum industrial applications.

**Conveners:**

TBA

**Contact:**

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## **T16 - AI for HEP (special topic 2025)**

Special 2025 topic: Emerging topics, development and impact of Artificial Intelligence applications to HEP.

**Conveners:**

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**Contact:**

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