
2026
ALICE
ALICE Collaboration members at
CERN LHC Point-2 (July 2025)

# ALICE AT THE LHC

A **Large Ion Collider Experiment (ALICE)** at CERN's **Large Hadron Collider (LHC)** is dedicated to the exploration of the properties of **strongly interacting matter** under extreme conditions using collisions of atomic nuclei at **ultra-relativistic energies.** These collisions recreate the **quark–gluon plasma (QGP)**, a state of matter that existed a few millionths of a second after the **Big Bang**, when quarks and gluons moved freely before becoming confined within **protons and neutrons**.

By analyzing the **hadrons, leptons**, and **photons** produced in heavy-ion collisions and comparing them with data from **proton–proton** and **proton–nucleus** collisions, ALICE provides insights into the emergence of hadronic matter and the mechanisms of quark confinement.

Located 56 m underground, the **26 m × 16 m × 16 m** detector can measure thousands of particles produced in each collision with exquisite precision. Upgrades of ALICE with cutting-edge subdetectors and a vastly improved data-acquisition system, capable of recording over **50,000 nucleus–nucleus collisions per second**, were installed in the last long shutdown (2019-22) and are currently in use for data taking in **LHC Runs 3 and 4 (2022–2033).**

In early July 2025, the ALICE recorded the first **oxygen-oxygen and neon-neon collisions** at the LHC, at a centre-of-mass energy per nucleon pair of $\sqrt{s_{NN}}$ **= 5.36 TeV**. The collected data provide a crucial bridge between proton–nucleus and heavy-ion systems, enabling detailed studies of collective dynamics, initial-geometry effects, and the onset of QGP-like behaviour in small nuclear collisions.

# ALICE 3: THE NEXT GENERATION HEAVY-ION EXPERIMENT

Looking beyond Run 4, **ALICE 3** will represent the next leap in QGP studies during **LHC Run 5 (2036 onwards)**. This compact, **ultra-light, all-silicon detector** system will deliver unprecedented **precision in tracking, vertexing, and particle identification.** Its primary mission will be to probe the QGP through **thermal radiation**, **heavy-flavour hadrons,** and **conserved-charge fluctuations,** addressing open questions on the nature of strong interactions in the early Universe.

# THE ALICE COLLABORATION

The ALICE Collaboration brings together nearly **1,850 members** from **165 institutes** across **39 countries,** uniting expertise in physics, engineering, and computing in a truly global scientific effort.

# ALICE ON THE WEB

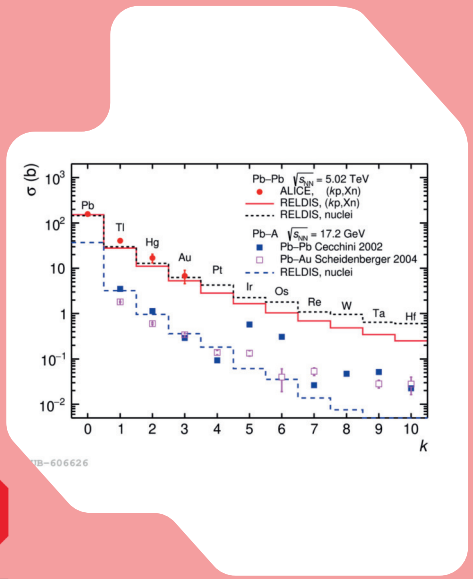
**https**://alice.cern/

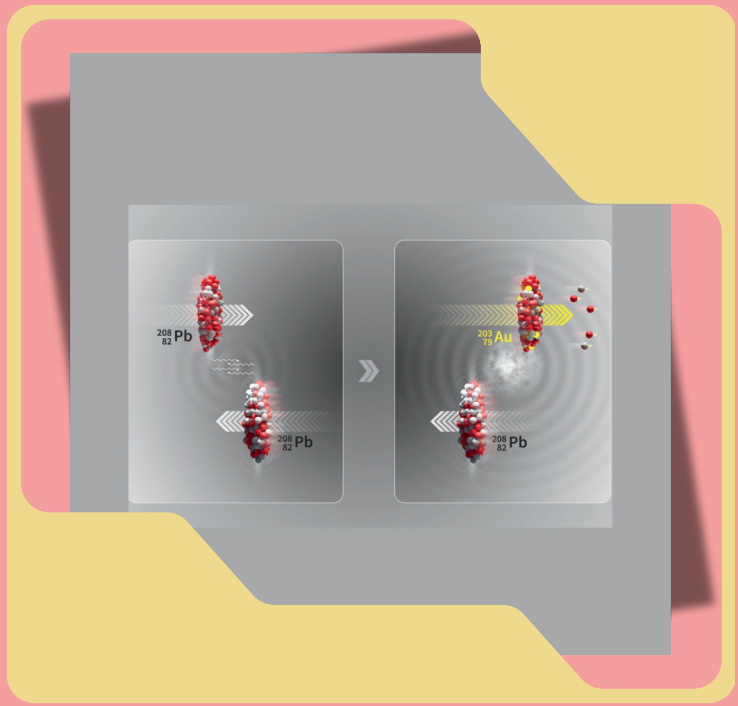
**https**://alice-collaboration.web.cern.ch/

# JANUARY 2026

## Alchemy at the LHC

**ALICE observes the conversion of lead nuclei into gold nuclei in ultraperipheral (near-miss) collisions at the LHC.**




ALICE

# JANUARY 2026

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY |
|---|---|---|---|---|---|---|---|
| 1 | CERN CLOSURE | | | 1 | 2 | 3 | 4 |
| 2 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 3 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 4 | ALICE MINI WEEK 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 5 | SQM APPROVALS 26 | 27 | 28 | 29 | 30 | 31 | |

ALICE

# FEBRUARY 2026

**ALICE ITS3 upgrade**

**The Inner Tracking System upgrade uses large monolithic CMOS pixel sensors (26×10 $cm^2$), stitched and gently bent into cylindrical layers.**

ALICE

# FEBRUARY 2026

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY |
|---|---|---|---|---|---|---|---|
| 5 | | | | | | | 1 |
| 6 | ALICE 3 DAYS 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 7 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 8 | ALICE MINI WEEK 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 9 | ALICE MUON WEEK 23 | 24 | 25 | 26 | 27 | 28 | |

ALICE

# MARCH 2026

## ALICE Thesis Award 2025

**Dedicated to the memory of Karel Šafařík (1953–2024), the 2025 ALICE Thesis Award winners were honoured by the Collaboration for their outstanding contributions.**


ALICE

# MARCH 2026

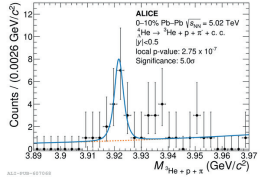
| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY |
|---|---|---|---|---|---|---|---|
| 9 | | | | | | | 1 |
| 10 | LHCC<br>SQM FOLLOW-UP<br>2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 11 | SQM<br>FOLLOW-UP<br>9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 12 | SQM<br>REHEARSAL<br>16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 13 | 23 | 24 | 25 | 26 | | 28 | 29 |
| 14 | ALICE<br>MINI WEEK<br>30 | 31 | | | | | |

ALICE

# APRIL 2026

## First evidence of anti-hyperhelium-4:

**ALICE reports first evidence of anti-hyperhelium-4 at the LHC, measured with machine-learning techniques by reconstructing its decay into an anti-helium-3 nucleus, an antiproton, and a charged pion.**


ALICE

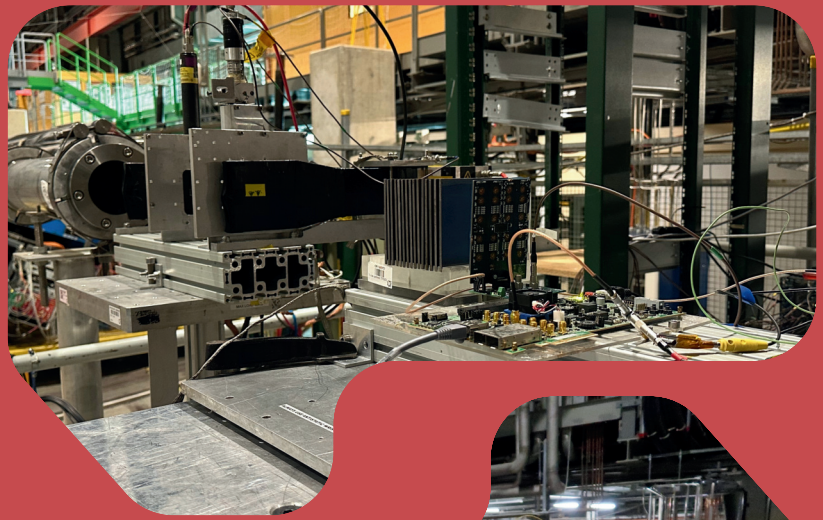
# APRIL 2026

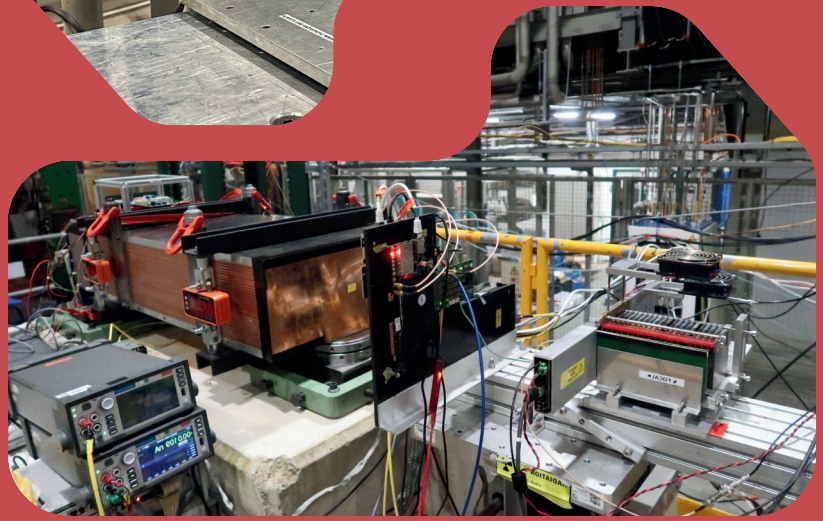
| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY |
|---|---|---|---|---|---|---|---|
| 14 | ALICE MINI WEEK | | 1 | 2 | 3 EASTER | 4 | 5 |
| 15 | 6 EASTER | 7 | 8 | 9 | 10 | 11 | 12 |
| 16 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 17 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 18 | HARD PROBES APPROVALS 27 | 28 | 29 | 30 | | | |

# MAY 2026

## ALICE Forward Calorimeter (FoCal)

**The FoCal detector consists of an electromagnetic section, FoCal-E, and a hadronic section FoCal-H. FoCal-E is a highly granular Si-W system with tungsten converters, 18 silicon-pad layers, and 2 ultra-fine pixel layers. FoCal-H is a Cu-scintillator system made of copper and scintillating fibres.**





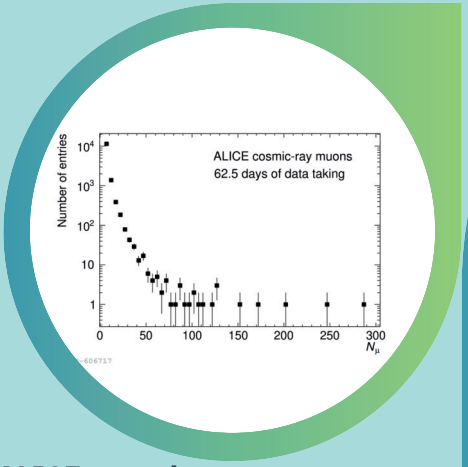
ALICE

# MAY 2026

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY |
|---|---|---|---|---|---|---|---|
| 18 | | | | | 1 CLOSURE CERN | 2 | 3 |
| 19 | ALICE 3 WEEK 4 | 5 | 6 | BOARDS 7 | CB 8 | 9 | 10 |
| 20 | LHCP REHEARSALS 11 | 12 | S&C days 13 | 14 ASCENSION DAY | 15 | 16 | 17 |
| 21 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 22 | 25 WHIT MONDAY | 26 | 27 | 28 | 29 | 30 | 31 |

ALICE

# JUNE 2026




**ALICE eyes the cosmos:**

**Cosmic-ray muons (green lines) recorded by ALICE during LHC pauses provide insight into the composition of cosmic rays.**

ALICE

Phys. Lett. B 858 (2024)
139017

# JUNE 2026

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY |
|---|---|---|---|---|---|---|---|
| 23 | 1 LHCC HARD PROBES FOLLOW-UP | 2 | 3 | 4 | 5 | 6 | 7 |
| 24 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 25 | HARD PROBES REHEARSALS 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 26 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 27 | ALICE MINI WEEK 29 | 30 | | | | | |

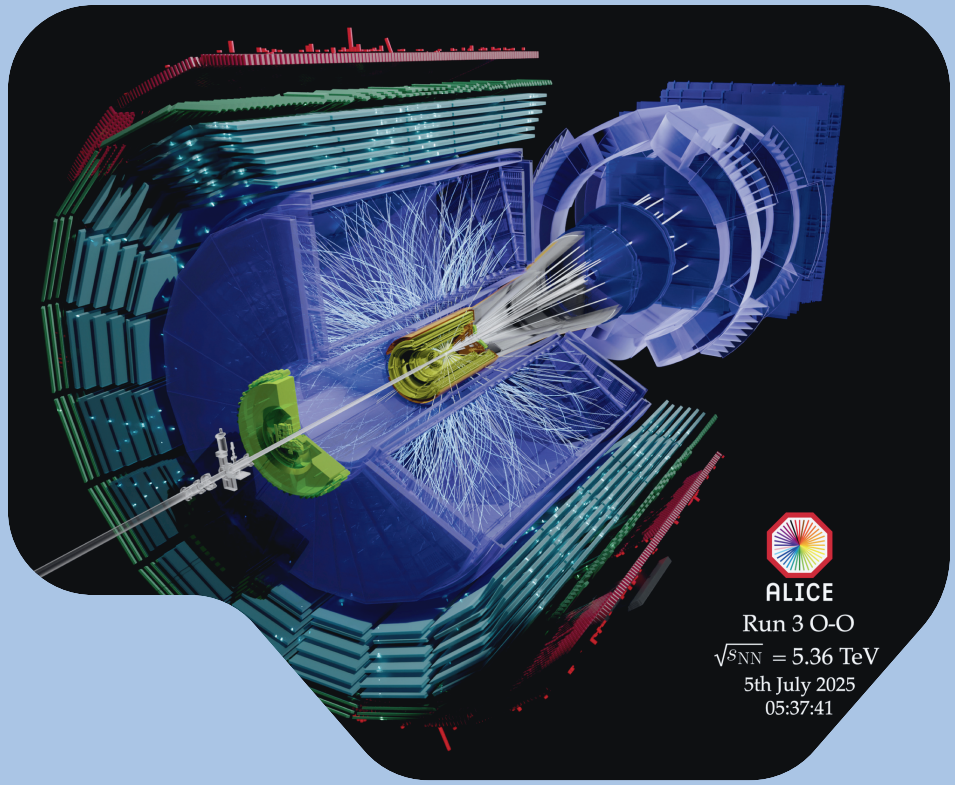
ALICE

# JULY 2026

## Colliding ions at the LHC

proton – proton
proton – Lead
Xenon – Xenon
proton-Oxygen
Oxygen-Oxygen
Neon – Neon
Lead - Lead

NEW 2025



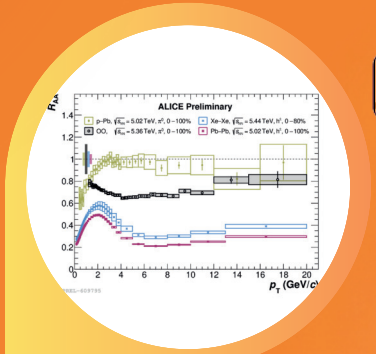

ALICE

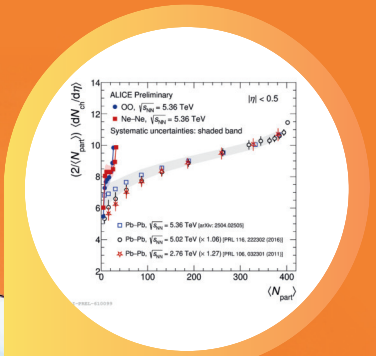
# JULY 2026

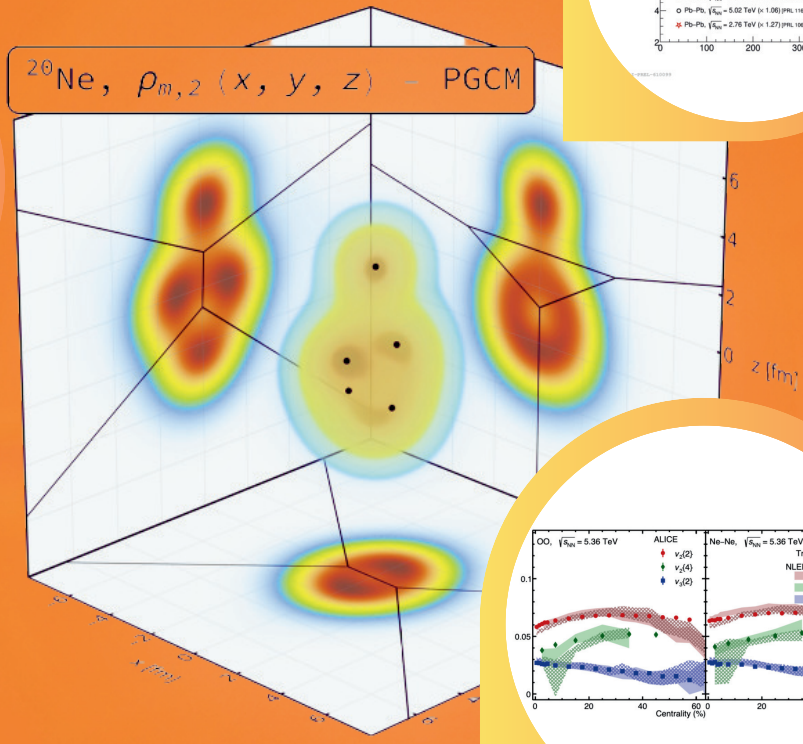
| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY |
|---|---|---|---|---|---|---|---|
| 27 | ALICE MINI WEEK | | 1 | 2 | 3 | 4 | 5 |
| 28 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 29 | ICHEP REHEARSALS 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 30 | ALICE WEEK 20 | 21 | 22 | BOARDS 23 | CB 24 | 25 | 26 |
| 31 | 27 | 28 | 29 | 30 | 31 | | |

ALICE

# AUGUST 2026

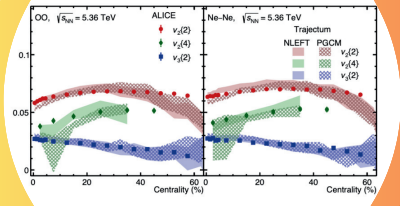



## Physics with small ions

**In July 2025, oxygen–oxygen and neon–neon collisions at the LHC bridged the gap between proton and lead systems. ALICE observed geometry-driven flow and jet quenching, revealing QGP-like phenomena in small nuclei.**




ALICE

# AUGUST 2026

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY |
|---|---|---|---|---|---|---|---|
| 31 | | | | | | 1 | 2 |
| 32 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 33 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 34 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 35 | ALICE MINI WEEK 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 36 | LHCC 31 | | | | | | |

# SEPTEMBER 2026

## ALICE 3 Outer Tracker prototypes

The tracking system of the future ALICE 3 upgrade comprises 60 $m^2$ of MAPS sensors. The image shows the setup built to evaluate aircooling strategies for the prototypes: a thermal image of a stave (left) and two staves equipped with heat-dissipating dummy modules (right).

ALICE

# SEPTEMBER 2026

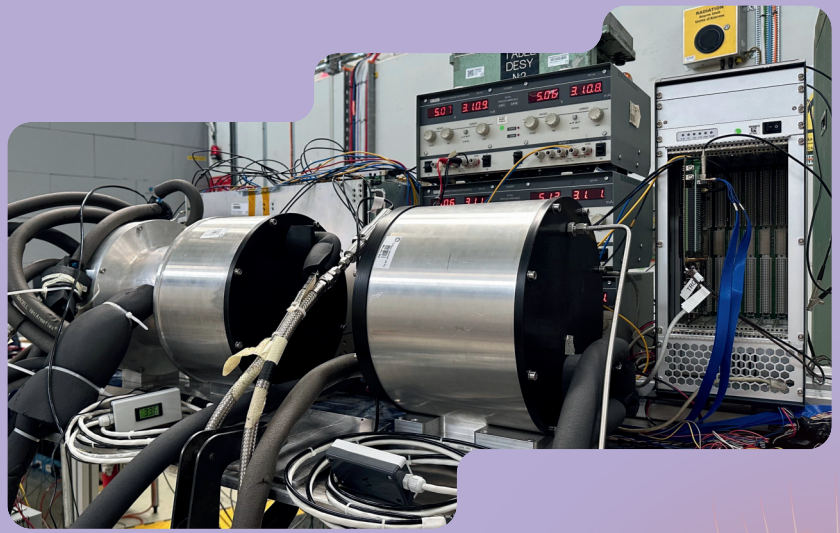
| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY |
|---|---|---|---|---|---|---|---|
| 36 | LHCC 1 | | 2 | 3 | 4 | 5 | 6 |
| 37 | 7 | 8 | 9 | 10 JEÛNE GENEVOIS | 11 | 12 | 13 |
| 38 | ALICE UPGRADE WEEK 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 39 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 40 | 28 | 29 | 30 | | | | |

ALICE

# OCTOBER 2026

## ALICE 3 RICH prototype tests

**A proximity-focusing Ring-Imaging Cherenkov (RICH) detector using an aerogel radiator, designed to improve identification of hadrons and electrons in ALICE 3.**



ALICE

# OCTOBER 2026

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY |
|---|---|---|---|---|---|---|---|
| 40 | | | | 1 | 2 | 3 | 4 |
| 41 | 5 | 6 | 7 | BOARDS 8 | 9 | 10 | 11 |
| 42 | ALICE PHYSICS WEEK 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 43 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 44 | 26 | 27 | 28 | 29 | 30 | 31 | |

# NOVEMBER 2026

## ALICE 3 MID prototype tests:

**The Muon Identifier Detector (MID) test-beam campaign confirmed that the chambers can achieve >95% efficiency for muon detection in ALICE-3.**

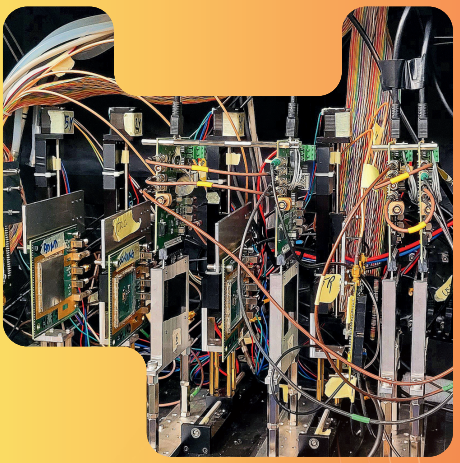
ALICE

# NOVEMBER 2026

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY |
|---|---|---|---|---|---|---|---|
| 44 | | | | | | | 1 |
| 45 | 2 | 3 | S&C DAYS 4 | 5 | 6 | 7 | 8 |
| 46 | ALICE MINI WEEK 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 47 | LHCC 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 48 | 23 | 24 | 25 | THANKSGIVING 26 | 27 | 28 | 29 |
| 49 | ALICE WEEK 30 | | | | | | |

ALICE

# DECEMBER 2026



## ALICE 3 TOF prototype tests:

The ALICE 3 Time-of-Flight (TOF) prototype achieves ~20 ps resolution, enabling excellent identification of pions, kaons, and protons at intermediate momenta.

ALICE

# DECEMBER 2026

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY |
|---|---|---|---|---|---|---|---|
| 49 | ALICE WEEK | 1 | 2 | 3 BOARDS | 4 CB | 5 | 6 |
| 50 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 51 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 52 | CERN CLOSURE 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 53 | CERN CLOSURE 28 | 29 | 30 | 31 | | | |

ALICE

ALICE

**ALICE at Quark Matter 2025, Frankfurt (6–12 April)**