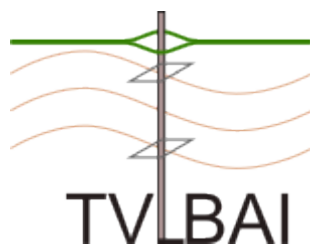


Program

1-3 Sept 2026



AICE Community Workshop 2026

CERN, 500/1-001 - Main Auditorium

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Tuesday 1 September

10:00

Registration and coffee

Break | **Location:** CERN, 500/1-001 - Main Auditorium

10:30

10:30

Setting the Scene

Session | **Location:** CERN, 500/1-001 - Main Auditorium | **Convener:** Sergio Calatroni (CERN)

10:30–10:45 (15m)

Welcome and Workshop Goals. Logistics.

Speakers

Oliver Buchmuller (Imperial College (GB)), Sergio Calatroni (CERN)

10:45–10:55 (10m)

Welcome address from the CERN Director of Accelerators and Technology

Speaker

Oliver Bruning (CERN)

10:55–11:30 (35m)

AICE: a staged facility for fundamental physics at CERN.

Speaker

Oliver Buchmuller (Imperial College (GB))

11:30–12:05 (35m)

Atom interferometry and cold-atom technology: state of the art and the community behind it

Speaker

Ulrich Schneider

12:05–12:35 (30m)

The CERN evaluation pathway: LHCC, PBC and next steps for the Technical Proposal

Speaker

Markus Brugger (CERN)

12:35

12:35

Lunch

Break

14:00

14:00

Physics Programme

Session | **Location:** CERN, 500/1-001 - Main Auditorium | **Conveners:**
Susan Gardner (University of Kentucky), Dr Fabio Di Pumpo (Ulm University)

14:00–14:20 (20m)

CERN context and strategy: plans and priorities, an introduction for the cold-atom community

Speaker

Gautier Hamel de Monchenault (CERN)

14:20–15:00 (40m)

Ultralight dark matter with AICE: scalar, ALP, vector B-L and axion-gluon channels

Speaker
John Carlton

15:00–15:35 (35m)

Gravitational waves in the mid-frequency band, the path to km-scale and further physics themes incl. precision measurements

Speakers

Christopher McCabe (King's College London), Jonathan R. Ellis (King's College London)

15:35–16:00 (25m)

Discussion

Coffee

Break | **Location:** CERN, 500/1-001 - Main Auditorium

Detector and Installation

Session | **Location:** CERN, 500/1-001 - Main Auditorium | **Conveners:**
Gianluigi Arduini (CERN), Austin Ball (Science and Technology Facilities Council STFC (GB))

16:30–17:00 (30m)

The AICE detector: interferometer configurations and their physics reach, the Initial/Baseline/Upgrade staging, and subsystem overview at high level

Speaker

Richard Hobson

17:00–17:30 (30m)

PX46 and CERN integration: site, layout, safety and HL-LHC compatibility

Speaker

Sergio Calatroni (CERN)

17:30–17:55 (25m)

Infrastructure preparation and civil engineering during LS3

Speakers

Damien Lafarge (CERN), Tamara Alice Bud (CERN)

17:55–18:05 (10m)

Wrap-up of Day 1

Workshop “cocktail dinatoire” - R1 extension

Break

Wednesday 2 September

09:00

Pathfinders and R&D

Session | **Location:** CERN, 500/1-001 - Main Auditorium | **Conveners:** Florian Schreck, Marilu Chiofalo

09:00–09:20 (20m) **AION, UK: status & results**

Speaker

Richard Hobson

09:20–09:40 (20m) **MAGIS-100, USA: status & results**

Speaker

Timothy Kovachy

09:40–10:00 (20m) **VLBAI Hannover and the German programme**

Speakers

Dennis Schlippert, Ernst Maria Rasel

10:00–10:20 (20m) **MIGA, France: status & results**

Speaker

Andrea Bertoldi

10:20–10:45 (25m)

The CERN Quantum Technology Initiative (QTI) - strategic fit with AICE

Speaker

Dr Sofia Vallecorsa (CERN)

10:45

10:45

Coffee

Break | **Location:** CERN, 500/1-001 - Main Auditorium

11:15

11:15

AICE Quantum Technology - Laser Technology

Session | **Location:** CERN, 500/1-001 - Main Auditorium | **Conveners:** Gaetano Mileti, Katerina Chrysalidis (CERN)

11:15–11:35 (20m) **Impact of AICE technologies for QTI and CERN**

Speaker

Amanda Diez Fernandez (CERN)

11:35–12:00 (25m) **CERN laser R&D - scaling narrow-linewidth lasers to high power**

Speaker

Eduardo Granados (CERN)

12:00–12:15 (15m)

Industry talk, Toptica: single-frequency laser technology, stability and scalable laser architectures

Speaker

Vladimir Schkolnik

12:15–12:30 (15m) **OpticsFoundry: Optical circuit boards for quantum technologies**

12:30

Speaker

Florian Schreck

12:30

Lunch**Break**

14:00

14:00

AICE Quantum Technology - Cold Atom Technology**Session** | **Location:** CERN, 500/1-001 - Main Auditorium | **Conveners:** Michael Doser (Massachusetts Inst. of Technology (US)), Dr Anna Marchant

14:00–14:25 (25m)

Continuous Sr atom sources**Speaker**

Florian Schreck

14:25–14:45 (20m)

Yb sources for atom interferometry**Speaker**

Dennis Schlippert

14:45–15:05 (20m)

Squeezed atom interferometry**Speaker**

Philipp Treutlein

15:05

15:05

AICE Quantum Technology - Cold Atom Simulation**Session** | **Location:** CERN, 500/1-001 - Main Auditorium | **Conveners:** Reinhold Walser (Institute for Applied Physics, Technical University of Darmstadt, Germany), Maike Reckermann

15:05–15:20 (15m)

Modelling and mitigation of wavefront systematics in VLBAI**Speaker**

Noam Mouelle

15:20–15:35 (15m)

PHASE: An Open Source Python Toolbox for Large Scale Atom Interferometers**Speaker**

Dr Michael Werner (Institute Of Quantum Optics Hannover)

15:35

15:35

Coffee**Break** | **Location:** CERN, 500/1-001 - Main Auditorium

16:05

16:05

Precision measurements with atom interferometers**Session** | **Location:** CERN, 500/1-001 - Main Auditorium | **Conveners:** Andrea Bertoldi, Elina Fuchs (DESY and Leibniz University Hannover)

16:05–16:30 (25m)

Precision measurements of gravity with atom interferometers: G and tests of fundamental physics**Speaker**

Guglielmo Maria Tino

16:30–17:00 (30m)

Precision measurements of the fine-structure constant**Speaker**

Pierre Clade (Laboratoire Kastler Brossel (FR))

	17:00–17:15 (15m) Prospects for precision measurements of the fine structure constant using clock atom interferometry Speaker Jesse Schelfhout (University of Oxford)
17:30	17:15–17:30 (15m) Discussion and wrap-up of day 2
17:30	
19:00	Visit to LHC point 4 - AICE proposed site Session Location: CERN, 500/1-001 - Main Auditorium Convener: Sergio Calatroni (CERN)

Thursday 3 September

09:30

The Path Forward

Session | **Location:** CERN, 500/1-001 - Main Auditorium | **Conveners:** Timothy Kovachy, Guglielmo Maria Tino

09:30–09:50 (20m)

The AICE project roadmap: work packages, cost, schedule and where contributions enter

Speakers

Jonathan R. Ellis (King's College London), Oliver Buchmuller (Imperial College (GB)), Richard Hobson, Sergio Calatroni (CERN)

09:50–10:00 (10m)

National programmes and planned contributions to AICE: Spain

Speaker

Elias Lopez Asamar

10:00–10:10 (10m)

National programmes and planned contributions to AICE: France

Speaker

Andrea Bertoldi

10:10–10:20 (10m)

National programmes and planned contributions to AICE: Greece

Speaker

Dr Wolf von Klitzing (IESL-FORTH)

10:20–10:30 (10m)

National programmes and planned contributions to AICE: Netherlands

Speakers

Florian Schreck (University of Amsterdam), Gianfranco Bertone

10:30–10:40 (10m)

National programmes and planned contributions to AICE: potential other contributions

10:40

10:40

11:00

11:00

Coffee

Break | **Location:** CERN, 500/1-001 - Main Auditorium

Perspectives and Conclusions

Session | **Location:** CERN, 500/1-001 - Main Auditorium | **Conveners:** Elias Lopez Asamar, Marcelle Soares-Santos (University of Zürich)

11:00–11:10 (10m)

Address to the AICE community from the CERN Director-General

Speaker

Mark Thomson (CERN)

11:10–11:20 (10m)

National programmes and planned contributions to AICE: CERN

Speaker

Sergio Calatroni (CERN)

11:20–11:30 (10m)

National programmes and planned contributions to AICE: UK

	Speaker Richard Hobson
	11:30–11:40 (10m) National programmes and planned contributions to AICE: Germany Speakers Dennis Schlippert, Elina Fuchs (DESY and Leibniz University Hannover)
	11:40–11:50 (10m) National programmes and planned contributions to AICE: Italy Speaker Marilu Chiofalo
	11:50–12:00 (10m) National programmes and planned contributions to AICE: Switzerland Speaker Lucas Lombriser (University of Geneva)
	12:00–12:30 (30m) Workshop conclusions and next steps
12:30	
12:30	
13:30	Lunch Break
13:30	
15:00	Closed Collaboration Meeting Session Location: CERN, 40/5-A01 Conveners: Sergio Calatroni (CERN), Oliver Buchmuller (Imperial College (GB)), Jonathan R. Ellis (King's College London)
15:00	
16:00	Joint session with the Quantum sensing for fundamental physics institute Session Location: CERN, 4/3-006 - TH Conference Room Description See: https://indico.cern.ch/event/1681476/timetable/#7-particle-dark-matter-with-at