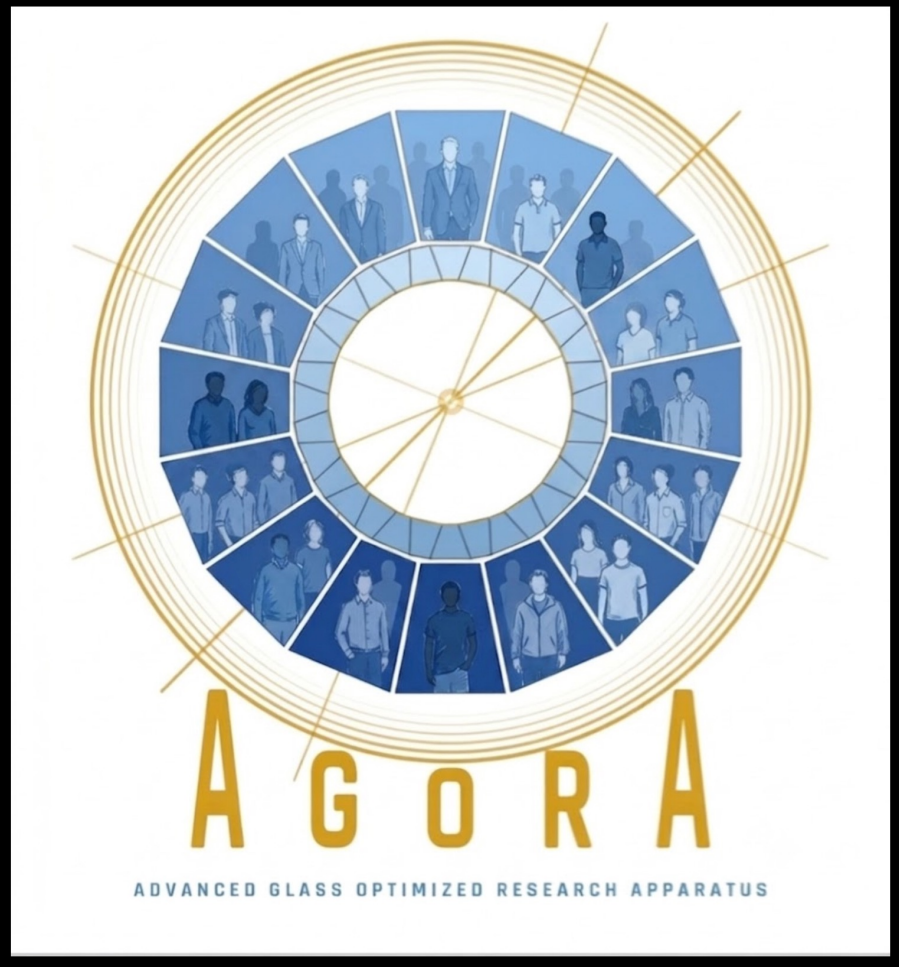
# News & Introduction

LI Yiming

CEPC / AGORA Inner Tracker meeting
23rd June 2026

# AGORA: Advanced Glass Optimized Research Apparatus





CEPC Reference detector now has a name!

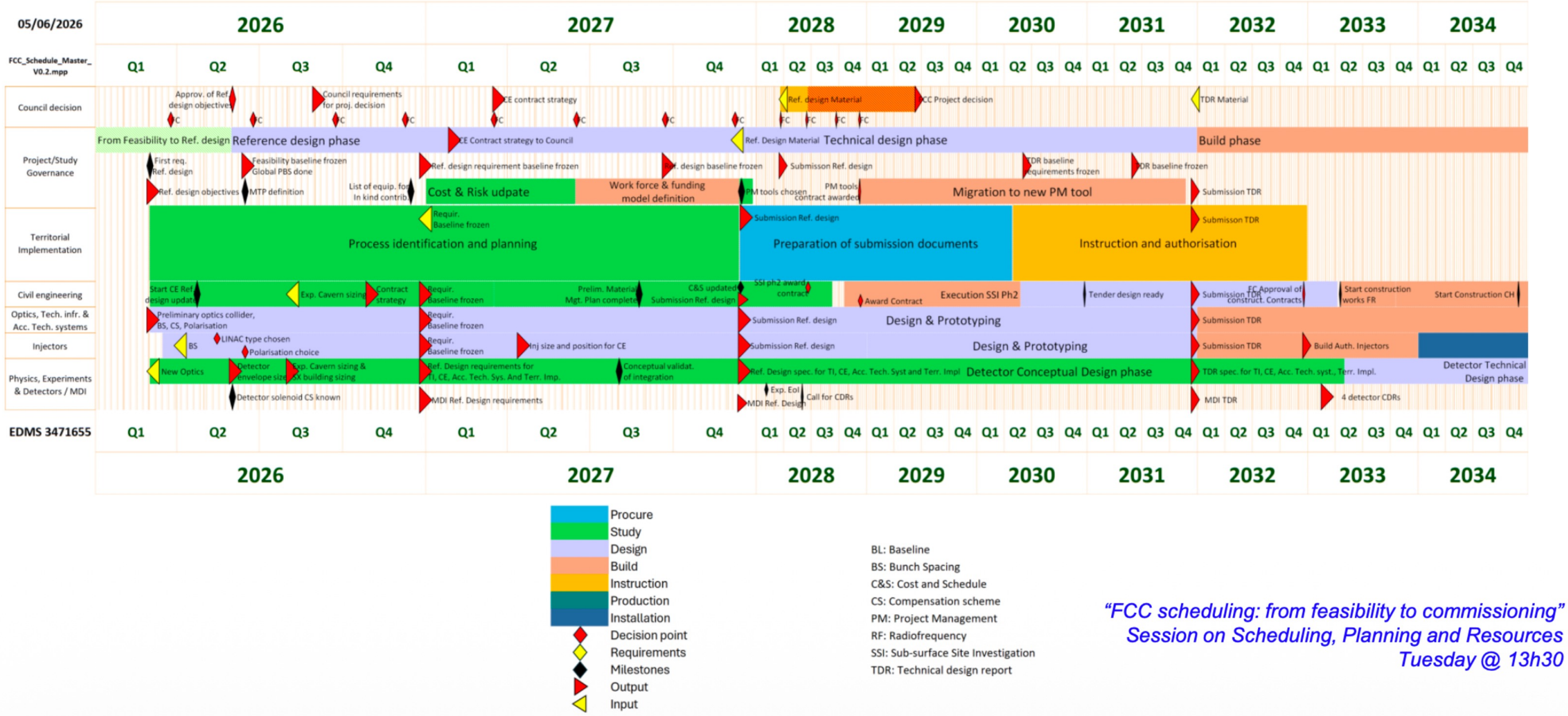
# Major outcomes from FCC Week

AGORA officially proposed to FCC

- **FCC Week 2026, Helsinki, June 8-12**
  - Web page: https://indico.cern.ch/e/fccweek2026
- **CERN director mandated to seek international support to build the FCC-ee**
  - Earliest decision point from council in September 2028
  - Final decision is second quarter of 2029 (see attached schedule)
  - HL-LHC remains main priority of CERN and meeting the current schedule is essential to keep momentum…
  - Governance of FCC-ee being remodeled/adapted
- **AGORA adopted as the 6th detector concept for FCC-ee**
  - Need to integrate into the FCC-ee organization scheme
  - Letter of Intent for the collaborations should be submitted around the approval of the project

More details see Joao's slides at CEPC Day or Phys/Det meeting:
https://indico.ihep.ac.cn/event/29612/

# FCC Master Schedule




*"FCC scheduling: from feasibility to commissioning"*
*Session on Scheduling, Planning and Resources*
*Tuesday @ 13h30*

**FCC Project decision already in second quarter of 2029**

# FCC: Evolution of Detector Concepts Work Package

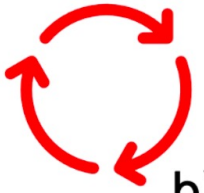
https://indico.cern.ch/event/1664041/contributions/6995583/attachments/3285322/5873191/Detector Concepts Monthly June 2026.pdf

## In DRDs:

RnD / technologies

- Gaseous Detectors (DRD1)
- Liquid Detectors (DRD2)
- Semiconductor Detectors (DRD3)
- Photodetectors & PID (DRD4)
- Quantum Sensors (DRD5)
- Calorimetry (DRD6)
- Electronics (DRD7)
- Mechanics (DRD8)

US R&D Collaborations (RDCs) focus on generic (non-targeted), interdisciplinary and blue sky R&D – will collaborate where possible.



## In FCC Detector concepts:

a) Generic system-level studies
(create structure as needed or organize workshops)

- Tracker (e.g. Si + straw tracker) & PID
- Calorimetry
- Muons
- TDAQ
- Luminometry
- Magnet

Full mandate for the Detector Subsystem subgroup

b) Concept-specific studies
(using specific envelopes/support structures, or physics benchmarks)

- ALFA
- Allegro
- CLD
- IDEA
- ILD
- …

Full mandate for the Detector Concept Study subgroup

Non-exclusive membership, need to preserve synergies and unity of the community!

# FCC: Evolution of Detector Concepts Work Package

https://indico.cern.ch/event/1664041/contributions/6995583/attachments/3285322/5873191/Detector Concepts Monthly June 2026.pdf

- Status of Appointment of convenors for subsystem subgroups:
  - Tracker & PID: **Valentina Cairo (CERN) & George Iakovidis (BNL)**
  - TDAQ: **Thorsten Wengler (CERN) & Zeynep Demiragli (BU)**
  - Calorimetry: **Marco Lucchini (Milano-Bicocca), Lucia Masetti (Mainz), Nicolas Morange (IJCLAB), Hwidong Yoo (Yonsei University)**
  - Muons: **Riccardo Farinelli (Bologna) & Taejeong Kim (Hanyang)**
  - Luminometry: need community building; Workshop at CERN July 27th https://indico.cern.ch/event/1690381/
  - Magnet: need community building (WS July 2-3)
- Upcoming events
  - FCC week, Helsinki, June 8-12 2026, https://indico.cern.ch/e/fccweek2026
    - The call for poster abstracts is open: https://indico.cern.ch/event/1552126/abstracts/ with a special track for "Detector Subsystems and Concepts". There will be a prize for the best posters and there is an option for publication in a special edition of Springer Nature EPJ journal series; this is an opportunity to publish some recent results that didn't make it to the Feasibility Study Report.
  - DRD1 meeting on June 16 on Technologies and Applications of Gaseous Detectors at FCC
  - FCC Tracking/PID workshop: Week of November 16 @ CERN
- Next DetCon Meetings:
  - Tracking: monthly meetings on Thursdays, 16:00 - next one June 4th
  - Muons: monthly meetings on Wednesdays, 15:00 - next one: June 17th
  - TDAQ: biweekly meetings on Fridays, 15:30 - next one: June 5th
  - General Monthly:
    - Monday 6 July 2026, 16:00, https://indico.cern.ch/event/1681937/
    - Monday 31 August 2026, 16:00, https://indico.cern.ch/event/1691945/

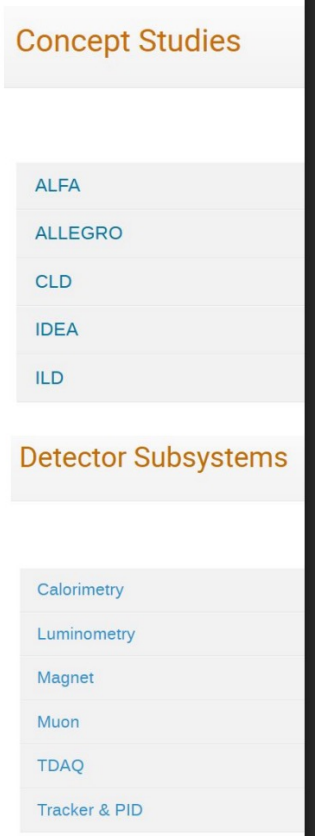
AGORA will be added to the FCC email lists and indico pages (likely linked from current CEPC indico)

Messages is: We are encouraged to follow, and extend our study for FCC (tracking)

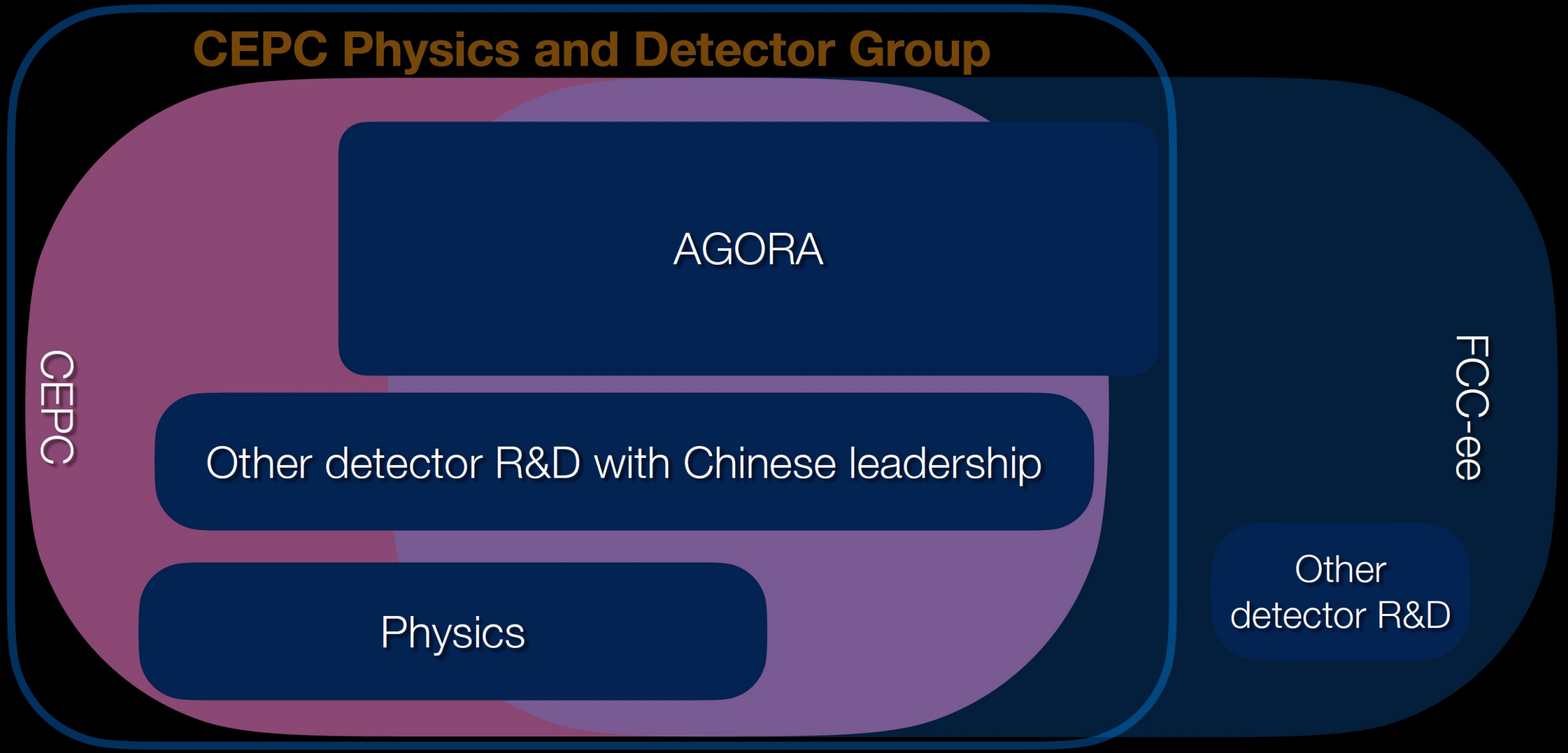
## How to get involved

| Group name | Email | Signup | Indico |
|---|---|---|---|
| Calorimetry | FCC-PED-DetectorConcepts-Calorimetry@cern.ch | click | click |
| Luminometry | FCC-PED-DetectorConcepts-Luminometry@cern.ch | click | click |
| Magnet | FCC-PED-DetectorConcepts-Magnet@cern.ch | click | click |
| Muon | FCC-PED-DetectorConcepts-Muon@cern.ch | click | click |
| TDAQ | FCC-PED-DetectorConcepts-TDAQ@cern.ch | click | click |
| Tracker & PID | FCC-PED-DetectorConcepts-Tracker@cern.ch | click | click |
| ALFA | FCC-PED-DetectorConcepts-ALFA@cern.ch | click | click |
| ALLEGRO | FCC-PED-DetectorConcepts-ALLEGRO@cern.ch | click | click |
| CLD | FCC-PED-DetectorConcepts-CLD@cern.ch | click | click |
| IDEA | FCC-PED-DetectorConcepts-IDEA@cern.ch | click | click |
| ILD | FCC-PED-DetectorConcepts-ILD@cern.ch | click | click |

- As a bonus, signing up to any of the above adds you to "FCC-PED-DetectorConcepts@cern.ch". For free! Not even a click!
- Indico categories have been created for Detector Subsystems and Concept Studies
- FCC-PED homepage with upcoming meetings
- Indico meeting calendar



# CEPC Physics and Detector Organization



# Upcoming events

CEPC general

- **FCPPL**
  - https://indico.in2p3.fr/event/38713
  - Lyon, France, 29 June - 3 July, 2026
- **CEPC International Workshop**
  - https://indico.ihep.ac.cn/event/28911/
  - Shanghai, from October 22 to 26 2026
  - Need to discuss how to display AGORA
- **CEPC European Edition Workshop**
  - Belgrade, Serbia, June 8-11, 2027
  - Need to discuss how to display AGORA

# CEPC ITK proceeding published

- Based on Xiaojie's poster at Hiroshima Symposium

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journal homepage: www.elsevier.com/locate/nima

Full Length Article

## Design and development of MAPS-based CEPC inner tracker☆

Xiaojie Jiang [a,b], Mengke Cai [a], Yuman Cai [a,b], Yang Chen [c], Jianpeng Deng [d], Chengdong Fu [a,e], Chenxi Fu [a,b], Qinglin Geng [f], Yongcai Hu [g], Quan Ji [a,e], Gang Li [a,e], Leyi Li [a,f], Pengxu Li [d], Yiming Li [a,e,*], Yujie Li [a,j], Zhan Li [a,b], Weiguo Lu [a,e], Shoudong Luo [a,d], Xiaohui Qian [a], Haoyu Shi [a,b,e], Xin Shi [a,e], Zhan Shi [c], Anqi Wang [b], Boxin Wang [a,b], Chengwei Wang [a], Congcong Wang [a,e], Meng Wang [f], Hengyu Wang [a,b], Jianchun Wang [a,e], Yujie Wang [c], Wei Wei [a,e], Xiaomin Wei [g], Zheng Wei [g], Huimin Wu [g], Linghui Wu [a,e], Tianji Xia [h], Zhiyu Xiang [i], Zijun Xu [a,e], Bingchen Yan [a,b], Qi Yan [a,e], Xiongbo Yan [a,b,e], Yi Yang [j], Xuhao Yuan [a], Cheng Zeng [a,b], Lei Zhang [k], Xiaoxu Zhang [a,k], Xiyuan Zhang [a,e], Yihan Zhang [a,d], Mei Zhao [a,e], Ruiguang Zhao [g], Yu Zhao [g], Zexuan Zhao [g], Yang Zhou [a,e], Hongbo Zhu [d]

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[h] Lanzhou University, Lanzhou, China
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[j] Hunan University, Changsha, China
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ABSTRACT

The Circular Electron Positron Collider (CEPC) is a next-generation electron-positron collider for precision studies of Higgs, flavor physics and beyond. A key component of its tracking system is the Inner Tracker (ITK) using High Voltage Complementary Metal-Oxide-Semiconductor (HV-CMOS) sensor technology. The CEPC ITK consists of three barrel layers and four pairs of endcap disks, covering a total active area of about 20 $m^2$. The HV-CMOS sensor fabricated with advanced 55 nm process is used to achieve a few-micrometer spatial resolution and a few-nanosecond timing resolution, with a moderate power consumption. The module design is shared between barrel and endcap to facilitate production. The whole system is designed for minimal material budget, with 0.7% $X_0$ per layer in the barrel part. The design has been implemented in CEPC software framework for performance study and future optimization.

### 1. Introduction

The Higgs boson, first discovered at the Large Hadron Collider [1,2], not only plays a central role in the Standard Model (SM) of particle physics but also serves as a portal to new physics beyond the SM, which would shed light on mysteries such as the nature of dark matter and dark energy. The precision study of the Higgs is therefore a priority for next generation of high energy experiments, and motivated the proposal of the Circular Electron Positron Collider (CEPC) shortly after the Higgs discovery [3]. In addition, CEPC will also provide opportunities for a wide spectrum of topics, such as flavor physics, electroweak precision study and new physics searches, just to name a few [4,5].

The CEPC accelerator Technical Design Report (TDR) was published in December 2023 [3]. It describes a high-performance collider capable of operating at a center-of-mass energy of 240 GeV in Higgs factory

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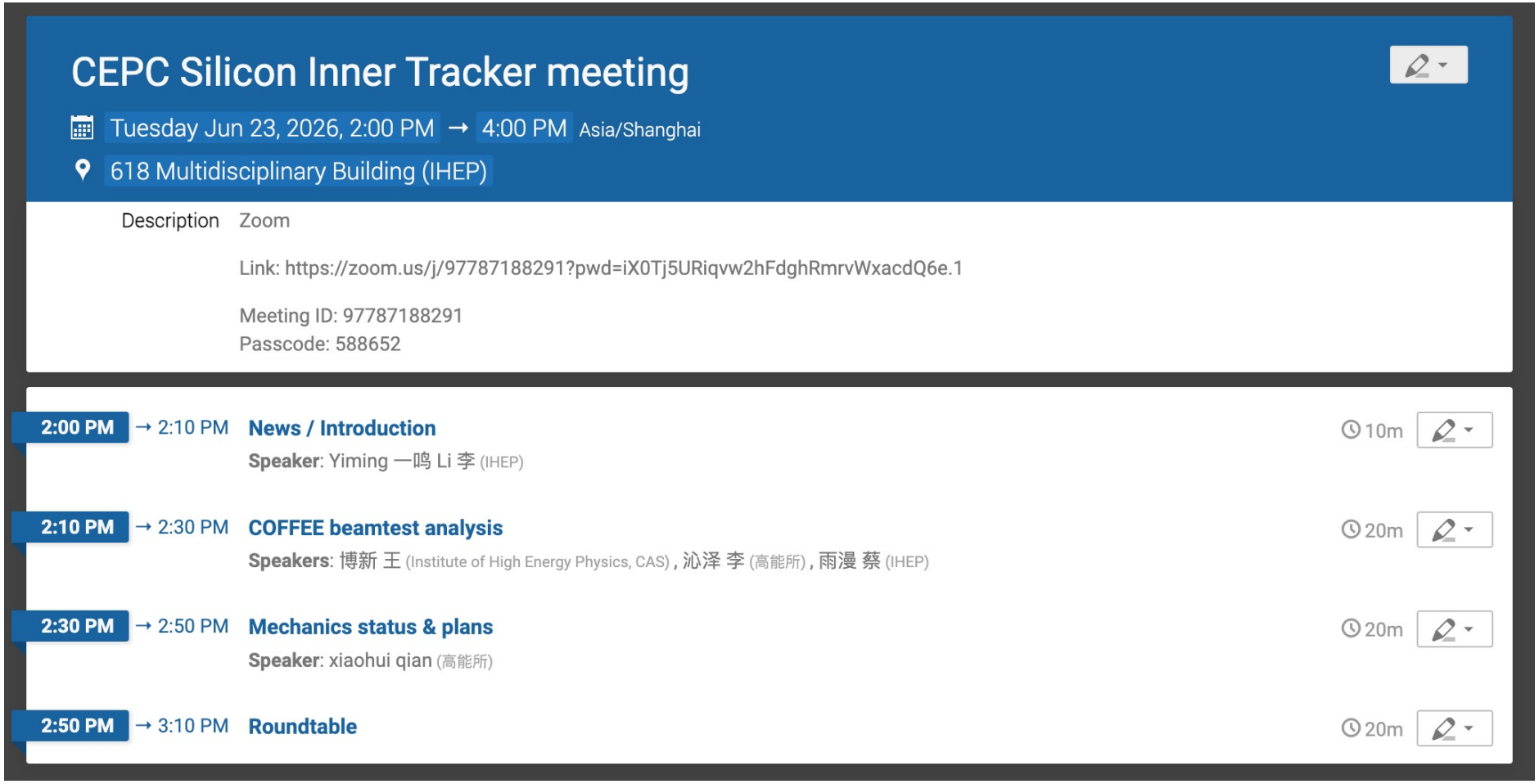
# Agenda today



## CEPC Silicon Inner Tracker meeting

Tuesday Jun 23, 2026, 2:00 PM → 4:00 PM Asia/Shanghai

618 Multidisciplinary Building (IHEP)

Description Zoom

Link: https://zoom.us/j/97787188291?pwd=iX0Tj5URiqvw2hFdghRmrvWxacdQ6e.1

Meeting ID: 97787188291
Passcode: 588652

**2:00 PM** → 2:10 PM **News / Introduction** 10m

**Speaker**: Yiming 一鸣 Li 李 (IHEP)

**2:10 PM** → 2:30 PM **COFFEE beamtest analysis** 20m

**Speakers**: 博新 王 (Institute of High Energy Physics, CAS) , 沁泽 李 (高能所) , 雨漫 蔡 (IHEP)

**2:30 PM** → 2:50 PM **Mechanics status & plans** 20m

**Speaker**: xiaohui qian (高能所)

**2:50 PM** → 3:10 PM **Roundtable** 20m