

APPEC short report

- This report concerns the General Assembly 05.06.2024 (next one Dec. 4-5, 2024)
- The SAC is mandated to prepare the New Roadmap that will cover from 2027-2036.
- Newly elected SAC Chair: Aldo Ianni (LNGS, ex-director of the lab), Deputy: M. De Nerois
- At this GA election of Chair of GA (CH excluded from vote due to a technical delay in the signature of the new APPEC MoU): Carlos Peña Garay (director of Canfranc lab); General Secretary: Julie Epas.
- Main task is the participation to the European Particle Physics Strategy Update launched by CERN in March 2024. In the EPPSU the APPEC GA Chair is invited as observer. Physics Preparatory Group tasked with Briefing Book preparation by Sept. 2025. Deadline submission for the contributions in March 2025, Drafting session Dec. 2025, approval by CERN Council June 2026
- Preparation of JENAS 2025 in RAL (see JENAS Expressions of Interest on DM, GWs, ML optimised design of experiments, Nuclear physics at LHC and Search of Charged Particle Electric Dipole Moments in this [link](#))
- List of WGs of Interest for the white paper on computing in

- HPC:
https://indico.scc.kit.edu/e/JENA_computing_wp1/
- Software:
https://indico.scc.kit.edu/e/JENA_computing_wp2/
- Data Management:
https://indico.scc.kit.edu/e/JENA_computing_wp3/
- ML & AI:
https://indico.scc.kit.edu/e/JENA_computing_wp4/
- Training:
https://indico.scc.kit.edu/e/JENA_computing_wp5/

Expression of Interests (Eoi)

1. Dark Matter - iDMEu (<https://indico.cern.ch/event/869195/overview>)
2. Gravitational Waves for fundamental physics (<https://agenda.infn.it/event/22>)
3. Machine-Learning Optimized Design of Experiments - MODE (<https://mode->)
4. Nuclear Physics at the LHC (<https://indico.ph.tum.de/event/4492/>)
5. EDM - Search of Charged-Particle Electric Dipole Moments (<https://indico.p>)

Outcomes of P5-HEPAP meeting 9-10 May 2024

Highest Priorities: complete construction of HL-LHC, the first phase of DUNE, PIP-II accelerator at FermiLab, the Rubin Observatory to carry out the legacy survey LSST and the LSST Dark Energy Science Collaboration.

Construct a portfolio of experiments for fundamental constituents of the universe and their interactions (also in the range of APPEC):

- CMB-S4 : NSF prioritises infrastructure in Antarctica necessary to maintain operations. DOE may fund projects not in Antarctica (no go for South Pole Telescope)
- G3 of DM direct detection: 2 proposals for G3 XLZD and ARGO - DOE is supportive of development of off-shore concepts.
- IceCube-Gen2.