Gianluigi Arduini
CERN

IJColloquium

Mercredi 18 février 2026

10h30

Café accueil à 10h

Auditorium Pierre Lehmann-bât. 200

Future Collider Proposals for CERN and the European Strategy for Particle Physics

The European Strategy for Particle Physics (ESPP) guides Europe's long-term planning in the field and is developed through broad community consultation under the mandate of the CERN Council. In March 2024, the Council initiated the third update of the Strategy, following earlier updates in 2013 and 2020.

The 2020 Strategy recommended studying a future hadron collider at CERN with a centre-of-mass energy of at least 100 TeV, together with an electron–positron Higgs and electroweak factory as a possible first stage, leading to the recently completed Future Circular Collider (FCC) Feasibility Study. For the 2026 ESPP update, the Council requested the identification of a preferred next collider option and prioritised alternatives in case the preferred plan proves infeasible or uncompetitive; the recommendations were submitted in December 2025.

This presentation briefly reviews the proposed collider options—including FCC-ee and other linear and circular Higgs factories, FCC-hh, a muon collider, and an electron–proton collider—and summarises their current status.

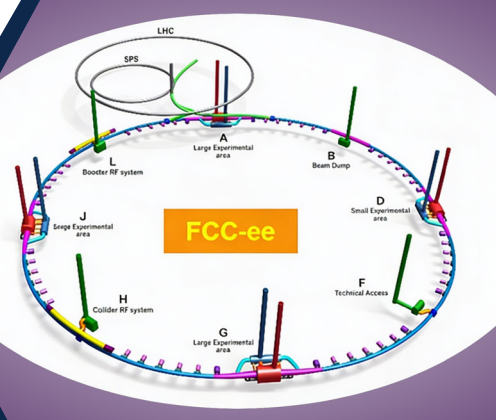
Gianluigi Arduini

Gianluigi Arduini graduated in Physics from the University of Milan in 1991. He contributed to the design of a hadron-therapy accelerator (CNAO, Italy) between 1992 and 1995. He joined CERN in 1995, where he has been a Principal Accelerator Physicist since 2011.
He led the Accelerators and Beam Physics Group from 2014 to 2020 and served as Deputy Head of the Beams Department and CERN Coordinator of the Physics Beyond Colliders (PBC) Study Group from 2021 to 2025.
His main activities have focused on the operation and performance improvement of the CERN accelerator complex. He contributed to the commissioning and operation of the LHC as Machine Coordinator and to the design of the HL-LHC as responsible for Accelerator Physics and Performance.
He has chaired the European Physical Society Accelerator Group and the IUPAP Working Group on Accelerator Science and was a member of the Physics Preparatory Group and the European Strategy Group for the 2026 update of the European Strategy for Particle Physics.

Contacts:

lydia.fayard@ijclab.in2p3.fr
yorick.blumenfeld@ijclab.in2p3.fr
nicolas.delerue@ijclab.in2p3.fr

www.ijclab.in2p3.fr/ijcolloquium



Com'IJCLab/CNRS/IN2P3-01/2026