

31st International Symposium on Lepton Photon Interactions at High Energies



Contribution ID: 237

Type: **Talk**

Overview of the FCC Program

Tuesday 18 July 2023 16:30 (15 minutes)

The 2020 visionary update of the European Strategy for Particle Physics endorsing the FCC feasibility study as a top priority for CERN and its international partners provides the HEP community with a powerful tool of investigations. As an essential and complementary step towards a 100 TeV hadron collider, the FCC will first feature an e^+e^- collider (FCC-ee). The very high luminosity, the exquisite energy calibration at the Z, WW, ZH and $t\bar{t}$ energies, the possibility of monochromatisation at $\sqrt{s} = m_H$, and the multiple detectors are building blocks of a unique program for FCC-ee, with high potential for discoveries. Such a machine offers ideal conditions for the study of the four heavy particles of the standard model with a flurry of opportunities for precision measurements, the observation of tiny violations of established symmetries, the searches for rare or forbidden processes, and the exploration of the dark sector with the possible discovery of feebly coupled particles. A digest of this diverse and rich physics programme and of the corresponding experimental and theoretical challenges will be given in this presentation.

Author: GRAY, Heather (UC Berkeley/LBNL)

Presenter: GRAY, Heather (UC Berkeley/LBNL)

Session Classification: Detectors and facilities

Track Classification: Detectors and facilities