

Flavours at FCC Workshop - Part II

16 June 2026 - 19 June 2026

CERN

Scientific Programme

Physics at the Flavoured Circular Collider: preparing for heavy quark and lepton studies in the post HL-LHC/Belle II era

Second in-person event. Details to be announced in coming weeks. Block outline of timetable is reliable, but exact order of WGs might change. We will also schedule a hands-on tutorial in FCC s/w for the afternoon of the day preceding the workshop.

Experimentalists and theorists from the world-wide particle physics community are invited to participate in an extended workshop, beginning autumn 2025 and scheduled to continue until summer 2027 to deepen our understanding of the potential of the FCC-ee for heavy-flavour physics in the quark and lepton sector. This will build on the studies performed for the Conceptual Design Report and Feasibility Study Report and seek to set the agenda, and prepare the tools, for physics in the post HL-LHC and Belle II era.

The workshop will be focused on the physics opportunities and challenges at FCC-ee, with the following goals:

- Obtain realistic estimates for precision on key flavour benchmarks;
- Identify and develop strategies for potentially limiting systematics from experiment and theory;
- Work closely with the physics performance and detector-concept groups to investigate the requirements on and impact of various detector designs;
- Formulate new measurement strategies and identify new decay modes of interest;
- Understand the complementarities with the HL-LHC;
- Explore the interplay with the Higgs, electroweak, and possible hidden sectors;
- Assess whether there exists a physics case for extending the TeraZ programme beyond 6×10^{12} decays.

As well as pure flavour studies, the workshop will address electroweak measurements at the Z pole involving fully reconstructed heavy-flavour final states, and will also consider the rich possibilities that exist in hadron spectroscopy with the TeraZ dataset.

In addition, consideration will be given to how the flavour programme can be extended at FCC-hh, and what requirements this will place on detectors.

The output of the workshop will be communicated in a report that will be a resource for the TDRs of the collaborations that will form after project approval, motivate future theoretical work, and inform the eventual operational plan of the FCC-ee.

In order to join the workshop discussions, please sign up on the mailing lists and mattermost channels that can be found under Subscription to mailing lists in the left-hand menu bar. (Only visible to workshop registrants.)

WG1 -- Rare decays (FCNCs)

Conveners:

W. Altmannshofer (Santa Cruz), Marzia Bordone (CERN/Mainz), Thibaud Humair (DESY), Renato Qualigiani (CERN), Eluned Smith (MIT), Niharika Rout (DESY)

e-group list: FCC-PED-PhysicsGroup-Flavours-Rare@cern.ch

To subscribe: <https://e-groups.cern.ch/e-groups/EgroupsSubscription.do?egroupName=FCC-PED-PhysicsGroup-Flavours-Rare>

Information on mattermost channel available to workshop registrants.

WG2 -- CP-violation in b-hadron decays

Conveners:

Alberto Bragagnolo (CERN), Laurent Dufour (CERN, EPFL), Matt Kenzie (Cambridge), S. Schacht (Durham), Michele Veronesi (IPMU/UTokyo), J. Zupan (Cincinnati)

e-group list: FCC-PED-PhysicsGroup-Flavours-CPV@cern.ch

To subscribe: <https://e-groups.cern.ch/e-groups/EgroupsSubscription.do?egroupName=FCC-PED-PhysicsGroup-Flavours-CPV>

Information on mattermost channel available to workshop registrants.

WG3 -- CKM profiles - charged-current processes and QCD

Conveners:

Cristina Agapopoulou (IJCLab), A. Juttner (CERN), Markus Prim (Bonn), D. Robinson (LBL), Raynette van Tonder (KIT), Xunwu Zuo (EPFL)

e-group list: FCC-PED-PhysicsGroup-Flavours-CPC@cern.ch

To subscribe: <https://e-groups.cern.ch/e-groups/EgroupsSubscription.do?egroupName=FCC-PED-PhysicsGroup-Flavours-CPC>

Information on mattermost channel available to workshop registrants.

WG4 -- Charm: mixing, CPV, and rare decays

Conveners:

Michel Bertemes (Vienna), Gudrun Hiller (CERN, Dortmund) Nathan Jurik (CERN), Jernej Kamenik (Ljubljana), Dominik Mitzel (Dortmund)

e-group list: FCC-PED-PhysicsGroup-Flavours-Charm@cern.ch

To subscribe: <https://e-groups.cern.ch/e-groups/EgroupsSubscription.do?egroupName=FCC-PED-PhysicsGroup-Flavours-Charm>

Information on mattermost channel available to workshop registrants.

WG5 -- Tau physics and selected electroweak properties

Conveners:

Maria Cepeda (CIEMAT), Romain Madar (Clermont), Aurélien Martens (IJCLab), Emilie Passemar (Indiana / Valencia), Olcyr Sumensari (IJCLab)

e-group list: FCC-PED-PhysicsGroup-Flavours-TauEW@cern.ch

To subscribe: <https://e-groups.cern.ch/e-groups/EgroupsSubscription.do?egroupName=FCC-PED-PhysicsGroup-Flavours-TauEW>

Information on mattermost channel available to workshop registrants.