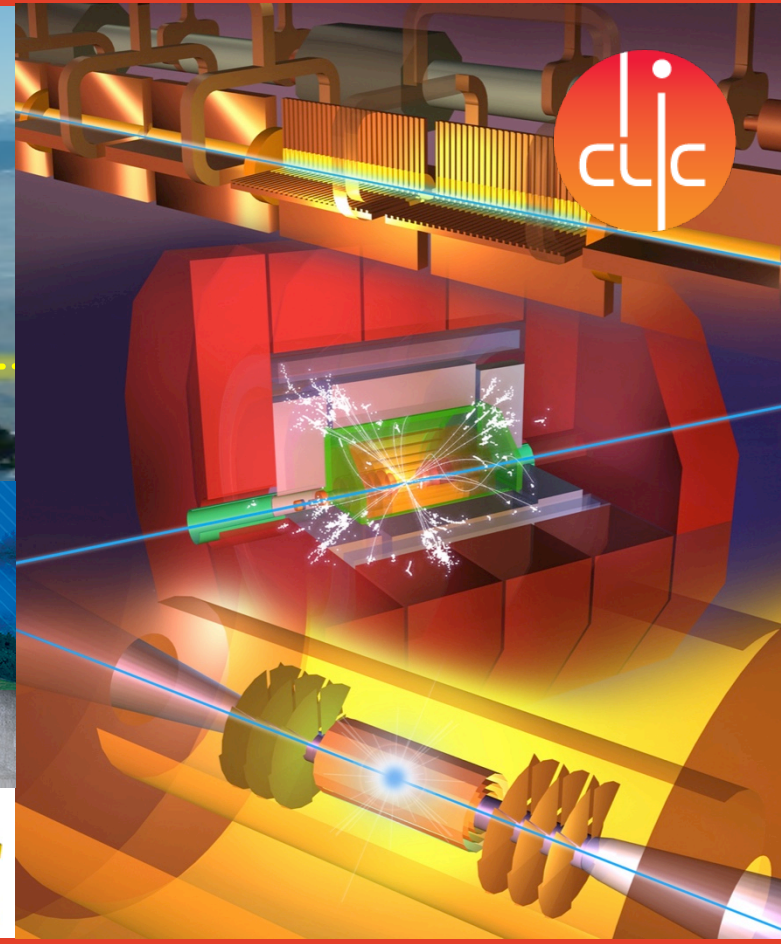


ECFA Higgs Factory activities



European LC Meeting, 31st May 2023

Aidan Robson

Recent / ongoing mini-workshops

WG1 Physics Programme

ECFA Higgs/Top/Electroweak mini-workshop on e+e- physics at 160-240 GeV

12 May 2023 – online

<https://indico.cern.ch/event/1271419/>

WG3 Detector Technologies

Topical workshop on Calorimeters, Photodetectors and Particle ID for Future Higgs Factories

3-5 May 2023 – CERN + hybrid

<https://indico.cern.ch/event/1256374/>

Topical workshop on Vertexing & Tracking

30-31 May 2023 – CERN + hybrid

<https://indico.cern.ch/event/1264807/>

 *ongoing*

Forthcoming mini-workshops

WG2 Physics Analysis Methods

2nd Topical Meeting on Generators (with WG1)

21-22 June 2023 – Brussels + hybrid

<https://indico.cern.ch/event/1266492/>

2nd Topical Meeting on Reconstruction

– focusing on higher-level tools

11-12 July – CERN + hybrid

<https://indico.cern.ch/event/1283129/>

All activities linked from the main page of the study:

<https://indico.cern.ch/event/1044297/>

Focus Topics

1. H- \rightarrow ss
2. ZH angular distributions / CP studies
3. Higgs self-coupling
4. W mass at threshold and continuum
5. Full studies of WW and evW processes, aTGCs
6. Top threshold detector-level sim study & scan optimisation
7. Luminosity measurement
8. New exotic scalars
9. Long-lived particles
10. Exotic top decays
11. CKM matrix elements with on-shell & boosted W decays
12. $B \rightarrow K^{0*} T^+ T^-$
13. EWK precision: 2-fermion final states
14. Measurement of b- and c-fragmentation functions
/ hadronisation
15. Measurement of gluon splitting to bb / cc
& interplay with separating $h \rightarrow$ gluons from $h \rightarrow$ bb/cc

	relevant \sqrt{s}			
	91 GeV	161 GeV	240/250 GeV	350-380 GeV
1			X	X
2			X	X
3			X	X
4		X	X	X
5			X	X
6				X
7	X	x	x	x
8	x	x	x	x
9	x	x	x	x
10				x
11		x	X	x
12	X			
13	X	X	X	X
14	X	x	X	X
15	X	x	X	X

- ◆ Progress: 'expert teams' are starting to meet and develop a detailed proposed work list for each topic; these will then be shared on the study website and via WG email lists as calls for interest/volunteers

2nd ECFA Workshop, Paestum 11–13 October 2023

- ◆ Hosted by INFN Napoli, Università degli Studi di Napoli Federico II & Università degli Studi di Napoli Parthenope

◆ **Registration now open:** <https://agenda.infn.it/event/34841/>

SECOND • ECFA • WORKSHOP on e^+e^- Higgs / Electroweak / Top Factories

11-13 October 2023
Paestum / Salerno / Italy

Topics:

- Physics potential of future Higgs and electroweak/top factories
- Required precision (experimental and theoretical)
- EFT (global) interpretation of Higgs factory measurements
- Reconstruction and simulation
- Software
- Detector R&D

The European Committee for Future Accelerators (ECFA) organises a series of workshops on physics studies, experiment design and detector technologies towards a future electron-positron Higgs/electroweak/Top factory.

The aim is to bring together the efforts of various e^+e^- projects, to share challenges and expertise, to explore synergies, and to respond coherently to this high-priority item of the European Strategy for Particle Physics

- ◆ Low cost (€460 full board, single-room accommodation) → encourage wide participation especially among early-career researchers
- ◆ Expecting pre-meetings and software tutorial on 10th October before main workshop
- ◆ Programme will include plenary & parallel sessions; parallel will have both invited and submitted talks. Abstract submission for parallel talks and posters will open very soon

Everyone is encouraged to come!

- ◆ Programme ctte:
Patrick Koppenburg, Jenny List, Fabio Maltoni, Jorge de Blas
Patrizia Azzi, Fulvio Piccinini, Dirk Zerwas
Mary Cruz Fouz, Giovanni Marchiori, Felix Sefkow
Christos Leonidopoulos, Aidan Robson