

First General meeting of the LHC EFT Working Group

<https://indico.cern.ch/event/943996/>

Introduction

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WG web page: **<https://lpcc.web.cern.ch/lhc-eft-wg>**

to join the WG mailing list:

<https://simba3.web.cern.ch/simba3/SelfSubscription.aspx?groupName=lhc-eftwg>

Steps so far

- Open community discussion 17 April 2020 at Higgs EFT 2020 (virtual), <https://indico.cern.ch/event/908975/>
- Conveners selected in consultation with other LHC WGs, ATLAS and CMS physics groups, and input from the TH community
- Mandate defined and endorsed by ATLAS and CMS physics coordination, LPCC and WG conveners
- 6 conveners' meetings so far (discussion of mandate, preparation of 1st general mtg)

CONVENERS	ATLAS	CMS	TH
EW WG contacts	Kristin Lohwasser	Pietro Govoni	Celine Degrande
Higgs WG contacts	Nicolas Berger	Giovanni Petrucciani	Jorge de Blas
Top WG contacts	Nuno Castro	Florencia Canelli	Eleni Vryonidou
	Pierre Savard	Andrei Gritsan	Ilaria Brivio, Sally Dawson, Gauthier Durieux, Admir Greljo

Reach all through lhc-eftwg-admin@cern.ch

WG mandate

<https://lpsc.web.cern.ch/lhc-eft-wg>

The LHC effective field theory working group (LHC EFT WG) gathers members of the LHC experiments and the theory community to provide a framework for the interpretation of LHC data in the context of effective field theories (EFTs). The LHC EFT WG studies the physics requirements needed to facilitate an interpretation commensurate with the available measurements performed in a wide range of different processes, including Higgs bosons, top quarks, and electroweak bosons. It provides recommendations for the use of EFT by the experiments to interpret their data, and a forum for theoretical discussions of EFT issues. This includes recommendations on the theory setup as well as Monte Carlo simulation and other tools needed for EFT analyses. Further theoretical issues cover, for example, theoretical constraints, higher-order corrections, BSM interpretations. The LHC EFT WG also discusses common uncertainties and combination procedures used by the experiments. It focuses on recommendations, developments, and combinations that require coordination between the existing WGs (Higgs, Top, Electroweak), in order to allow global EFT analyses inside and outside experimental collaborations. EFT-related activities in these working groups will continue if they pertain only to that group, in close contact with the LHC EFT WG.

The steering group (SG) of the LHC EFT WG consists of experimental and theory conveners. The ATLAS and CMS experiments will each appoint 4 conveners, of which three will be contacts to each of the Higgs, Top, and Electroweak WGs. Up to 8 theorists will also be appointed by the head of LPCC, in consultation with the Higgs, Top and EW WG conveners for the selection of their 3 theory contacts. Contacts from the other LHC experiments can be envisaged as well. The mandate of the conveners is two years, renewable once, and staggering among outgoing/incoming and continuing conveners is encouraged.

The LHC EFT WG operates by holding public meetings where all relevant topics are discussed. Smaller meetings with a specific focus may be scheduled, and subgroups may be formed as deemed necessary by the SG. The subgroups would report on their activities in the plenary meetings. A special case is that of possible combinations or comparisons of experimental data. In this case the meetings will be restricted to members of the relevant experiments.

Plan of this meeting

- The ongoing EFT efforts by ATLAS and CMS, and the TH perspective
- The ongoing EFT efforts of the other WGs
- Global fits experience from the preparation of the ESPP briefing book, non-LHC EFT inputs, re-interpretation
- Discussion of the key topics, issues, targets identified by the conveners, following the feedback from the April preparatory meeting (see [google doc](#))