

# Working Group 2 (Jets and EW bosons+jets): Introduction and Goals

Mario Campanelli, Deniz Sunar Cerci

LHC EW WG General Meeting  
10-12 July 2024





- LHC EW WG2 group established to foster a collaborative discussion platform
- Aim: Understand what is being done and how it is being done across the four experiments
- Objective: Achieve as much uniformity as possible in methodologies and analysis
- Focus Areas: Our group encompasses a variety of domains including jets, photons, and  $V + \text{jets}$ , ensuring comprehensive coverage and integration of these key topics.

## The LHC-EWWG2 Jets and Bosons subgroup conveners:

- ATLAS: Mario Campanelli
- CMS: Deniz Sunar Cerci
- LHCb: Will Barter
- ALICE: James Mulligan, Nima Zardoshti
- TH: Marek Schoenherr

- Serve as a discussion platform for activities across the four LHC experiments
- Ensure a coherent approach and alignment in analyses
- Promote best practices and standardization
- Regular meetings every 3-4 weeks: to have updates and discussions, to keep the work aligned and on track
- Fixed meeting times: Wednesday, 3 PM (CERN time!)

## Useful resources and contact information

- Twiki: <https://twiki.cern.ch/twiki/bin/view/LHCPhysics/EWWG2>
- Plenary meetings: [Indico category](#)
- Mailinglist: [lhc-ewwg-vjets](mailto:lhc-ewwg-vjets)
- E-mail: [lhc-ewwg-vjets-admin](mailto:lhc-ewwg-vjets-admin)

## Current focus: jet substructure

- In the context of the LHC EW WG2, which also includes jets
- Writing a comprehensive report on jet substructure
- Goal: Revamp the jet substructure activity and integrate diverse contributions
- More details in [Mario Campanelli's talk](#)

## Additionally discussed (will be discussed) topics:

- Energy correlators inside/between the jets ✓
- Jet and dijet cross section measurements ✓
- Lund jet plane normal dijet events, in ppbar and top and W jets, Lund subjet multiplicities.
- Isolated Photons/diphotons and jets.
- b fragmentation
- **Feel free to propose ideas for additional discussion topics!**

## [14:40 - 16:30] Session: Working Group 2 (Jets and EW bosons+jets)

- Ongoing CMS tuning efforts (Jie Xiao)
- Ongoing ATLAS tuning efforts (Ynyr Harris)
- Energy dependence of intrinsic  $k_T$  with the PB method (Natasa Raicevic)
- V+light jets (ATLAS+CMS) (Giorgio Pizzati)
- V+light jets (LHCb and ALICE) (Nathan Grieser)
- Energy-energy correlation measurements (CMS+ATLAS) (Meng Xiao)

## [17:00 - 18:30] Session: WG1/WG2 Common Topics (Drell-Yan physics and EW precision measurements, Jets and EW bosons+jets)

- Low-mu runs (ATLAS) (Fabrice Balli)
- Low-mu runs (CMS) (Jan Eysermans)
- Low-mu run (FWD perspective, CMS) (Michael Pitt)
- Low-mu run (FWD perspective, ATLAS) (Savannah Clawson)
- Flavor and  $q/g$  def (theory talk) (Giovanni Stagnitto)
- Experimental aspects of flavour definition (Federico Sforza)

- LHC EW WG General Meeting opens a floor for questions and fruitful discussions.
- Please be active and feel free to share your thoughts, ideas and suggestions.

## Thank You to All the Speakers:

- We appreciate the effort and time each speaker has invested in their presentations.