

# **WG1 parallel session on parton shower and underlying event**

11/12/2018

# Points for discussion

- How to properly estimate these systematics?
  - Usual approach: 2-point syst PS1 vs PS2 (typically Pythia8 vs Herwig7, sometimes Pythia8 vs Sherpa), mostly on acceptance, sometimes also on shape. Sometimes also UE tune variations included (but much smaller).
  - Is what we do reasonable? Can we do better?
    - ➡ VH, ttH contributions
- How should we correlate them between different production mechanisms, or with the background, or between production and decay?
- What are the best available tools on the market? Are there some models better than others?
  - ➡ VBF contribution