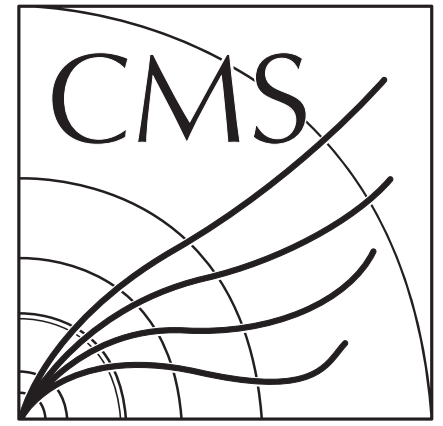
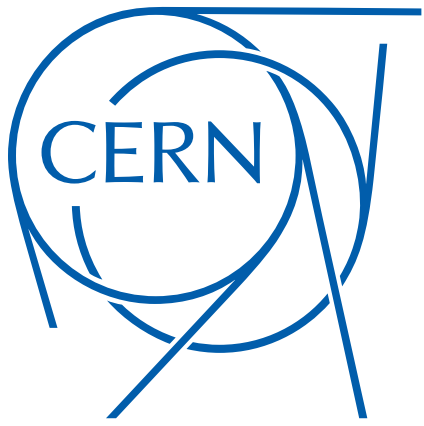
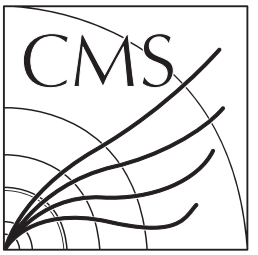
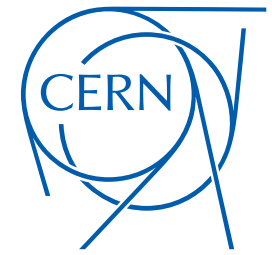




Plans for Statistics long exercise

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Summary



- People involved:
 - Short exercises - Johannes, Andrew, Oliver
 - Long exercise - Adrian, Andrew, Oliver
- Outline of the exercise:
 - Beginning-to-end example of the statistical part of an analysis, using combine and related tools
 - ▶ **Building datacards**, shape templates & systematics, use of control regions / rateParams
 - ▶ **Building a RooFit workspace** from the datacard - taking account of MC stat uncertainties
 - ▶ **Model diagnostics** - asimov dataset, constraints, NP impacts, post-fit distribution plotting, toys
 - ▶ **Results** - expected/observed asymptotic limits, p-values, signal strengths, uncertainty breakdown
 - ▶ If time allows - custom physics models, parametric background functions, LEE, toy-based CLs limits
- To-do:
 - Define example input analysis ($H \rightarrow \tau\tau$ a likely candidate)
 - A lot of material can be adapted from [previous combine tutorials](#)
- Timeline:
 - end of March: first running prototypes
 - end of May: final version
 - end of June: test on students
- Technical requirements:
 - CMSSW, small amount of disk space per user (~ 1 GB), possibility of condor/batch submission could be useful