# Introduction

Ricardo Gonçalo (RHUL)
Higgs Weekly Meeting – 22 March 2012

News! News! News!

- Higgs publication plan for this year
  - From physics coordination and Higgs conveners:
- H->bb paper:
  - Higgs approval of H->bb paper on Thursday 29 (next week)
  - Mid-April – deadline for all drafts in all Higgs channels
    - i.e. we have two weeks to go from Higgs re-approval to approved draft 2
- After H->bb paper:
  - Late April: internal note to document plans for year based on MC studies

  ICHEP:
  - H->γγ and H–>ZZ essential updates for ICHEP
  - Other analyses: full status reports (from acceptance challenge to limits) on this timescale, but do NOT expect to become public until after ICHEP
  - Present 2011 and 2012 as independent datasets for ease of combination

  Later:
  - Complete round of Higgs results for early September – European Strategy meeting in Krakow
  - Second round of results around December
  - All results to be as CONF Notes, not papers
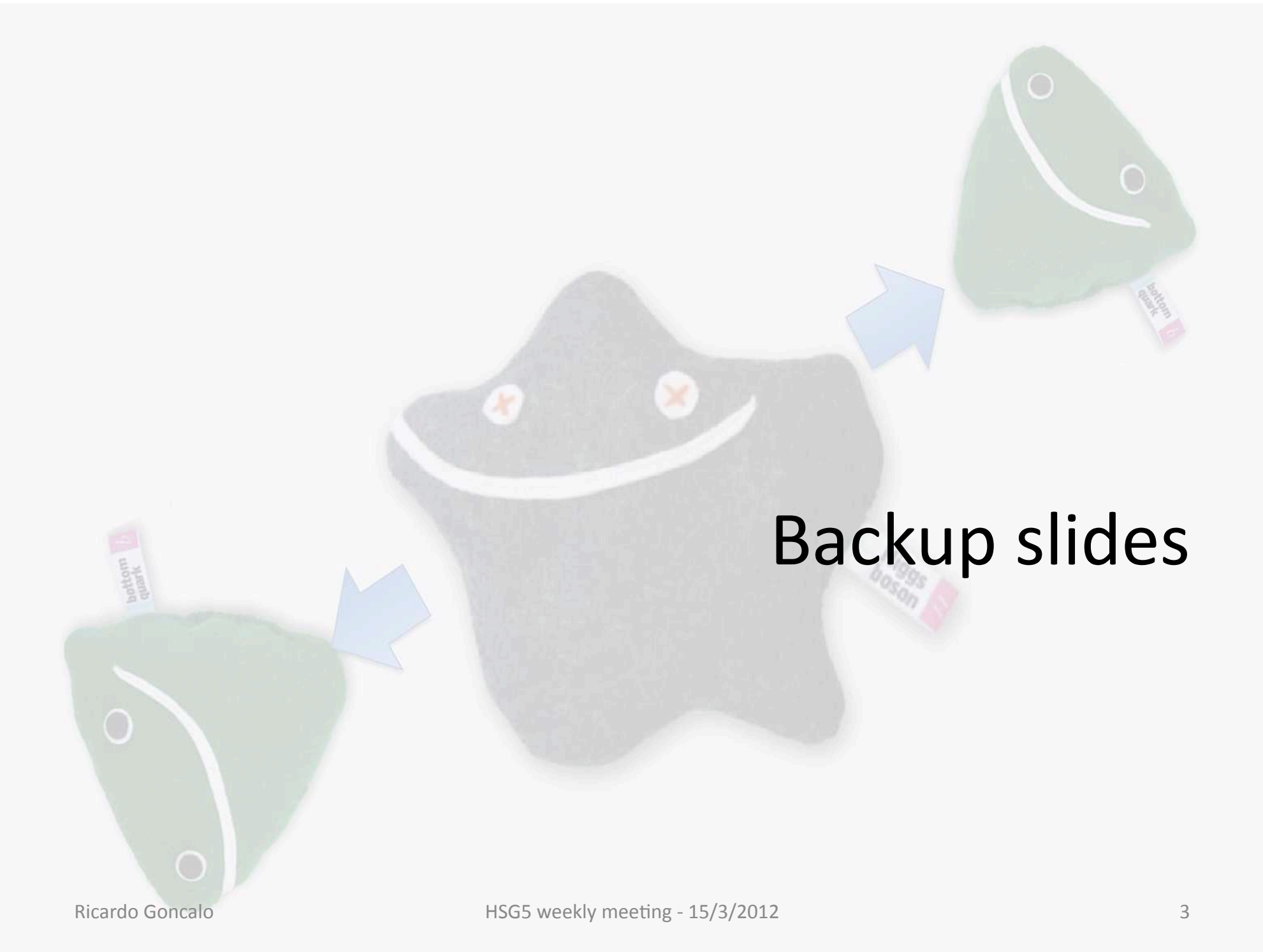
Backup slides

To do list for paper

- Time scale: end of March/beginning of April (discussion on detailed schedule ongoing)
- b-tagging scale factors: waiting for final b-tagging scale factors
  - Delay due to changes after a bug corrected in one of the b-tagging analysis
  - Discussion ongoing with conveners on what to do for H->bb paper
- METUtility: will move to new version for final analysis run
- Jet pileup correction: to be applied for final run – see Jike's talk today
- Di-b-jet mass scale: will apply 5% correction to m(b,b)
- Top normalization scale factors:
  - Changing to new method to improve consistency with W+jets and with ZH->lvbb analysis
- ΔR_{jj} study: look again at low ΔR_{jj} region to answer EB questions
- Limits:
  - Small problems found in H->bb combined limits – cross checks ongoing with Lianliang, Silje and Giacinto
  - Lianliang running toys
- Smoothing of backgrounds:
  - Previously done in llbb/lvbb but not on vvbb – discussion ongoing with stats forum
- Theory uncertainties should be revisited slightly: to do
  - We used LO (Pythia) signal MC and assigned a flat 10% theory uncertainty (acceptance modeled at LO)
  - Apply uncertainty equal to difference between the LO and NLO QCD cross sections
  - Apply EW NLO corrections as a multiplicative factor to cross section in each bin (no effect on acceptance)
  - Cross-check size of uncertainties on pT(W/Z) and Njets distributions
- Variation of single-top, Wc and Zc backgrounds in vvbb analysis: to do for final results
- Update text:
  - Explain better the methods used in analyses, especially concerning multiple scale factors and fits to data etc
  - Should we aim for longer paper or to remove much of the information and aim for a shorter paper?
  - Smoothing of the backgrounds in llbb/lvbb: should be mentioned in support note