



# Physics Workshop at Elba



# Practicalities

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- The meeting will start the day before the CM, and run in parallel with the accelerator and detector technical boards.
- There will be a limited number of rooms (30-40), so people should register early to avoid disappointment.
- Registration will open soon...
  - So if you are planning to attend this meeting, you want to register early.



# WG Reviews

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- We would like convenors to think about potential speakers who can give a review of their particular area.
- All WG's should give a short review of their area (so if there is no external speaker one of the WG responsible should be available to give a talk)



foci: aimed at making new inroads into these areas of physics

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- $B_s$  physics
- Charm physics
- Polarisation



# tau

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- We would like to see reports on the following
  - $\tau$  to  $\mu\gamma$
  - $\tau$  to  $3\mu$ 
    - Experimental study (if ready on this timescale)
    - Theoretical calculation of spin correlations???
  - Chirality tests?
  - CP violation
  - EDM
  - What do you loose if the polarisation is downgraded from 80% to 70%?



$B_{u,d}$

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- $\Phi\Phi K$
- $K\nu\nu$
- $TV$
- $X_s II$
- $X_s Y$
- $V_{ub}$ 
  - Phenomenological and experimental studies of what one can do with SuperB data samples.
  - Relationship to Lattice
  - etc.
- Using 5S data to measure  $S$  in  $\pi^0\pi^0$



## $B_s$

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- Want to see a review concentrating on the main 3-4 reasons for a Y(5S) run at SuperB.
- Normalisation modes for  $B_s$  to  $\mu^+\mu^-$ 
  - Sheldon Stone is investigating other methods for normalisation that don't rely on data from an e+e- machine, but these could be limited.
- Specific example for  $B_s$  to  $\gamma\gamma$  to show why this is really useful: in general want to have a sufficient review so that we can justify having this channel in our interplay matrix.
- ...?



# D

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- TDCPV work review
- Controlling penguins in  $\Delta A$ 
  - This requires a number of modes, and we should have someone review the situation on this timescale.
  - Would be good to have numerical studies showing what SuperB brings to the table.
- General issue of controlling hadronic uncertainties in TDCPV measurements.
- D to  $\gamma\gamma$ : we know this is important for interpreting any di-muon measurement made by LHCb, should try to make inroads into this area.
- Review charm threshold measurements that "beat the socks off of" B factories.
- Review of Lattice & Charm would be useful.





# Precision EW

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- Review of the status (if required)
  - We have a good understanding of the precision of these measurements at SuperB, could be worthwhile discussing the SuperB average of measurements at Elba, just for completeness.
  - What NP can we constrain using data from SuperB? Ask Vives to talk on this subject.



# Spectroscopy

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- Ric already foresees some contributions in this area.
  - Direct searches
  - 2-3 contributions expected in all.



# External Experimental Speakers

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- LHCb: Someone to talk about charm CPV measurements.
- LHC:  $B_s$  to  $\mu^+\mu^-$
- BES III: New results from charm threshold.