Inputs / Outputs:
a template for a discussion

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What do we want to do?

- Include flavor physics observables in the standard susy tools in a sistematic way
- Constrain susy spectrum using flavor data
  (avoid wasting time simulating points that are incompatible with present data)
- Constrain susy flavor structure using LHC data?
- ...

Which observables are relevant?

- Rare B decays, BRs and asymmetries ($B \to X_s \gamma$, $B \to X_s l^+ l^-$, $B_s \to \mu^+ \mu^-$, possibly a few exclusive channels...)
- Rare K decays $K \to \pi \nu \nu$
- K, B_d and B_s mixing
- Please ?clean? stuff only
- Theoretical accuracy in SM well investigated (though not always universally agreed upon)
- Theoretical error in Susy has been considered only occasionally (one aim of the workshop?)

Modular structure

- Short distance info => Wilson coefficients (model dependent, universal)
- Wilson coefficients evolve down to low B or K scale, ADM model independent and universal
- Matrix elements process dependent, model independent
- BUT watch out! NEW OPERATORS absent in the standard model may appear. Constrained flavor structure helps reducing their number
- A library of WCs at low scale μ, plus a library of matrix elements including power corrections etc?

Short distance information (INPUT)

- ✓ Susy spectrum, couplings and mixing parameters from standard codes
- ✓ BUT which flavor susy structure? most general? MFV? Which MFV?
- ✓ Need to find a balance, perhaps start with most constrained framework
- ✓ In all cases, need a common language (set of common accepted conventions)

Wilson coefficients

- Existing calculations routinely at NLO in SM (ie $O(\alpha_s)$ corrections)
- In most cases Susy contributions at LO (a few relevant exceptions: $B \to X_s \gamma$, $B \to X_s l^+ l^-$, rare K,... but only in specific scenarios)
- Need to strike a balance, decide where we really need full NLO, and encourage new calculations if needed

Matrix elements

- Again, at NLO in most SM cases
- include non-pert corrections (rare decays)
- dedicated lattice calculations for bag parameters (K,B mixing)
- Electroweak effects occasionally important at O(5%) level, included in SM