Input from WG1

yesterday:
after an introduction by Rouven
9 talks on experimental techniques:

- 3 directionality (graphene, emulsion, gas)
- 2 bubble chambers (scintillating, pico)
- 3 solid state detectors (Si CCDs, Si skipper, Ge detectors)
- 1 charge only readout for liquid xenon TPC

Input from WG1

9 talks in yesterday's sessions:

- 3 on detectors with directionality (graphene, emulsion, gas)
  - **beat the neutrino background limit**
  - **wimp astronomy**

- 2 on bubble chambers (scintillating, pico)
  - **flexibility on the recoil target**
  - **spin dependent targets**
  - **lowering neutrino background limits of existing targets**
  - **very scalable**

- 3 on low threshold solid state detectors (1kg of SI CCDs, skipper CCD, Ge detectors)
  - **lower threshold (~ single e)**
  - **low mass dark matter**
  - **electron recoil**

- 1 on charge only readout for liquid xenon TPC
  - **lower threshold (~ single e)**
  - **low mass dark matter**
  - **electron recoil**

Questions from WG1

Seems like we are starting to develop the tools to look into the hidden valley (change in priors as discussed by Neil). We heard about some ideas for “small” efforts that could look into this right away, and also some R&D ideas for future experiments in this area.

At the same time, we saw healthy detector R&D, with impressive recent developments, that could improve our search in the WIMP models. Maybe these could be very important to confirm any signal hint seen by one of the existing experiments, or push the limitations of the existing experiments.

The balance between focusing on compelling theory targets, and keeping the diversity of the programs is not trivial. How do we do this?

Questions from WG1

Over the past few years we got “good” at doing limits plots and comparing different results in the WIMP paradigm.

If we are going to start considering new models (dark photons), an effort will be needed to standardize the plots on these models. We need to make sure that everyone is making similar assumptions when comparing results (inside DD and when comparing DD with accelerator) . Is it σ_e vs $M\chi$?