SnowMass2021

DPF Core Principles and Community Guidelines (CP&CG)

APS DIVISION OF PARTICLES & FIELDS

- By participating in this meeting, you agree to adhere to the CP&CG
  - **Respect and support community members**
  - **Commit to constructive dialogue and take initiative**
  - Details of what this means, expectations for behavior, and accountability procedures are provided in the CP&CG document linked at: https://snowmass21.org/cpcg/start

- Everyone is invited to invoke the CP&CG as needed to encourage constructive and supportive collaboration

- The conveners of this meeting are your recommended first point of contact for reports of CP&CG violations occurring here
  - The conveners have received training in the CP&CG and how to handle reports
  - The CP&CG accountability procedure is designed to encourage early intervention and is flexible enough to appropriately address issues ranging from the discourteous to the egregious
  - Please do not hesitate to contact us!

- Snowmass is most successful when everyone's voice can be heard!

Neutrinos, dark matter, and underground facilities

Cross frontier: NF/CF/UF

Hugh Lippincott (moderator), Tim Bolton, Patrick Decowski, Alvine Kamaha, Brianna Mount, Gabriel Orebi Gann, Danielle Speller

Goals of this session

- Discuss underground facility needs for future neutrino and cosmic frontier experiments
- Do we have adequate capacity underground as a community?
- What should we do to better organize our underground facilities?

Stakeholders

- Cosmic Frontier, dark matter direct detection experiments
- Neutrino Frontier: low-background experiments, including low-energy astrophysics and high-energy long baseline neutrino physics
- Underground Frontier - siting and facilities for future experiments, optimization/coordination of current use across experiments and fields

Supporting Capabilities for Underground Experiments Survey

Gather information on the needs of current and future underground experiments, and the capabilities of existing underground labs, in terms of

- Cleanliness requirements (e.g. cleanroom type, size, dust & radon concentration measurements and surface contamination, need for low-radon space)
- Underground assay needs (e.g. material to be assayed, techniques by which they will be assayed, sensitivity needed, are results proprietary?)
- Need for underground fabrication/prototyping facilities, need for underground storage of material

Please be on the lookout for the email with the survey link and contact us* with questions/comments or to ensure you receive the survey.

Alvine Kamaha: akamaha@albany.edu, Richard Schnee: richard.schnee@sdsmt.edu, Brianna Mount: brianna.mount@bhsu.edu

Panelists (CW)

- Mary Bishai, BNL (DUNE)
- Laura Marini, UC Berkeley (CUORE)
- Elaine McCluskey, FNAL/SURF (LBNF/DUNE)
- Sean Paling, Boulby Director
- Kim Palladino, Oxford (LZ)
- Nigel Smith, SNOLAB Director
- Bob Svoboda, UC Davis ()

Some discussion questions (but not meant to crowd out conversation)

- Do we have enough space underground to do the physics we want to do in the next decade?
- Do we need new UG capabilities to accomplish our science goals?
- What would you like to see as an outcome of the Snowmass process (specifically with regard to “Neutrinos, dark matter, and underground facilities)?
- ...