A focus of mine within the team

Many thanks to:
**Sam Homiller** (Harvard)
and
**Sam Hedges** (LLNL)!
Goals and Overarching Philosophy

• Didn’t request opinions on specific experimental plans
  • Difficult to enumerate and prioritize considering scale
  • Should not choose “winners” and “losers”, avoid lobbying
• Understand community’s views on where the field...
  • ...is heading...
  • ...and where it should go potentially, instead
  • We see a future beginning; do we want to go there?
• Effects of future experiment’s long time-scales?
• Public service in software and data management
• Underfunded areas across the field
• Multiselection allowed
  • 40% respondents selected > 2 primary Frontiers
• ~100+ experts in most all Frontiers
How well informed do you feel about future scientific directions within the Frontiers?
How well informed do you feel about future scientific directions within the Frontiers?

- Significant unfamiliarity about Community Engagement and Underground concerning
- Cosmic prevalent in the community and public consciousness
- Neutrino and Energy are strong
- Few experts in Instrumentation, Underground, Community Engagement, Accelerator
Where is the field going? Where should it go?
• Discovery potentials and funding pressures likely pushing size increases

• Community **prefers a more balanced approach in the future**
  • Likely can help optimize:
    • Rate of scientific outputs
    • Lower costs
    • Building greater experience within scientific career trajectories
Field sees many avenues being pursued currently
  - Arguably, these opinions are rather balanced

Community prefers a more balanced approach in the future
  - Potentially broadening horizons, as well
• Field largely believes more established programs are being prioritized

• Community **prefers a more balanced approach in the future**
  • New directions should be considered *more than they are*
• Community is focused on mostly established topics

• Community believes new directions should be pursued
  • Arguably little to no attention toward established topics
• Getting harder and harder to climb the ladder in particle physics
  • Almost no one thinks it’s getting easier
  • Poses threat of lost talents, even if only perceived by candidates

• Community believes in most all cases that this should become easier
  • How to achieve this more fairly and openly should be considered for inclusion within the Snowmass Report
We may be taking too long to do good science
• As experiments and collaborations enlarge, this is expected

Potential questions:
• How does an early career physicist envision their future when the experiment they design may not be built during their career?
• Now, consider the same, but for a graduate student; how long should degrees take in the future?
• How do we as a community maintain talent across such timescales?
• Given such timescales, can funding arguments continue to be made for maintaining the HEPA-to-industry engine, or will such industries begin training candidates themselves to save time?
Are long timescales of experimental programs in HEPA concerning for the field?
Which of the following data/software/analysis code do you think should be made open source alongside published results?

- Raw experimental data for all results
- Raw experimental data only for important/controversial results
- Minimally processed (ready for analysis) data
- Data/results as it appears in publications
- Publication-specific analysis code and simulations
- Fully corrected and reconstructed data/Legacy samples
- Other
- I don't know/Not applicable

Percent of respondents
Thank-you for your attention!

Any questions?

Happy Snowmassing!