

# Muon Collider Theory Discussion

What's been done so far?

What needs done?

Theorists and Muon Collider Collaborations?

# What's been done so far?

- A LOT! Thank you to everyone who has contributed - this truly is an example of how grassroots theory efforts and following the physics can help change the course of the field!
- The talks so far (and the rest of today) hopefully have given new people some idea - many collections: Muon Smasher's Guide, Snowmass muC Forum Report, IMCC etc
- Is there a better way to catalog more efficiently for new (and old people)? We don't need more lit reviews - web page, google doc etc?
- This is a friendly group so we want to facilitate "onboarding" for people interested in new things and make sure to credit existing work as well

# What needs done?

- We want to keep the growth going and continue to refine our arguments
- Dark Sectors, Flavor, Neutrinos, Nuclear Physics - all areas still with low hanging fruit and room for community growth
- Physics case for evolution to a muon collider is crucial - number of options no set path!
- <https://docs.google.com/document/d/1TSMtNwZbfcyBmz1tDDUBXsyjKScTEyXgNGqczqXAtG8/edit?usp=sharing>

# Theorists and muon collider collaborations

- Muon Collider Efforts benefit from theorists, easiest way to show is to “join” and support (both IMCC and whatever “this” is)
- We don’t often organize but we have the ability to help shape the directions - this is already evident through snowmass and P5 - your work matters!
  - **There IS an urgent need - a muC doesn’t magically appear on its own when the youngest students here are my age**
- Are there things we want for theorists specifically? This doesn’t need to be your typical large collaborations
- How can it benefit you potentially? Funding, recognition, sense of community, shaping your future?