Welcome and introduction

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Muon Colliders in the last decade

- Between 2011-2016 the MAP collaboration was formed to address key feasibility issues of a Muon Collider
 - Leveraged prior decades of study to identify a design path. Focused on a proton-driver based solution
 - Significant progress in all accelerator aspects
 - Demonstration of ionization cooling
- MAP was terminated in 2016 and most related work paused
 - All past work is documented at a dedicated <u>section</u> at Journal of Instrumentation

Recent Muon Collider work

- Meantime, increasingly growing interest in muon colliders from the particle physics community, especially in Europe.
- Formation of International Muon Collider Collaboration (IMCC) on the works.
- In Europe, CERN Council has charged the Laboratory
 Directors Group to develop the Accelerator R&D Roadmap
 for the next decade. Muon Colliders are considered.
 - Three community meetings organized with the goal to define the needed muon R&D with deliverables and demonstrators
 - Strong participation from US scientists in these meetings many served either as conveners or panel members

The birth of the Muon Collider Forum

- The Snowmass Energy, Theory and Accelerator Frontier Conveners have created a <u>Muon Collider Forum</u> to provide input to Snowmass on the muon collider based on the high level of interest shown recently
- The intention of this informal organization is to not compete with other efforts but to have a US driven component.
- Two coordinators from each frontier involved on this effort
- Since January of 2021, Muon Forum meets on a monthly basis and has invited several experts in the field to give presentations

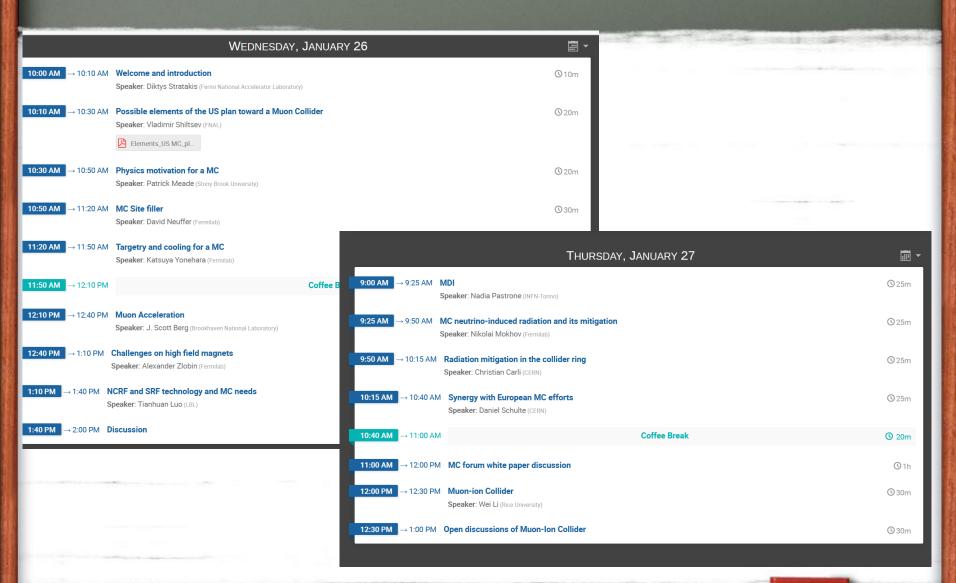
Moving Forward (1)

- Muon Collider forum goal is to produce a Muon Collider Forum Report for Snowmass.
- This joint AF/EF/TF Report will serve as a document summarizing the strong interest and support for a muon collider within the US HEP community.
- It will help to identify key areas where US can provide critical contributions to the global muon collider R&D efforts.
- Finally, it will present the concept of the "Fermilab Site-Filler" as one of options for hosting such a machine in the future.
- The Report will also be useful for the Snowmass frontier summaries and possibly P5 deliberations.

Moving Forward (2)

- We are hosting this workshop today to get the best possible feedback for writing this report
- The emphasis will be the accelerator part.
- This workshop is by invitation only, many of you are experts in sub-research areas in MAP organization, and we expect you to help us with the report.
- In addition, we also invite speakers from non-MAP to give us their perspectives.

Agenda for today and tomorrow



Thank you

Thanks to the Muon Forum coordinators for their support:

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