



Snowmass Agora on Future Colliders: Linear e^+e^- Colliders

December 15, 2021

- **Welcome to the first Snowmass Agora!**

ag·o·ra¹ /'agərə/ : a gathering place, assembly, public square

- **This is the first of a series of such events.**

- Organized jointly by the Snowmass Accelerator and Energy Frontiers and Fermilab Future Colliders initiative.

- **Agora Events (~ once a month, 3-5 pm Wednesdays)**

- Dec. 15, 2021 Linear e+e- Colliders
- Jan. 19, 2022 Circular e+e- Colliders
- Feb. 16, 2022 Muon Colliders
- Mar. 16, 2022 pp and ep Colliders
- April 13, 2022 Advanced Colliders

Please mark
your calendars!

- **Please note that you have to register for each Agora separately.**

The Objectives

- This Snowmass is an opportunity to study Energy Frontier facilities proposed abroad as well those that can be hosted in the US, which would shape the US/global HEP program.
- The objective of this series is to have a rigorous/critical discussion of options in various categories of colliders.
 - Well established project proposals
 - Emerging concepts
- What we hope can come out of this series
 - Improved understanding of strengths and weaknesses of various options (comparative as well)
 - Challenges: technical, fiscal, political and sociological, timescale
 - A roadmap for realization of a facility and/or a roadmap for R&D
 - Facilitate and influence white papers and subsequent summary reports

Other Series to come

Lecture Series Addressing Facilities

- From the announcement by the Snowmass Steering Group to all Snowmass participants (<https://snowmass21.org/announcements>)

“While we are entering the next phase of our Snowmass activities in consolidating our results and preparing the contributed papers, the Steering Group would like to sponsor a few lecture series and discussions, to be initiated and organized by the relevant frontiers, intended for all Snowmass participants. These will be built on the abundant information already provided by the current activities. The goal for the lecture series is to facilitate cross-frontier discussions and coordinations, to discuss how the science shapes the requirements on future facilities, and to help us in our process of reaching a clear vision for our decadal goals and beyond.”

- The common threads are that each topic relates to new accelerator project that the US is interested in both within and outside of the country and each involves the Accelerator Frontier
- You will soon learn about a three-lecture series on a program of measurements of muon properties
- At least two more series are being considered by the relevant frontiers
- We want these to develop into ongoing discussions, Q/A, and debates using various mechanisms such as SLACK channels, googledocs, etc.

We hope people from all Snowmass frontiers will participate in all of these since they will play an important role in shaping the future US program

- **Code of Conduct:**

Please be advised that you are required to comply with the APS code of Conduct for meetings, DPF Core Principles and Community Guidelines and Fermilab Statement of Community Standards. They are available on the web site

– <https://indico.fnal.gov/event/52161>

- **Recording of the session:**

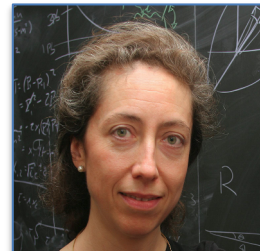
Please note that we are recording the whole session. The video recording will be made available on the web site later.

Program Committee

Energy Frontier Conveners



Meenakshi Narain
(Brown U)



Laura Reina
(FSU)



Alessandro Tricoli
(BNL)

Accelerator Frontier Conveners



Steve Gourlay (LBNL)



Tor Raubenheimer (SLAC)



Vladimir Shiltsev (FNAL)

Fermilab Future Colliders Initiative



Pushpa Bhat



Joel Butler

EF objectives

- Understand the impact of various colliders in developing a vision for this Snowmass in terms of physics reach and feasibility
- Understand complementarity of various collider options
- Discuss synergies with other frontiers
- Get open feedback from the broad Snowmass community
- Learn from these discussions in preparation of EF report

Moderators of the Agora today



Dmitri Denisov (BNL)



Sergey Belomestnykh (FNAL)

You can submit your questions/comments via

<https://docs.google.com/document/d/1yPgrHnJnQeDv9cBQCpJlghq35cnJzXv03F8EUVp8Bxs/edit>

You will also have opportunity to ask questions during the session.