Neutrino Theory Mini-Conference - TF11

Monday, 21 September 2020 - Wednesday, 23 September 2020

Scientific Programme

As part of the on-going 2021 Snowmass process, the Neutrino Theory topical group TF11 is organizing a virtual Neutrino Theory mini-conference fto be held on September 21-23, 2020. The meeting will encompass a broad range of topics in neutrino theory, including neutrinos in astrophysics & cosmology, neutrino cross sections, neutrinoless double-beta decay, oscillations, mass and flavor model building, and BSM physics at neutrino experiments.

The TF11 topical group is focused on the theory of neutrinos physics including:

Exploring the origin of neutrino masses. What is the physics responsible for nonzero neutrino masses? How does this physics connect to other outstanding questions in particle physics and cosmology

Uncovering the fundamental physics of flavor: What precision is required to measure the neutrino oscillation parameters?

Addressing current and future neutrino puzzles: Is there new physics behind the short-baseline anomalies?

We also concentrate on different aspects of theory for neutrino physics including:

Understanding astrophysical neutrino sources and how to extract different neutrino properties from cosmology

Theoretical challenges associated with the computation of neutrino scattering on different targets and at different energy scales, including CEvNS, neutrino-nucleus scattering up to DIS, ultra-high energy neutrinos scattering on the atmosphere or propagating through the Earth

Computation of nuclear-matrix elements for neutrinoless double-beta decays and related processes

Neutrino propagation and flavor evolution in dense environments

Establishing connections between searches for new phenomena at neutrino facilities and new-physics models

We strongly encourage you to submit a contributed talk on any of the topics above. Your inputs are extremely valuable.

Thank you form the TF11

Andre, Irina, Luis, and Saori