

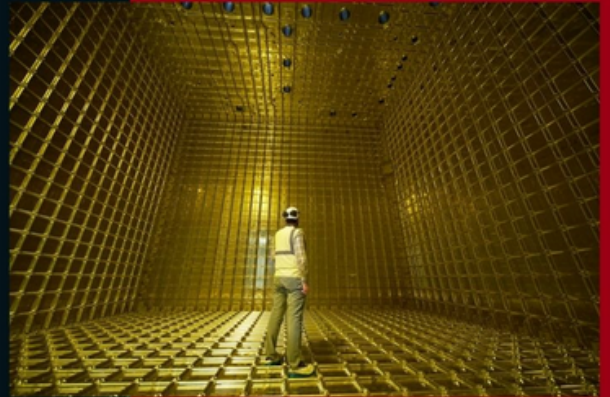
# COLLOQUIUM DFA

SEPTEMBER, 30TH 2021- 3 PM

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"Next generation neutrino  
experiments at accelerators"



IN PRESENCE AULA ROSTAGNI - ZOOM MEETING - YOUTUBE STREAMING

## " Next generation neutrino experiments at accelerators"

"Neutrino have never ceased to provide tantalizing questions and experimental surprises, providing possibly the strongest hints of physics beyond the current Standard Model.

The Deep Underground Neutrino Experiment (DUNE) in USA and the Hyper-Kamiokande (HK) experiment in Japan, currently under construction, are poised to deepen the investigation of the properties of this fascinating particle.

Their wide experimental program addresses topics like:

neutrino oscillation physics: determination of the neutrino mass ordering and the possible CP symmetry violation in the leptonic sector. This might provide information on the origin of the matter-antimatter asymmetry, one of the fundamental questions in physics of particles and in cosmology.

proton decay: its observation would be a sensational discovery in particle physics and providing a key point for grand unification theories.

observation of neutrinos coming from the collapse of a supernova in our galaxy: the measurement of the neutrino flux coming from this source would provide unique information about the first stage of the nucleus collapse and on the formation of a neutron star. They could also allow for the observation of the formation of a black hole.

atmospheric neutrinos.

Moreover, in consideration of the large statistics, they will provide the most comprehensive set of measurements of neutrino induced reactions and will be sensitive to several signatures of physics beyond the Standard Model."

**IN PRESENCE REGISTRATION FORM**  
**ZOOM MEETING**  
**LINK YOUTUBE**

<https://indico.dfa.unipd.it/event/231/>

<https://unipd.link/ColloquiumDFA-30-09-2021>

<https://unipd.link/AulaRostagniUniPadovaDFA>