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## **(I) The future of high-energy neutrino flavour and the search for new physics**

*Tuesday 8 June 2021 15:50 (20 minutes)*

Despite their weak interactions, neutrinos can carry stupendous amounts of information about the cosmos, thanks to their small masses and large abundance. The highest-energy neutrinos can tell us about the largest particle accelerators in the Universe, and can probe energy scales larger than those available at the LHC. I review the ability of future neutrino telescopes including IceCube-Gen2, and Pacific Ocean Neutrino Experiment (P-ONE) to determine the precise flavour composition and source of astrophysical neutrinos above 100 TeV, in light of improved measurements of neutrino properties by JUNO, DUNE and HyperKamiokande. Finally, I will discuss the ability of future neutrino telescopes to search for new physics such as neutrino decay, dark matter and microscopic black holes.

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