

# New Physics Searches at DUNE



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The upcoming Deep Underground Neutrino Experiment (DUNE) offers several powerful ways to study the nature of neutrinos. In this talk I will give a brief introduction on neutrino oscillations and the general capabilities of DUNE, before discussing its ability to probe three specific new physics phenomena: weaker-than-weak, non-standard neutrino interactions; the existence of a fourth, light, sterile neutrino; and the existence of large ( $\sim 10^{-5}$  cm) extra dimensions. I will also focus on the possibility for additional CP violation in the lepton sector if these models are realized in nature, and the potential of DUNE to measure these new CP-violating phenomena.

Tuesday

January 31

4:00 P.M.

Rm 415 NSH