Contribution ID: **54** Type: **Invited talk**

# Theory perspective for large-scale xenon detectors

*Thursday, 26 October 2023 11:10 (25 minutes)*

Neutrinoless double beta decay (NLDBD) is the most sensitive probe of lepton number violation. Its discovery would be a clear signal of physics beyond the Standard Model, confirm the Majorana nature of neutrinos, and provide insight into scenarios of baryogenesis through leptogenesis. In this talk, I will give an overview of the kind of lepton-number violating (LNV) interactions that can be probed by NLDBD, focusing on scenarios in which LNV arises either from heavy new physics or through light sterile neutrinos. Both types of LNV sources can be described in an effective-field-theory framework, which organizes the calculation by making use of the large hierarchies between the different scales in the problem. After discussing the required steps to predict the decay rates as well as the needed hadronic and nuclear input, I will illustrate the sensitivity to the different LNV interactions.

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**Session Classification:** Physics program of multi-tonne detectors