Contribution ID: **15** Type: **Talk**

nEXO: Searching for 0vBB

The nEXO experiment is a proposed next-generation liquid xenon detector to search for neutrino-less double beta decay ($0\nu\beta\beta$) of ^{136}Xe. The experiment will use a 5-tonne liquid xenon monolithic single-phase time projection chamber enriched to 90% in ^{136}Xe. Ionization electrons and scintillation photons from energy deposits in the Xe will be recorded by a segmented anode place and a large SiPM array. This talk will present recent progress in the detector design, an improved modelling of signal readout and the development of a deep neural network based data analysis architecture to improve signal/background separation. These developments result in a 90% CL $0\nu\beta\beta$ halflife sensitivity of 1.35×1028 yrs in 10 years of data taking.

Primary author: CADEN, Erica (SNOLAB)

Presenter: CADEN, Erica (SNOLAB)