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Sterile neutrino searches with the Icarus detector

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The ICARUS collaboration employed the 760-ton T600 detector in a successful three-year physics run at the underground LNGS laboratory studying neutrino oscillations with the CNGS neutrino beam from CERN and searching for atmospheric neutrino interactions. ICARUS performed a sensitive search for LSND-like anomalous ν_e appearance in the CNGS beam, contributing to constraint the allowed parameters to a narrow region around $\Delta m^2 \sim eV^2$, where all

the experimental results can be coherently accommodated at 90% CL. After a significant overhauling at CERN, the T600 detector has now been placed in its experimental hall at Fermilab where installation activities are in progress. It will be soon exposed to the Booster Neutrino Beam to search for sterile neutrino within the Short Baseline Neutrino (SBN) program, devoted to clarify in a definitive way the open questions of the presently observed neutrino anomalies. The contribution will address ICARUS achievements and plans for the sterile neutrino search at Fermilab.

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