## **PANIC2021 Conference**



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## LEGEND: The 76Ge Neutrinoless Double Beta Decay Program

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The Large Enriched Germanium Experiment for Neutrinoless  $\boxtimes$  Decay (LEGEND) is a program searching for neutrinoless double beta decay of <sup>76</sup>Ge using high-purity germanium detectors operating in an active liquid argon veto. The first phase, LEGEND-200, is presently under construction at the Laboratori Nazionali del Gran Sasso (LNGS) in Italy and is scheduled to begin data taking in late 2021. This experiment consists of 200 kg of germanium detectors in an active liquid argon shield, and will achieve a half-life sensitivity of  $10^{27}$  years over its 5 year run. LEGEND-1000 is the proposed tonne-scale successor, which will consist of 1000 kg of germanium detectors, achieving a discovery sensitivity exceeding  $10^{28}$  years over its 10 year science operation. The design of LEGEND-1000 builds on the successful technology pioneered by the GERDA and MAJORANA DEMONSTRATOR collaborations, and further refined in LEGEND-200.

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