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The Large Enriched Germanium Experiment for Neutrinoless Double Beta Decay (LEGEND) WENQIN XU[1], Univ of South Dakota, LEGEND COLLABORATION — The seesaw model can explain the small but finite neutrino masses and requires neutrinos to be Majorana particles, *i.e.* fermions that are their own antiparticles. Neutrinoless double beta decay (NLDBD) is a hypothetical lepton-number-violating process that is possible only if neutrinos are Majorana particles. The discovery of NLDBD would unambiguously establish the Majorana nature of neutrinos and explicitly demonstrate that the total lepton number is violated. MAJORANA DEMONSTRATOR and GERDA, the two current generation experiments searching for NLDBD in ^{76}Ge, have achieved comparable low backgrounds and excellent energy resolutions with very distinct configurations. The Large Enriched Germanium Experiment for Neutrinoless Double Beta Decay (LEGEND) collaboration has been formed to pursue a tonne-scale ^{76}Ge experiment integrating the best technologies of these two experiments. The collaboration aims to develop a phased, ^{76}Ge based double-beta decay experimental program with discovery potential at a half-life beyond 10^{28} years, using existing resources as appropriate to expedite physics results. In this talk, I will discuss the goals, strategies and R&D efforts of the LEGEND project.

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