The search for neutrinoless double beta decay with CUORE

LAURA KOGLER, UC Berkeley / LBNL, CUORE COLLABORATION — The Cryogenic Underground Observatory for Rare Events (CUORE) is an experiment to search for neutrinoless double beta decay (0nuDBD) in Te-130, as well as other rare processes. Observation of 0nuDBD would indicate that neutrinos are Majorana particles and would provide information about the absolute neutrino mass scale. The experiment will be composed of an array of 988 TeO2 crystals arranged in 19 towers and operated as bolometers. I will discuss the status of the CUORE experiment, including recent R&D efforts, anticipated backgrounds and sensitivity, and the construction of CUORE-0, the first tower to be built in the CUORE design.