

# The XENONnT Dark Matter Search Experiment

*Friday 27 March 2020 17:30 (15 minutes)*

To date, dark matter has only been observed through its gravitational interaction. A new detector in the XENON family, XENONnT, is being constructed at the INFN Gran Sasso National Laboratory in Italy, featuring a 6 tonnes of liquid xenon target contained in a larger time projection chamber. The large target mass and approximately 10 times lower background than its predecessor XENON1T, will increase its sensitivity to WIMPs by one order of magnitude with a WIMPs-nucleon cross section down to  $2 \times 10^{-48} \text{cm}^2$ . This talk will introduce the XENONnT experiment, explain its background budget, and present its WIMPs discovery potential.

**Author:** Dr GAO, Fei (Columbia University)

**Presenter:** Dr GAO, Fei (Columbia University)

**Session Classification:** Session 15

**Track Classification:** Non-directional direct dark matter detection