

Detecting Light for the DUNE Neutrino Experiment

Biennale APC 2026 - Flash talks Session 4

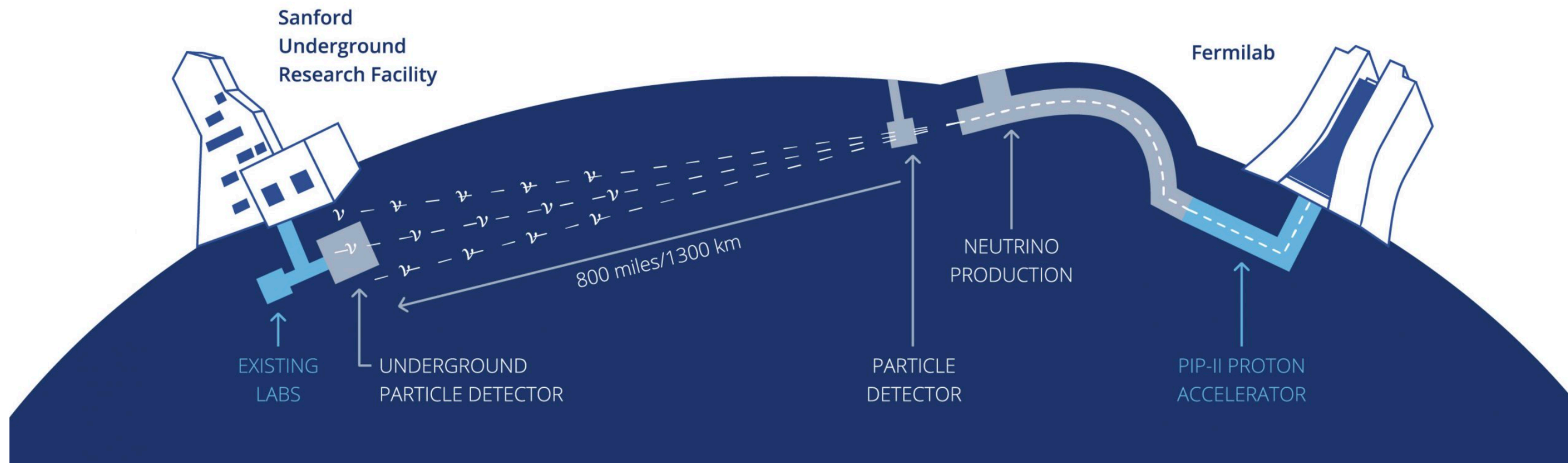
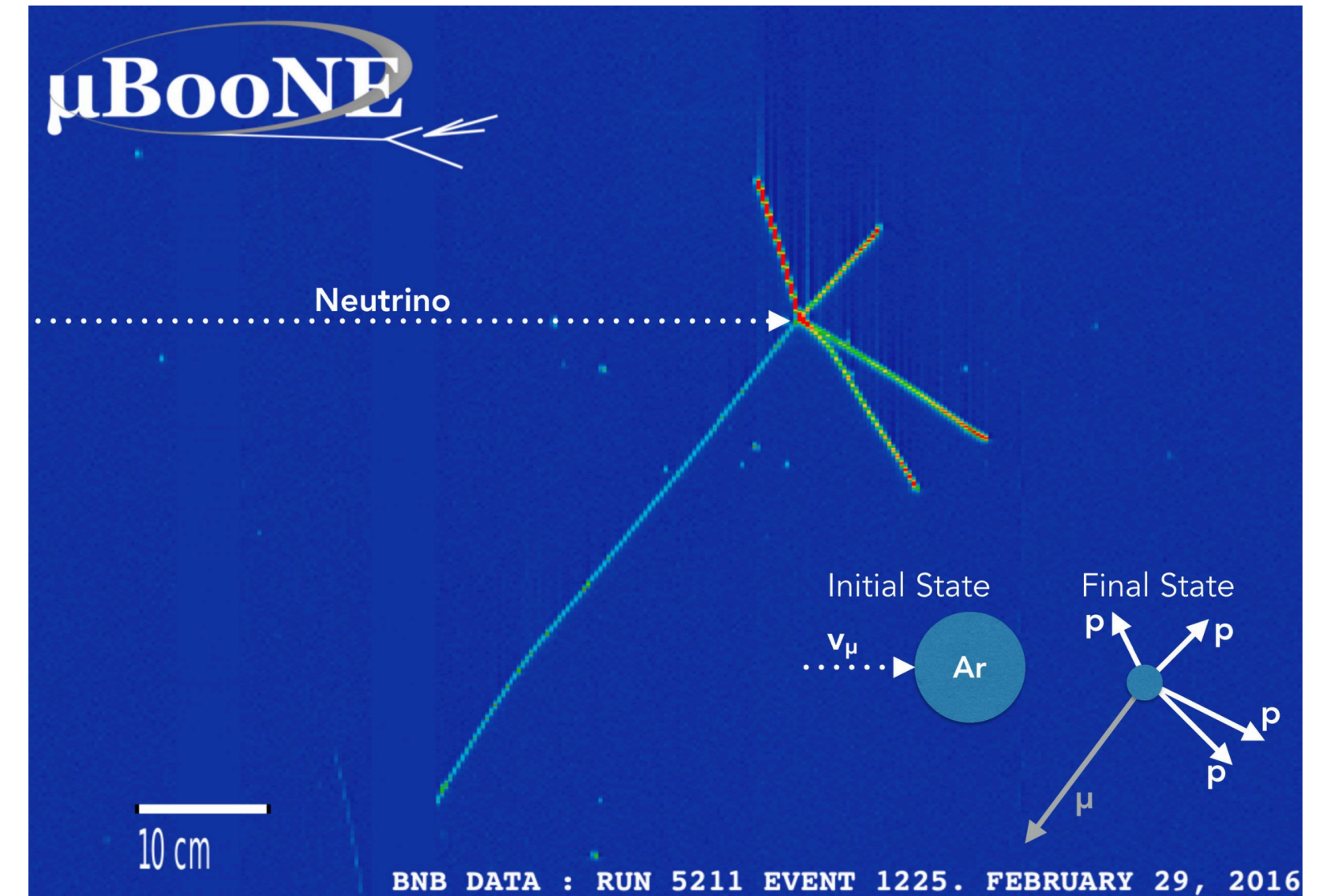
Mariya Mollova

05/07/2026



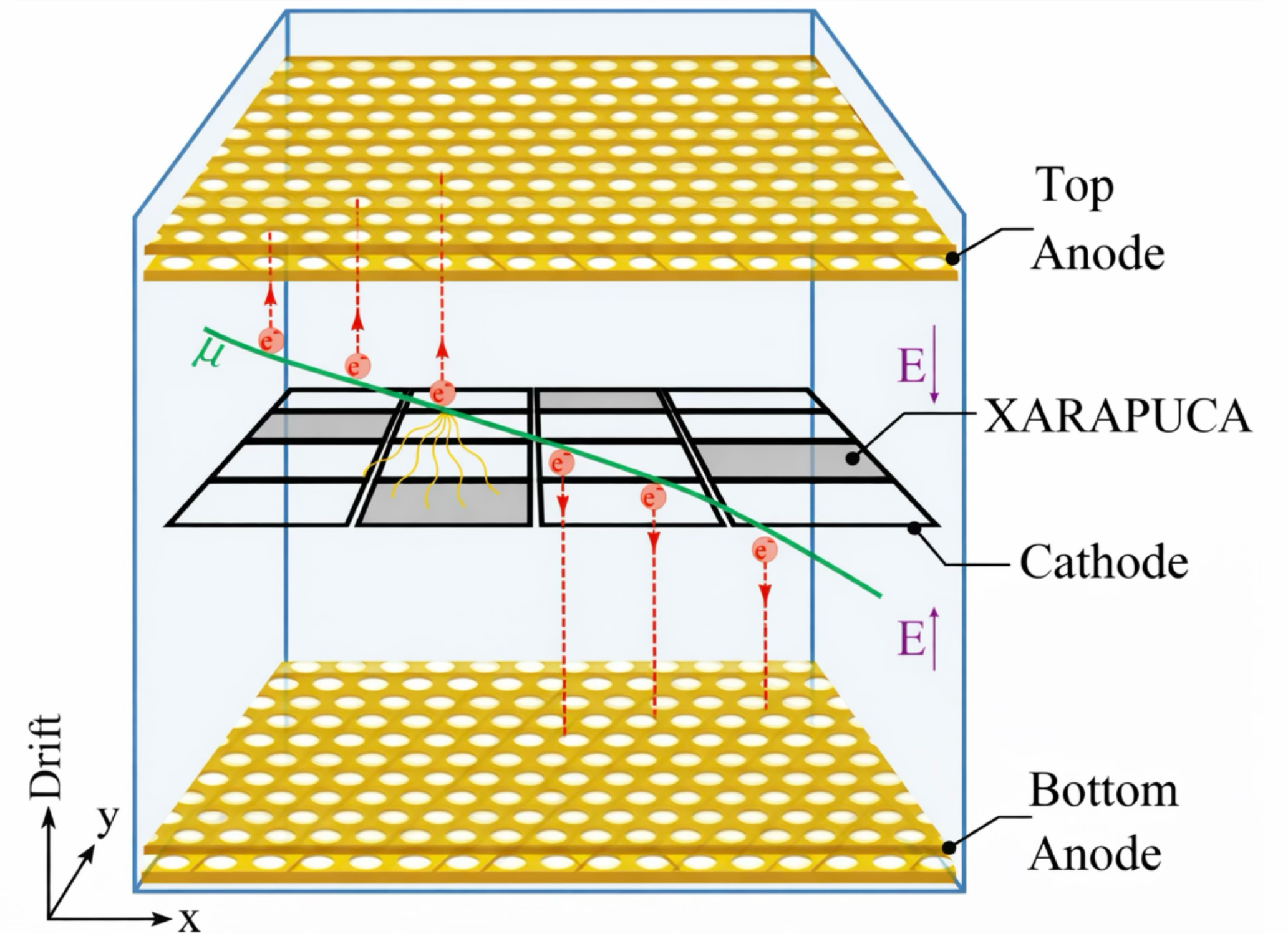
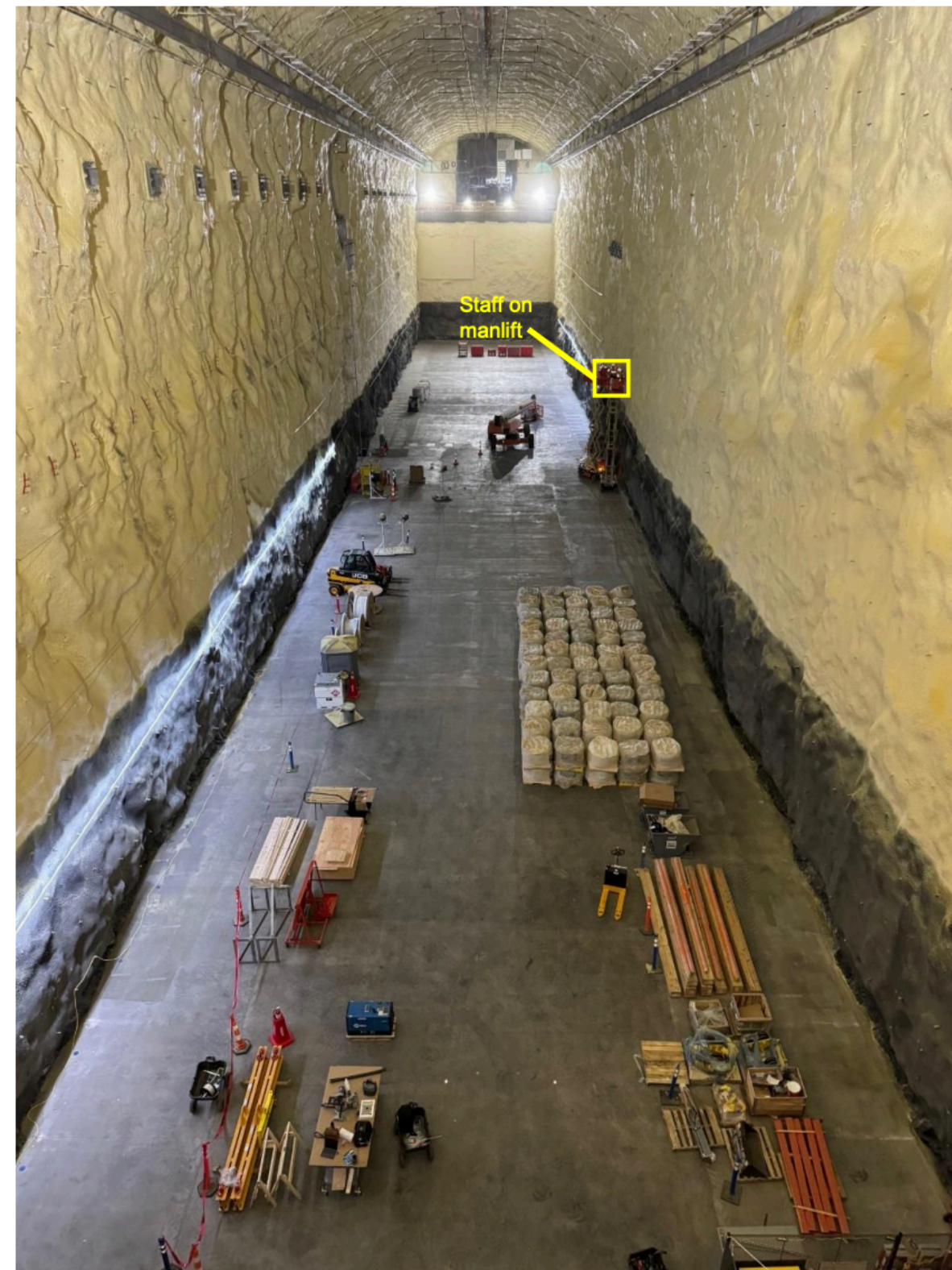
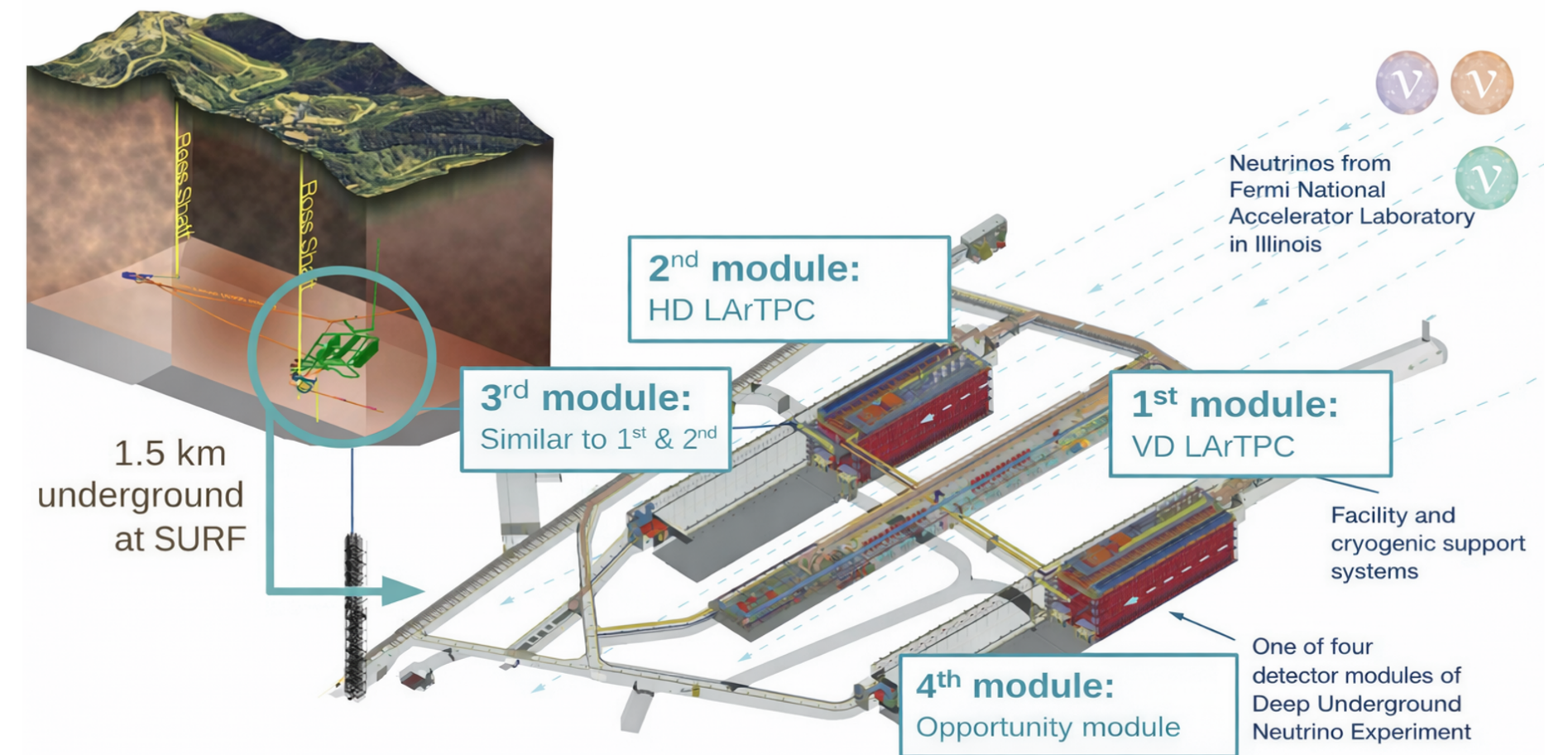
Looking for neutrino events

- Why do neutrinos matter?
- How does DUNE study them?



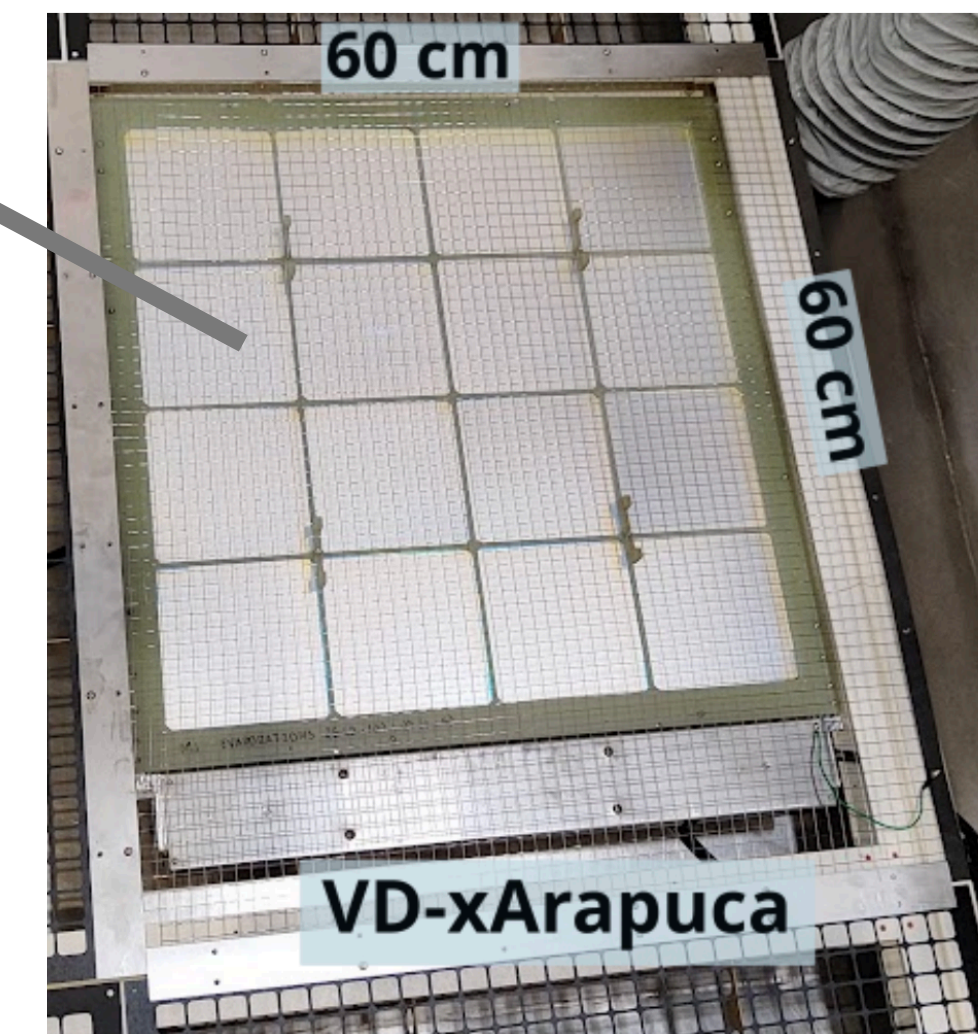
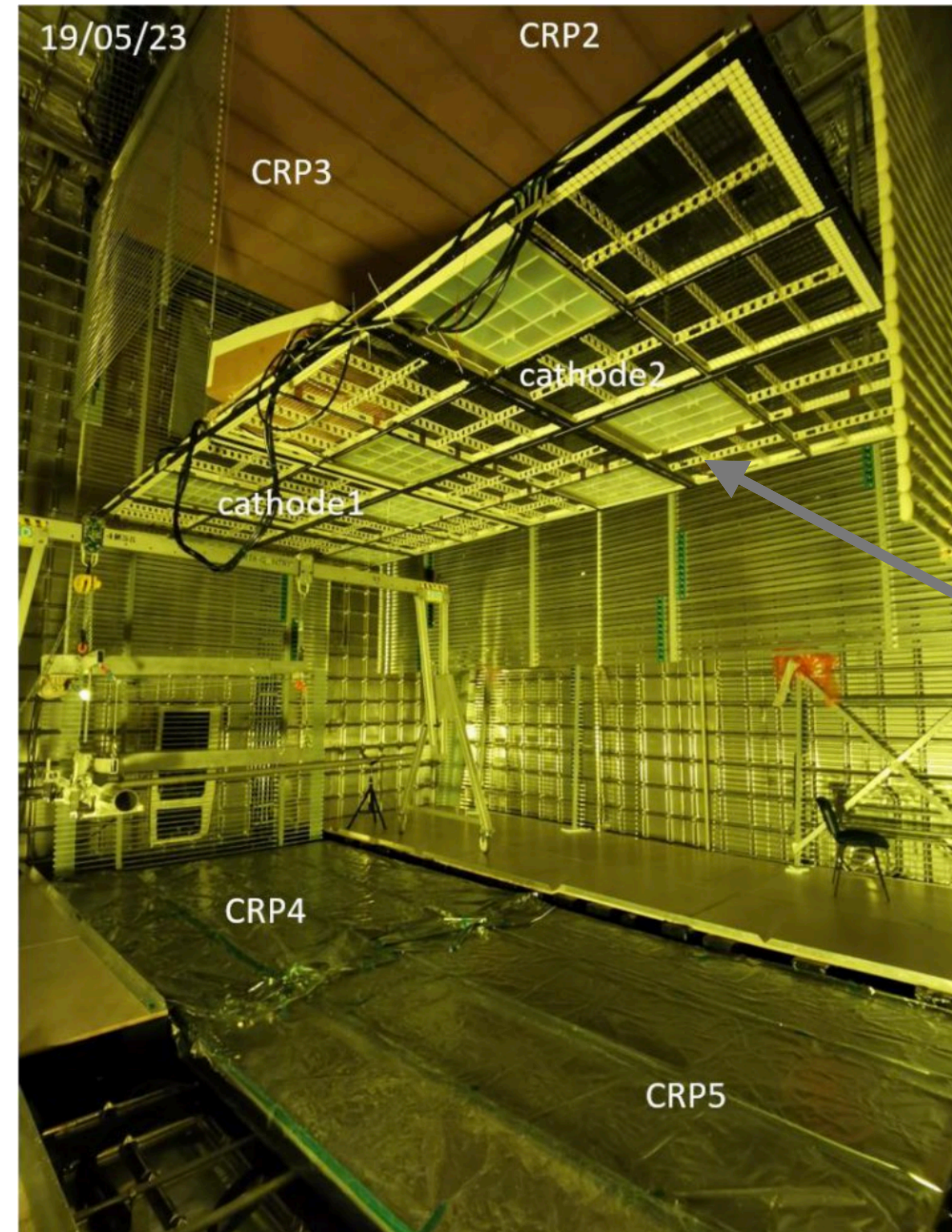
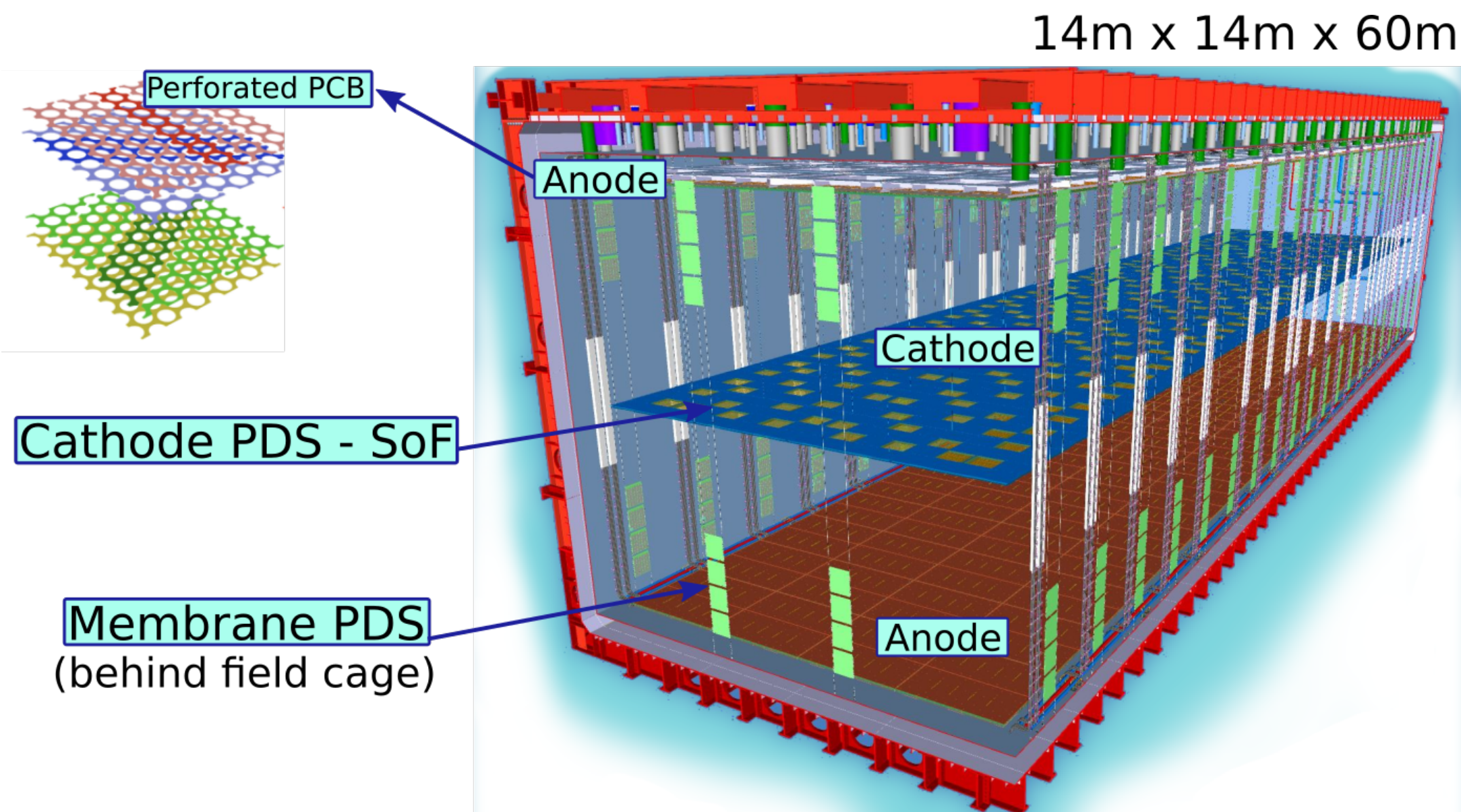
Vertical Drift Far Detector

- 4 × 17 kton liquid argon modules.
- TPC: 3D reconstruction of particle tracks.



Photon Detection System

- PDS: precise event timing from scintillation light.
- Sensitivity down to single photons.
- Operating at **-300 kV**.



My PhD – PDS Performance

- Signal-over-Fiber: information carried by light.
- Power-over-Fiber: energy delivered by light.
- Characterizing detector performance.

