



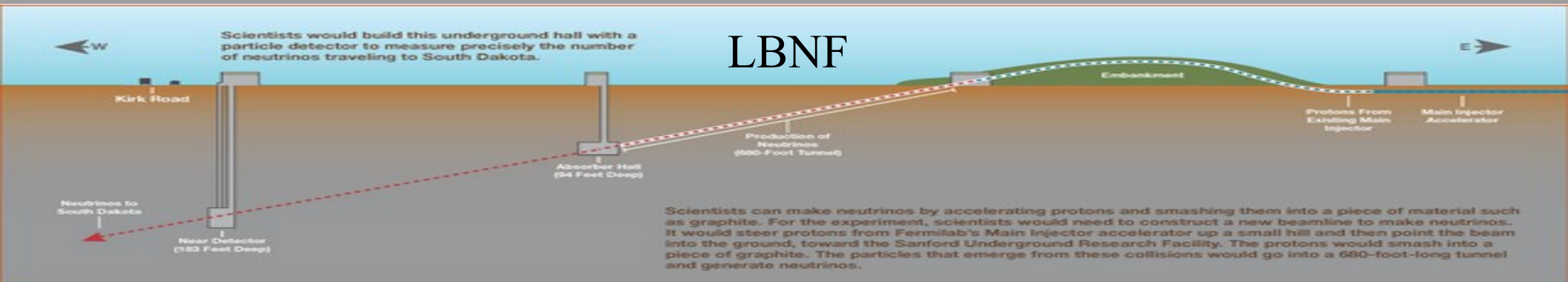
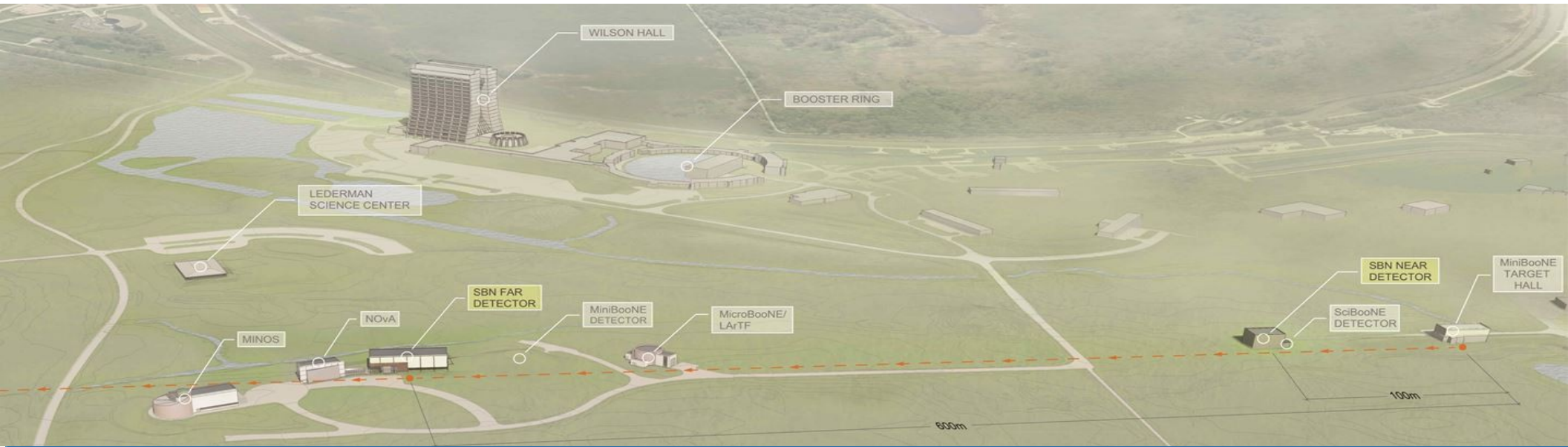
# Neutrino Campus Facilities Current and Future

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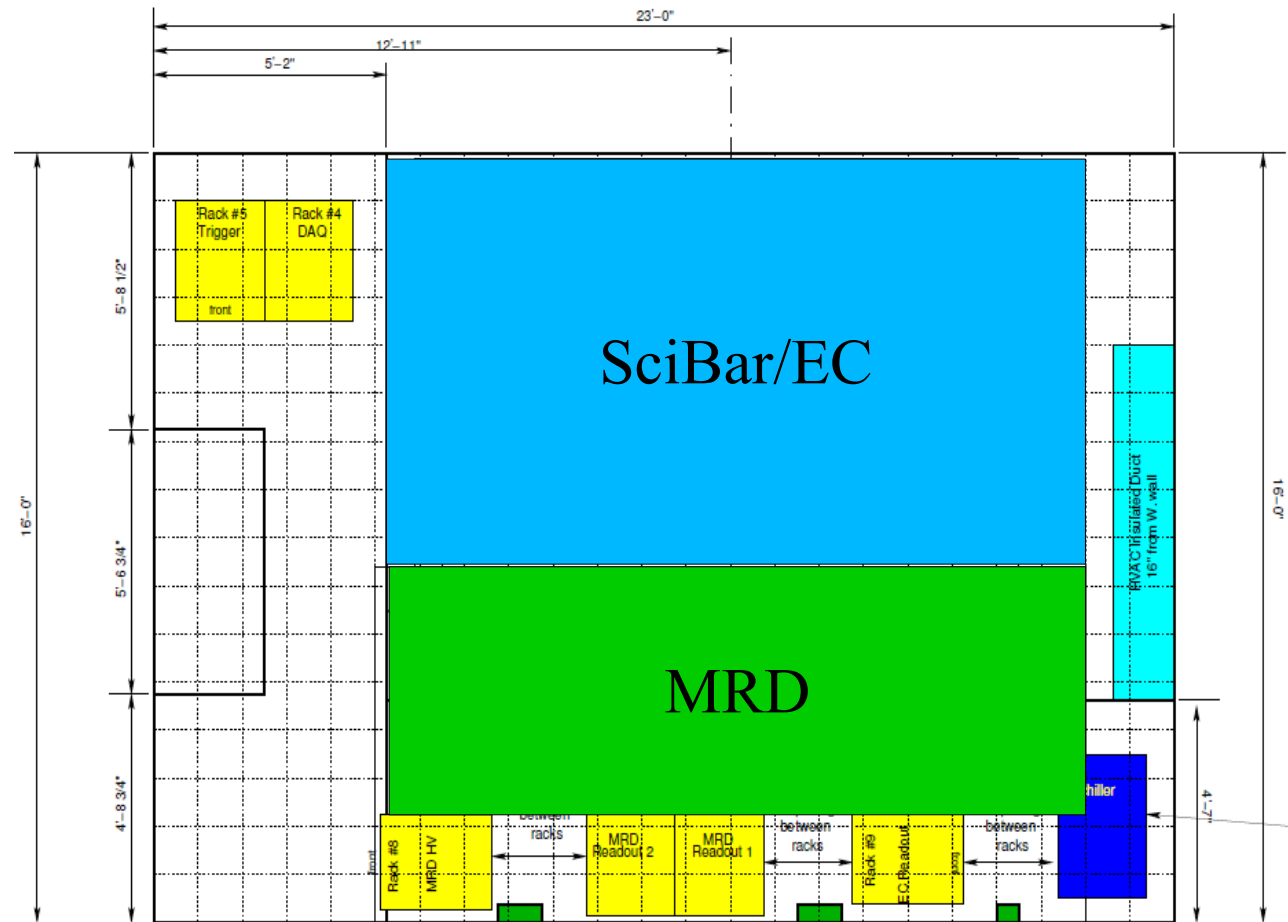
# Neutrino Campus





# SBN - SciBooNE

- 23'X16'
- Built for the SciBooNE detector
- 100 meters downstream of BNB target
- 4.5E12 8 GeV ppp @ 5 Hz

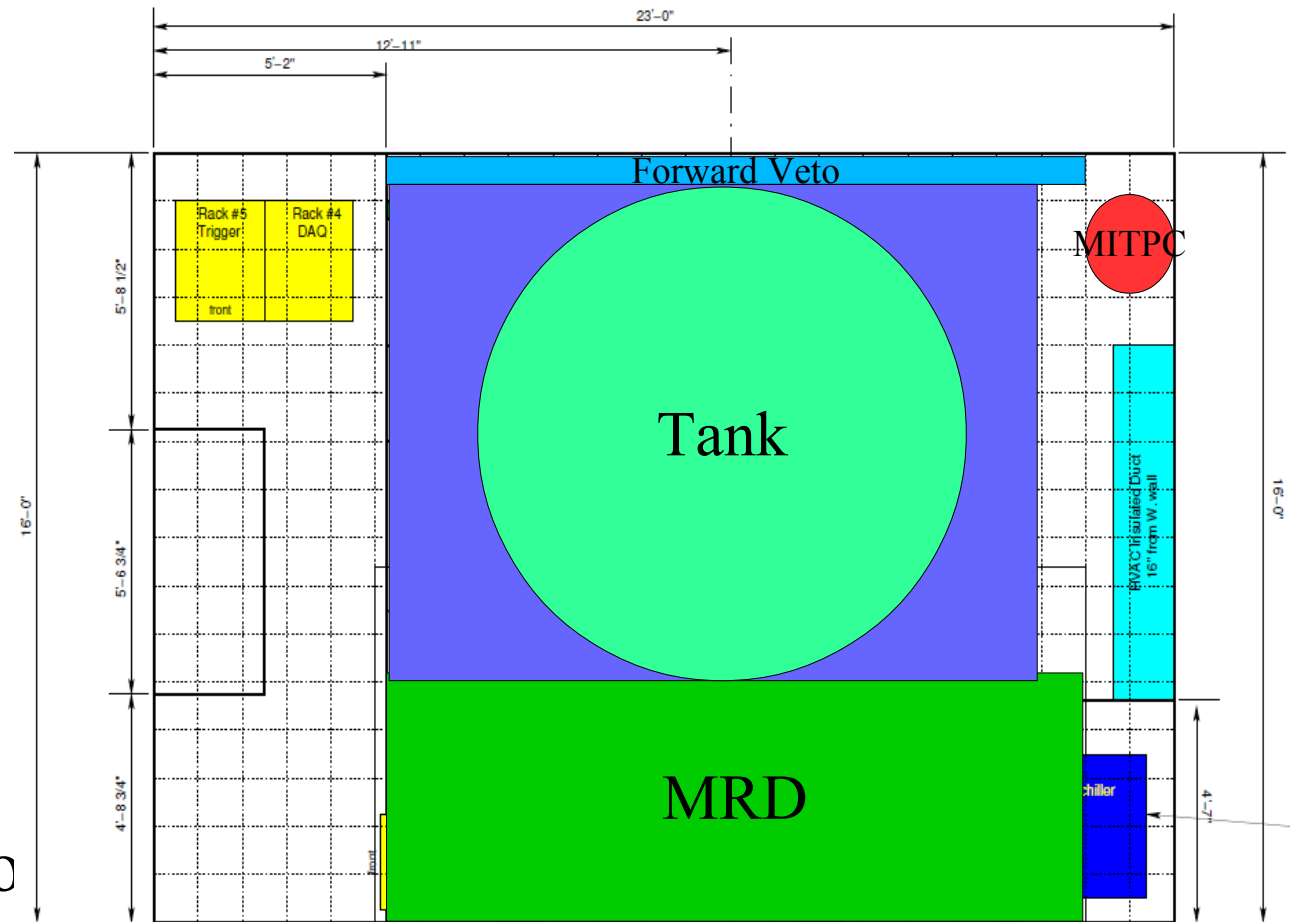


- Muon Range Detector (MRD)
  - 11 layers of 2" steel
  - Scintillator paddles between layers (mostly)



# ANNIE

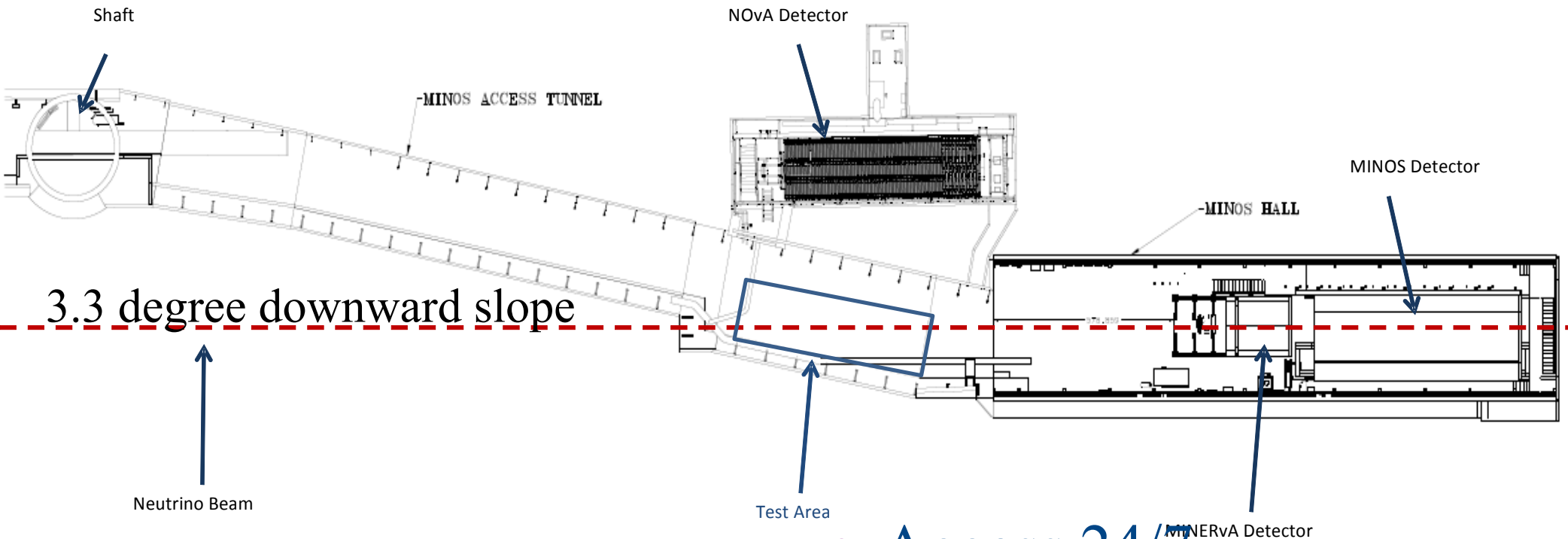
- Currently installing in SciBooNE Hall
  - Added forward veto wall
  - 10 foot diameter water Cerenkov detector
- Studying neutron yields from neutrino interactions.
- MITPC
  - See next talk from Mayly
- Plan to run for at least 3 years



- MITPC
  - Small time projection chamber
  - Measuring flux of fast beam induced neutrons



# Minos Underground Areas



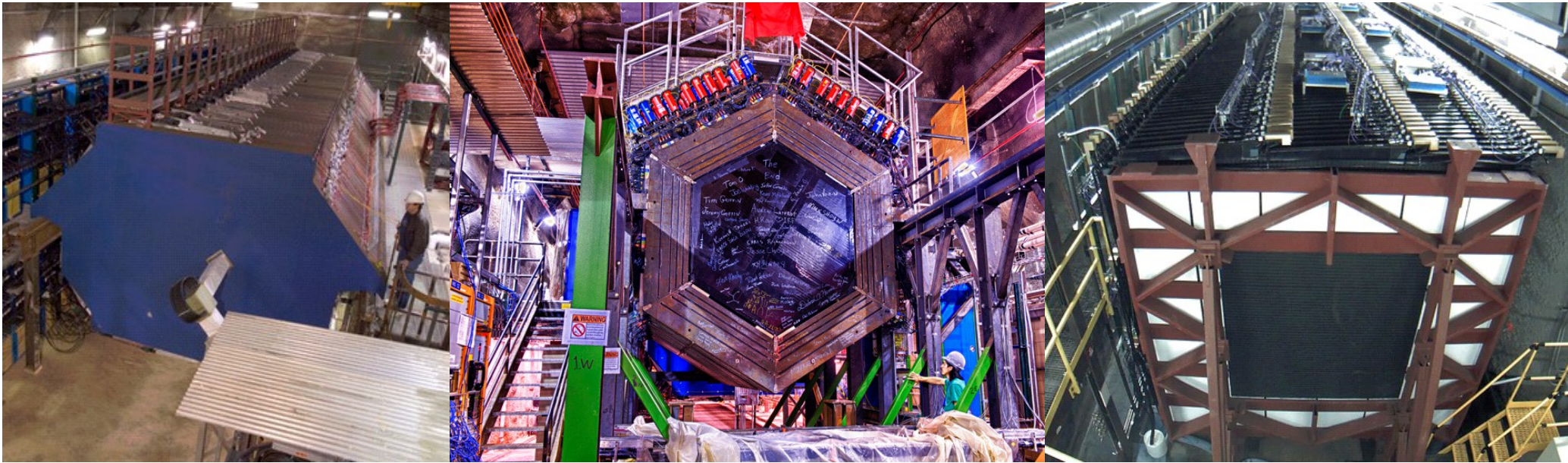
- 1km from NuMI target
- $3.1 \times 10^{12}$  120 GeV ppp @ 0.75 Hz
- 100 m underground (225 m water equivalent)

- Access 24/7
- Networking, power and other utilities available.
- 15 ton crane available to lower larger items down the 22' diameter shaft.





# Current Experiments

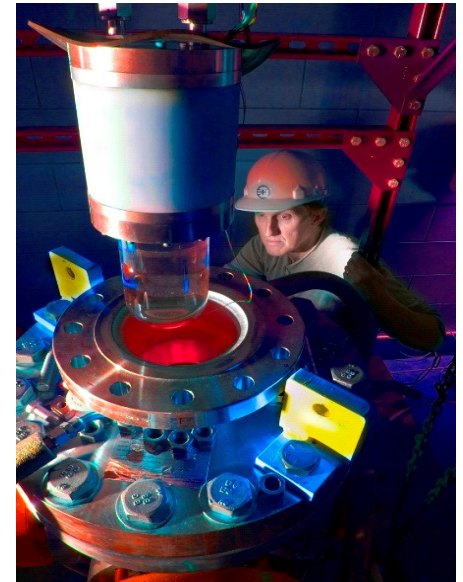


- MINOS and NOvA near detectors for neutrino oscillation experiments
- Minerva is a cross-section experiment studying interactions of neutrinos on different atomic nuclei
- DM-ICE testing a NaI crystal for dark matter detection



# Some Past Experiments

- COUPP
  - A bubble chamber experiment that also uses acoustic signals to look for dark matter recoils.
- DAMIC
  - Uses CCDs to record snapshots of the charge created when light dark matter collides in the CCD volume.
- SciBath
  - Has measured neutron flux Underground, SciBooNE, and 90 degrees to the BNB target





# Some Future Experiments

- LDRD project (MUA)
  - Development of an ultra low energy threshold particle detector using “skipper CCD”
- SBND
- ICARUS T-600
- CAPTAIN-MINER<sub>vA</sub>
  - A combination of the CAPTAIN liquid argon detector and MINER<sub>vA</sub>
- Yours





# Summary

- If you are interested in bringing an experiment to the Neutrino Campus let us know.
- Contact
  - Minos Underground Areas
    - [muac@fnal.gov](mailto:muac@fnal.gov)
  - Other Neutrino Campus areas
    - [bill@fnal.gov](mailto:bill@fnal.gov)