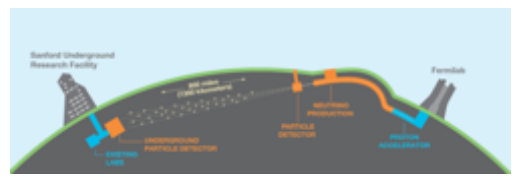
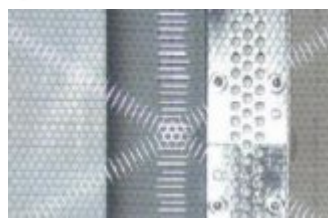
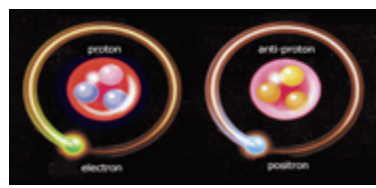
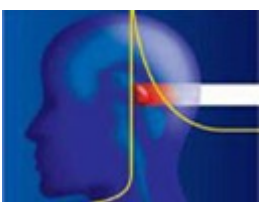
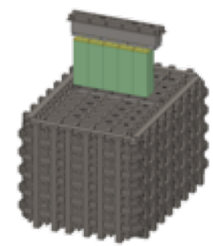
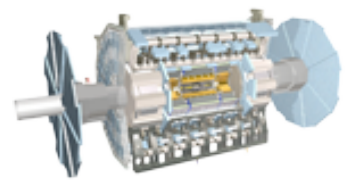


LHEP/AEC University of Bern

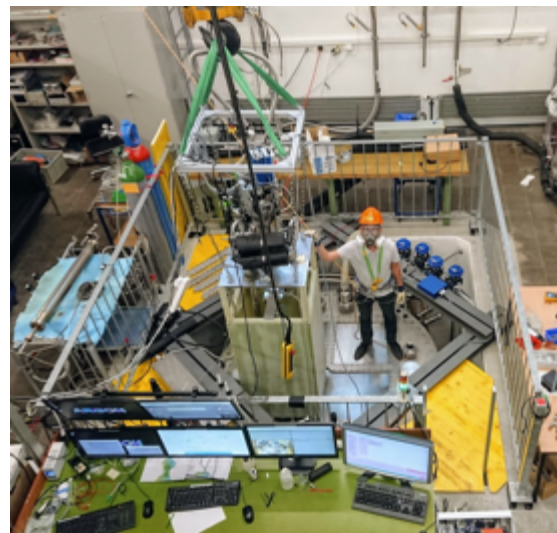
- University of Bern: 19k students, 8 faculties, 350 professors
- Laboratory for High Energy Physics
 - ~50 People (Director: Prof. M. Weber)
 7 senior/faculty, 10 PostDocs, 20 grad students, 6 undergrads, 7 tech, 2 admin
- HE-frontier, Neutrino, Detector Development, Applications to Medical, Neutron
- Workshop, Electronics, IT (6 Techs)
- Albert Einstein Center for Fundamental Physics (LHEP and Theory in Bern) since 2010
 - Largest (academic) particle physics center in Switzerland



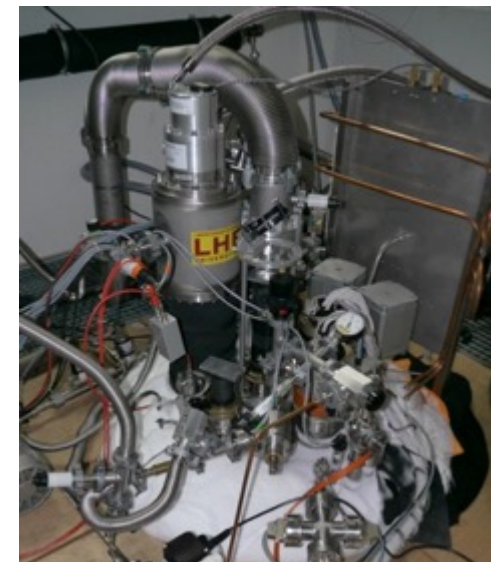
LArTPC R&D in Bern



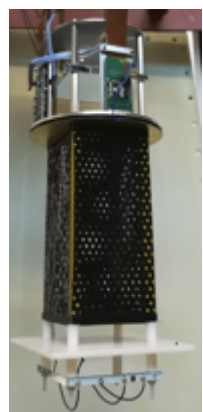
5m drift LAr TPC



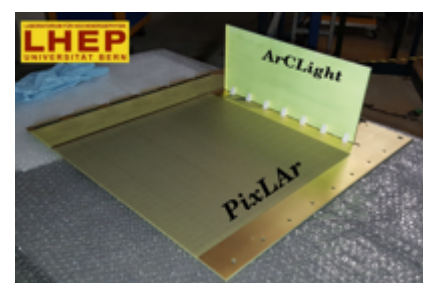
Modular approach



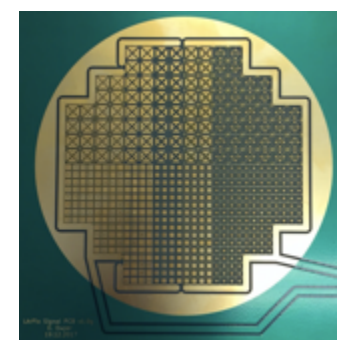
HV discharge studies



Resistive shell field shaping



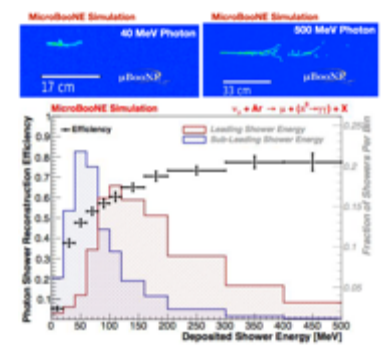
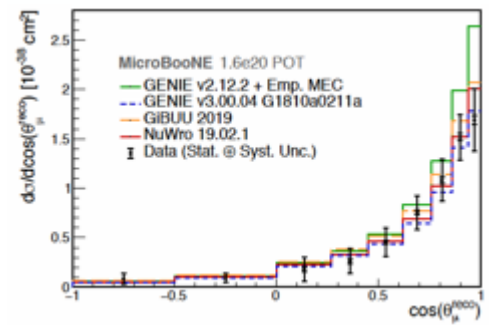
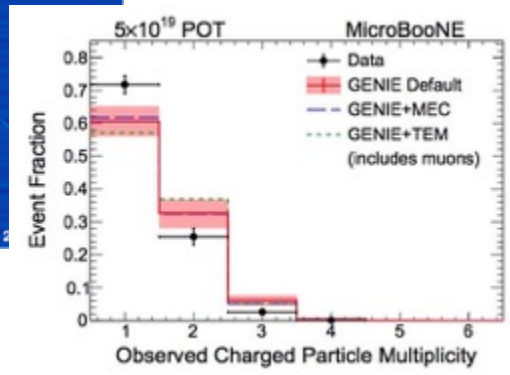
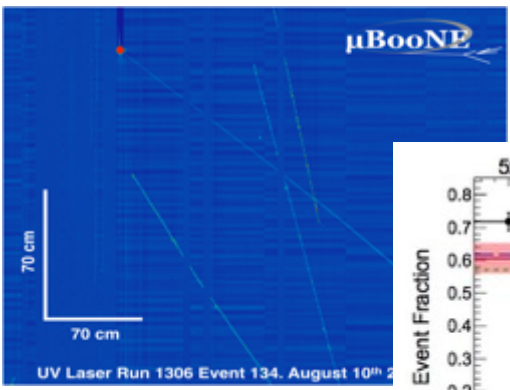
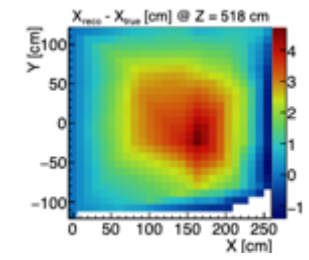
Large area light readout



Pixelated charge readout

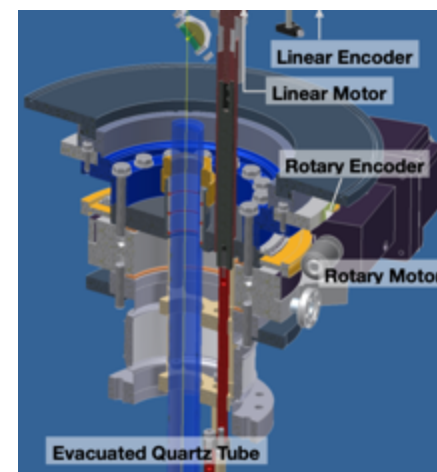
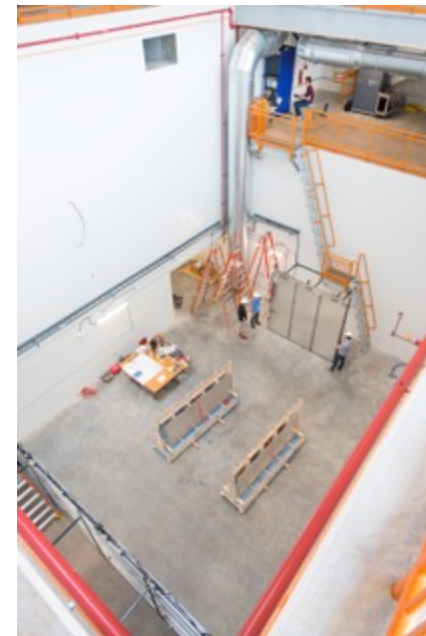
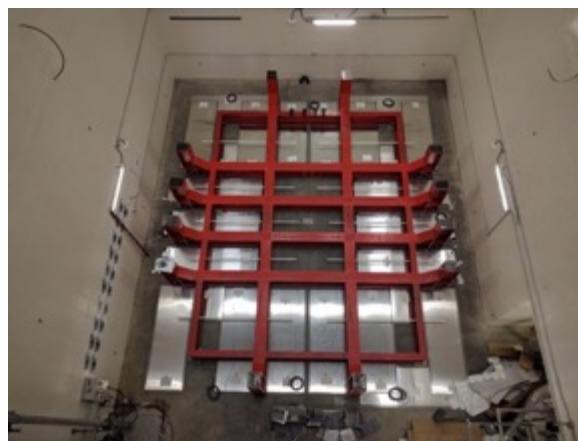
Short baseline neutrino I

- MicroBooNE
 - Major contribution to the construction
 - Developed and installed a UV-laser calibration system
 - Developed and installed the cosmic ray tagger
 - Lead in the physics analysis management
 - Precise determination of the electric field
 - Analyses in cross section (double differential, $0\Pi0p$)



Short baseline neutrino II

- SBND
 - Cosmic ray tagger
 - Measurement of "rock" neutrinos at SBND
 - UV-laser calibration system



Student on Intense

- operation of MicroBooNE and commissioning of SBND, specifically UV-laser and CRT
- Use experience from MicroBooNE to perform performance evaluations of SBND
- Reconstruction of events from LArTPC in MicroBooNE, SBND. Can also include ProtoDUNE-ND in view of the DUNE Near Detector.
- Physics analysis on data from SBND with unprecedented high statistics sample of neutrino interactions on argon