2023 DPF Instrumentation Award

Peter Gorham
University of Hawaii
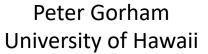
David Saltzberg
UCLA

For their experimental proof and subsequent characterization of radio emission from high-energy particle cascades, the **Askaryan Effect**, which has been used in searches for the highest energy astrophysical (PeV and EeV) neutrinos. They have utilized the lunar regolith, Antarctic ice sheet, salt and other dielectrics as detector materials. In addition, they have studied the radio signatures of magnetic emission from the highest energy cosmic rays. And finally, for development of calorimeters and timing planes for future high energy physics collider detectors utilizing the Askaryan effect.

Dan Dwyer
LBNL

For his work on 3D pixelated readout technology for liquid argon time projection chambers (**LArPix**). This low power, low noise custom ASIC with dynamic i/O, capable of running in liquid argon, has helped open the field to advanced systems on chips. Such technologies underpin the modular DUNE ND-LAr near detector which will need to make precise measurements in a high flux environment with event pileup for the ultimate measurements of neutrino oscillations and CP violation in the neutrino sector.