

Southern Methodist University Summer 2018

The SMU Particle Physics group sponsored its annual QuarkNet activities this summer for local high school physics teachers. The QuarkNet teachers' workshop was held Aug 6-10. This year we hosted a small group of 6 teachers from Dallas area public and private schools to work on a specific construction project.

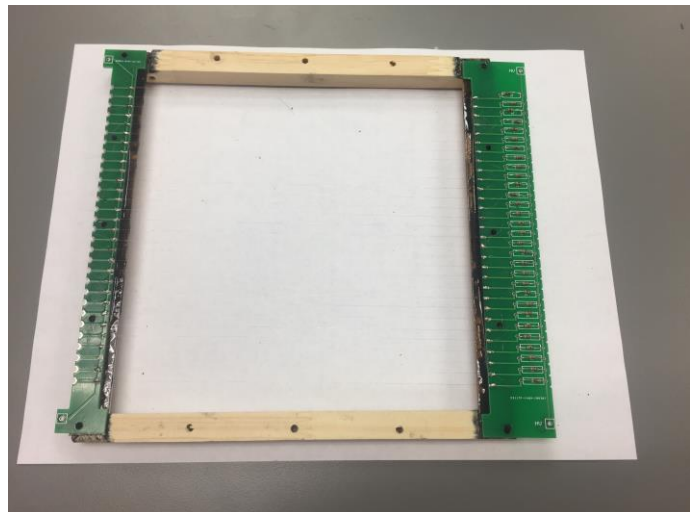
During the workshop, teachers heard about Rushe Statser's trip to Wyoming in April 2018 to observe the total solar eclipse. Michael Haskins showed an E&M lab that he uses in modelling instruction. Gail Rothstein had the teachers make fake holograms from acetate pyramids and Youtube images on their phones. Kevin Cieszkowski demonstrated the photoelectric effect and also resonance tubes with sound from a phone. Janee Hall (a former QuarkNet teacher now instructing at Richland Community College) led construction of simple steam boats.



Most of the workshop time involved construction of small wire chamber particle detectors, with the assistance of Profs. Ye and Liu from SMU's opto-electronics lab. Teachers constructed the framing, soldered components for the delay line and trouble-shooted it with signal pulses, and constructed the wire grid anodes. The detailed and small scale of all the work, a factor of ten smaller than the teachers were typically used to, was a challenge.

The plan is to finalize the assembly of several more chambers at next year's QuarkNet and take data for cosmic rays. The photo above shows the group involved in various parts of the construction. The 20 μm anode wire grid is just visible in the picture to the right.

The QuarkNet program is organized by Dr. Simon Dalley and funded by the National Science Foundation.



<http://smuphysicsweb.wixsite.com/quarknet>