

2012 Annual QuarkNet Summer Assessment

Florida Institute of Technology sponsored its annual QuarkNet workshop in the Science Education/Interdisciplinary Sciences & U-TEACH building from Wednesday, May 30th until Friday, July 20nd 2011. There were 7 teachers from local high schools. Mr. Joseph Laub served as the teacher mentor to the students. Teachers participated in a week long inservice where equipment was assembled and detectors were calibrated. Dr. Laszlo Baksay the head of the Education/Interdisciplinary Science department at F.I.T. served as the host site mentor for the program.



The following is a sampling of some of the students and their areas of interest:

Andrew Smith, a senior at Melbourne High School, has been in the QuarkNet program for four years and is very enthusiastic about particle research, specifically muons. During the QuarkNet sessions in the summer, he is frequently called upon to fix various computer technicalities and teaches the new researchers about the quirky world of QuarkNet. In previous years, Andrew has used this elementary particle as the subject of many science research projects at his school resulting in a place at the Brevard County State Science Fair. Last year, Andrews's project related the distance between two muon detectors and tested muon counts. He was able to formulate an equation that predicted muon counts. The practicality of this equation can be shown in Florida Tech's recent investigation in detecting nuclear contraband in vehicles. By placing a detector under a road and a detector above the vehicle, the researcher can use the height and plug the value into the equation resulting in a predicted muon count. If the tested muon count deviates from the predicted count significantly, then there is some kind of nuclear contraband in the vehicle. Andrew enjoyed participating in the QuarkNet program very much. As Andrew leaves the program to go on to college, we will miss his expertise.



Michael O'Donnell is currently a 10th grader at Melbourne High School. Mike continued on his brothers work from last year. He participated in a group study to determine how location of global positioning system (GPS) receivers influences the number satellites they view. Positioning of the detectors is a critical step in determining the high energy particles source.

Alexis Moran from Melbourne High School also returned for her final year in the program. Lexi assisted the new students as they became familiar with the detectors. She lead them in “flux” and “decay” studies” to determine the number and type of subatomic particles striking the paddles and their decay signatures “I learned a lot from this experience, and I am glad I was able to participate”.

The remaining 3 students, Mason Hill, Alexander Koenig & Austin DeCrosta were new to the Quarknet program. They learned a great deal from the program by assisting in the research projects started by their peers. They look forward to taking a lead role next Summer.

Sincerely,

Joseph Laub
Teacher mentor