

Annual Report Information September 2017

Rutgers University – This is the 17th year for the Rutgers University QuarkNet Center. Personnel participating in the Center include lead teachers Daniel Kaplan and Frank Cappuccio along with Rutgers faculty members John Paul Chou, Yuri Gershtein, Eva Halkiadakis, Amit Lath and Steve Schnetzer, staff member Dave Maiullo and Rutgers students. All are actively involved in the summer teacher/student research program.

This year, we hosted our 10th QuarkNet-sponsored, summer research program for high school students. Partially due to the fact that key personnel were unavailable, the program this year was smaller in scope than those of previous years. It ran for two weeks of half days rather than two weeks of full days and had seven participants instead of the typical number of about twenty-four. Another reason for the smaller scope was to conduct a trial program to see if students from a school with a student population consisting primarily of underrepresented minorities (URM) in STEM would benefit from the summer program. The students in this year's program included five such students along with two students from a high performing school district. This pilot program was a great success. The students from the URM population school, although less well prepared in physics and math than the other students, were highly motivated and performed as well as or better in the various exercises than the other students. We are very excited and pleased about these results. We plan to resume the full program in the summer of 2019 and will actively recruit students from URM population schools to participate in the program.

Although this year's was an abbreviated program, it included all of the usual activities except for the tour of the Princeton Plasma Physics Lab and the operation of the cyclotron. The activities included: analysis of actual CMS data using the same analysis software as CMS physicists; use of the QuarkNet cosmic ray detector kits to measure the muon lifetime and the speed of light; a series of lunch time talks by Rutgers faculty; a set of discussions on fundamental physics and an evening showing of the movie, Particle Fever.

Mentor: Steve Schnetzer