

Johns Hopkins University Physics & Astronomy Quarknet 2012 Workshop



The JHU Experimental Particle Physics Group sponsored its annual QuarkNet Workshop in the Bloomberg Center the week of July 30 through August 3. This is the 11th year JHU has been part of the national QuarkNet program. This year's workshop maintained its size at 25 teachers and also included a Quarknet Fellow. Six of the teachers were new to the workshop and nineteen had been in the program before. As is standard from past years, the teachers came from a wide variety of backgrounds. There were both male and female teachers representing Baltimore City and non-Baltimore City schools, public and private schools, single sex and regular schools, secular and religious schools, as well as schools from both Maryland and Pennsylvania

The workshop format was talks in the morning and "lab" in the afternoon. The talks ranged beyond just experimental and theoretical particle physics, including the future astrophysics experiments, Dark Matter cosmology, the biochemistry of soils, the construction and testing of new condensed matter materials, the study of massive Black Holes, sources of information about Astrophysics on the web, teaching in the STEM area, and, of course, the status of the LHC accelerator, experiments and Higgs searches. Speakers from the JHU faculty and research staff included Bruce Barnett, Jon Bagger, Morris Swartz, Andrei Gritsan, Kirill Melnikov, Tyrel McQueen, Katalin Szlavecz, Jason Kalirai, David Larson, Marc Kamionkowski, Juliette Lacomte and Tim Heckman.

One of the high school teachers, Steve Rives, made two presentations, one as an introduction and the other as a summary of the week's activities, and another, Jeremy Smith, gave a presentation about his astrophysics summer internship research. Lastly, a teacher, Kevin Wolf, reported on his trip to CERN as part of Quarknet and the excitement of being there July 4 when the Higgs data was presented. Three afternoon labs concentrated on a workshop lead by Quarknet Fellow Kevin Martz with assembling and utilizing QuarkNet cosmic ray detectors and two afternoon labs were led by Tom Loughran of Notre Dame University working on e-Lab.

Time was allocated for the teachers to discuss other ways to get their students more interested in science. JHU particle physicists along with several of the Quarknet teachers and their students have joined the CERN International Masterclass program since the spring of 2007. The other teachers found this to be very interesting and expressed a desire to include their students in 2013. Also, there was increasing enthusiasm from the teachers in becoming more involved in the 2013 Johns Hopkins Physics Fair, an annual activity originated by JHU Quarknet teachers in 2004.

Mentors: Bruce Barnett, Andrei Gribsan, and Morris Swartz









