QuarkNet Stories from the classroom

Anytime I discuss the impact of QuarkNet on my classroom, I always think of three distinct yet interwoven levels. The first level is the development of my own personal professional knowledge of physics. QuarkNet provides a level of professional development in personal learning of particle physics and inquiry that is not available elsewhere. This standard of quality that QuarkNet is achieved through its model of peer teachers and physicist mentors.

The second level of impact is that QuarkNet provides the knowledge base to discuss comfortably with my students current events in physics. Due to my recent participation in one of QuarkNet's LIGO workshops I was able to engage my students in rich discussions concerning the recent discoveries of gravitational waves and kilonovas!

The third level of impact that QuarkNet has provided is through the inquiry-based activities in their data portfolios. These activities have allowed me to enhance the curriculum by bringing real particle physics data to my students. This involvement ranges from the longterm student use of a Cosmic Ray Muon Detector to foster investigatory skills and scientific habits of mind to using data from the LHC to study traditional topics such as conservation of energy and momentum.

Through the thee interwoven levels of impact, QuarkNet has allowed physics to come alive in my classroom. Although the majority of the traditional curriculum is hundreds of years old, QuarkNet allows students to experience the current excitement of today's physics in the 21st century and provides multiple opportunities to enhance many of the Next Generation Science Standards through its emphasis on inquiry-based investigations using real particle physics data. QuarkNet has given me the tools to be a relevant student-focussed teacher of an evolving physics rather than a mere presenter of ancient, stilted information.

Michael Wadness
Medford High School
Medford MA
Northeastern University – Brown University center