

Annual Report, 2018: QuarkNet Center at Northern Illinois University

Mentors: Profs. Jahred Adelman, Dhiman Chakraborty, Michael Eads

The QuarkNet Center at NIU enjoyed another successful year in 2018. We welcomed a new school, Crystal Lake Central HS (Teacher: Michael Gattone) this year, that joined the long-standing pool of 3 other high schools: Metea Valley (Weston Brzykcy), Neuqua Valley (Daria Prawlocki), and Sterling (Elisa Gatz, Lead Teacher). A faculty mentor visited Crystal Lake HS to give an informal lecture and meet with about 20 interested students.

We hosted a Masterclass attended by 27 students from these schools on March 15. Other than their science teachers and faculty mentors at NIU, four NIU graduate students also participated in the event. After brief introductory lectures, the students followed the ATLAS path, analyzed the data files assigned to them, and presented the results to moderators at Fermilab as well as fellow students doing the same thing at another center.

Members of NIU group also served as moderators at Fermilab and International Masterclasses at CERN (two NIU post-docs stationed at CERN volunteered for this).

The high level of engagement at the spring masterclass helped draw a healthy attendance at the annual week-long summer workshop despite the major reduction in funding this year. Twelve students from three schools attended the workshop held during the week of June 25 (Neuqua HS, which usually brings the largest contingent, could not participate this year due to an unavoidable schedule conflict). The agenda consisted of introductory lectures on the first day, followed by experimentation with CRMDs, and presentation of results. The students were divided into four groups, each performing an independent measurement such as speed of muons, muon lifetime, muon flux etc. Each group presented their results to the all attendees on the final day. They were also given a half-day guided tour of Fermilab. As usual, we receive positive feedback from the students and teachers alike.

Finally, QN had a substantial presence at the annual NIU STEMfest, which took place on Oct 27 this year. Held in the Convocation Center, this day-long event features dozens of booths from all areas of STEM and draws several thousand visitors each year.

Aside from activities at NIU, participating schools used the CRMDs loaned to them to do various studies throughout the year. The picture on the next page shows students at Sterling HS performing a flux measurement experiment at their school in fall.

