QuarkNet Report 2012

University of Texas at Arlington

This year there were two main QuarkNet activities at UTA: the 2012 Masterclass and a week-long Workshop for teachers.

The Masterclass was attended by six students from Eagle Mountain Saginaw High School and took place on Saturday, March 24. Andy White gave an introductory lecture and then the students received guidance for the Masterclass. Data from the ATLAS experiment were analyzed and the Z-boson and a new Z' boson was "discovered"! The students were accompanied and assisted in the Masterclass by their teacher, Cheryl Brooks from EMS HS. Following the Masterclass, we received very good feedback from the students and they told their other fellow students that they should also have attended.

During a week in June we held a Quarknet Workshop with the following schedule:

Monday, June 18

Welcome, introductions

Introduction to High Energy Physics, Basic concepts, Particles and Forces.

Introduction to Experiments, Detectors, basic detector operation.

Tuesday, June 19

Introduction to cosmic rays

Introduction to QuarkNet by QN Staff

Overview of cosmic ray detector system

Assembly of detectors by teams

Take first data overnight

Wednesday, June 20

Cosmic Ray e-Lab overview

Tour e-Lab: Teacher side, Student side

Analysis of data from overnight

Work on posters

Thursday, June 21

Working time in teams

Poster presentations

Planning future cosmic ray studies, detector(s) disposition

Friday, June 22

The Future of High Energy Physics, future experiments and facilities

Workshop summary

The Workshop was run by Cheryl Brooks (EMS HS) and Andy White (UTA).

Fourteen teachers from the Dallas-Fort Worth area took part in the Workshop. We were very ably assisted by Bob Peterson and Phong Nguyen from Fermilab.

We successfully assembled and operated three cosmic ray detector kits and a number of schools/teachers have expressed interest in hosting a CR system.