

# QuarkNet

[quarknet.fnal.gov](http://quarknet.fnal.gov)

supported in part by the National Science Foundation and the Office of High Energy Physics, Office of Science, U.S. Department of Energy

## A Valuable STEM Education Tool

QuarkNet gives science education a competitive edge by putting schools across the nation at the research frontier. The nationally funded program connects students and teachers with physicists at universities and national laboratories to enhance high school physics education and prepare the next generation of scientists and engineers.

QuarkNet pairs teachers with physicists to conduct real research, enabling teachers to bring authenticity and excitement to classroom activities. The program provides teaching resources to include particle physics in lessons on subjects such as momentum and energy. Using QuarkNet's cosmic ray detectors, teachers can engage their students in scientific investigations.

Students learn how research in this international field has expanded our understanding of the universe and led to technological advances in the fields of healthcare, security and computing. Students from rural, inner city and suburban schools learn about job opportunities in physics, computing and engineering. They learn skills needed to compete in global, cutting-edge research fields such as how to work in scientific collaborations and share data with students in other countries. QuarkNet has motivated numerous students to study in scientific fields.

### STEM Education Contributions

### 2009 Academic Year

#### Resources for teachers

Teachers receiving continuing education	519
Volunteer mentors	95
States participating	28
QuarkNet Centers	52

#### Hands-on Opportunities for Students

Masterclasses	430
Summer research participants	90
Cosmic ray detectors in QuarkNet high schools	315
States participating	20
Student research groups using uploaded detector data	590
Days worth of data uploaded	5609

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