Friday Flyer – January 11, 2013

Center Spotlight: University of Oregon –
http://pages.uoregon.edu/rayfrey/QuarkNet/QuarkNet_2012.html
Contact Ray Frey for tips on how to integrate cloud chamber construction into a workshop.

The Center for High-Energy Physics at the University of Oregon (UOCHEP) hosted its 11th QuarkNet workshop June 26–27. The workshop had three foci: cloud chamber detectors, the LHC and classroom activities. Nine high school teachers attended, including two first time attendees. The College of Arts and Sciences allocated about $1K to cover local expenses (catering, parking, dorm rooms, misc. equipment).

The group built cloud chambers that complement the cosmic ray scintillation detectors, for which the particle detection is electronic in nature and hence somewhat abstract. The cloud chambers offer students a view of particle tracks. The chambers are relatively easy to construct using readily attainable materials and tools, and hence are good classroom projects. They worked well, both with liquid nitrogen and dry ice. All teachers had a chamber to take with them at the end of the workshop. The plan they used was developed at Fermilab: http://quarknet.fnal.gov/resources/QN_CloudChamberV1_4.pdf

Teachers toured the accelerator and biophysics labs. Faculty talked about the LHC, including ATLAS preliminary Higgs boson search results. The announcement of the "Higgs-like" discovery from CERN on July 4 came shortly after the workshop. The talk files will be especially helpful resources for teachers this coming year. As usual, in a very popular session teachers shared activities and projects from the previous year, and discussed possible projects for the coming year.

News from QuarkNet Central
AAPT 2013 Winter Conference – Never been to a national conference? We saw a number of mentors and teachers in New Orleans. Excellent sessions included modern physics (presided over by QN fellow Deborah Roudebush); how to increase minority enrollment in physics classes; and the **Next Generation Science Standards** 2nd draft. Comment by January 29th. http://www.nextgenscience.org See you in Portland?

Physics Experiment Roundup: Scientists Make Plans for New Experiment
http://www.bhpioneer.com/local_news/article_e357bafe-54ff-11e2-8223-0019bb2963f4.html
"Scientists with the Long Baseline Neutrino Experiment have received the Department of Energy's approval to move forward with designs for a $50 million building that will eventually house a $250 million detector, and supporting infrastructure . . . " (from Wendy Pitlick, *Black Hills Pioneer*)

Just for Fun – Animation of the Origin of the Universe and the Standard Model
http://www.wimp.com/particlephysics/

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