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Merging QuarkNet Activities with Project Based Learning EVE-LYN RESTIVO, Waxahachie Global STEM ECHS/UTT/TAMUC — A presentation designed to highlight several projects merging the innovations associated with detectors and the LHC that allow students to merge experimental developments in physics with basic concepts. Project Based Learning provides a way to model and analyze particle motion, use magnetic tracker models, observe collisions of particles, demonstrate counting, compiling data, and calculating the rate of Cosmic Rays from a detector, plus determining the fluidity and number of collisions that indicate the presence of the Higgs Boson. Research has shown that using Project Based Learning improves retention and that using the spectacular physics events of the LHC will raise awareness in modern science and fundamental research, provide experiences that will help motivate students to understand the physical world which in turn will increase scientific literacy, and provide an avenue to develop the interest of mystery, awe, and discovery potential in science, especially physics, for all learners.

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