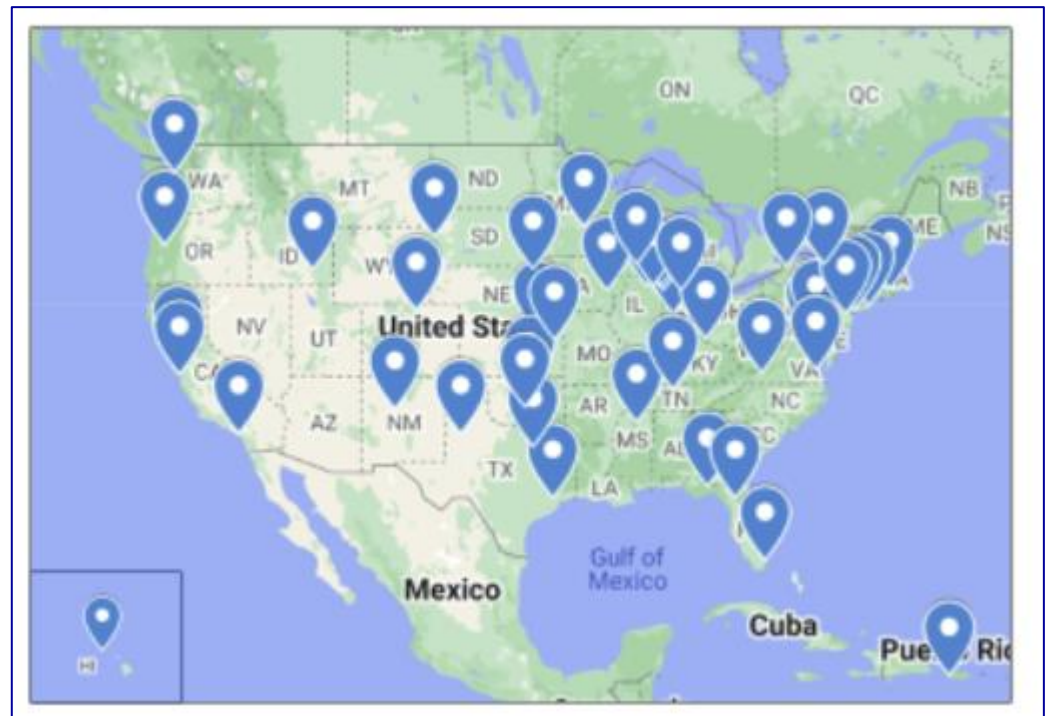# QuarkNet

Center Workshops

Cooperative Effort

Mentors

Lead Teachers

QuarkNet Staff

QuarkNet Fellows

QuarkNet

Center Workshops

Common Workshop Components

Data Activities Portfolio – student/teacher modes

- **Progression: Level 0 activities → Higher-level Activities**

Data analysis from particle physics experiments

Mentor/scientist talk(s) & tour(s)

Teachers sharing strategies

Classroom implementation:

- **Discussion & plans**

Wood, NSF Review, May, 2023

QuarkNet

Center Workshops

Center-Derived Workshops

Mentor, lead teacher, and/or associate teachers plan & facilitate.
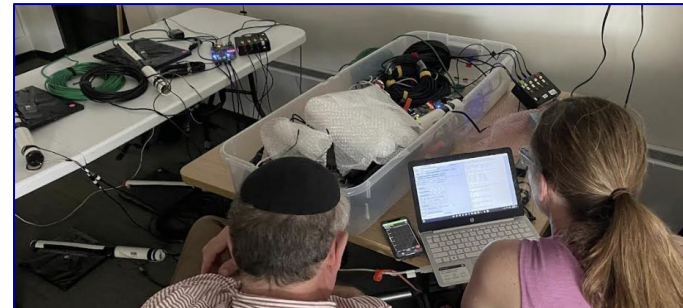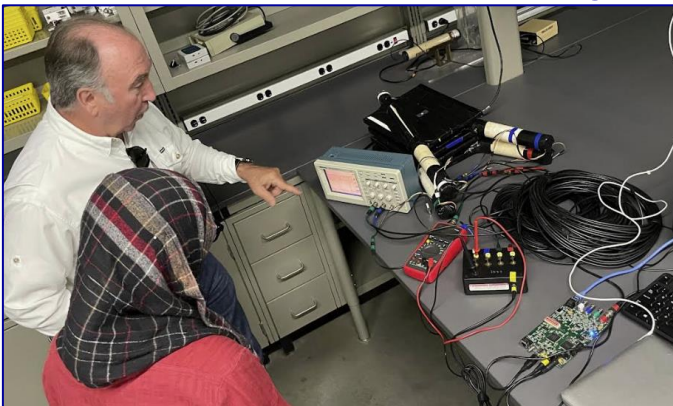

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QuarkNet

Center Workshops

QuarkNet Cosmic Workshops

Includes: Cosmic ray detector assembly & cosmic ray studies using e-Lab & cosmic watches

Facilitation: QuarkNet staff & cosmic fellows

Supports: Use of detector & e-Lab, preparation for International Muon Week & International Cosmic Day

Wood, NSF Review, May, 2023

Center Workshops

QuarkNet LHC Workshops

Includes: CMS Data, ATLAS Data, CMS e-Lab . . . .

Facilitation: QuarkNet staff & LHC fellows

Supports: Preparation for World Wide Data Day (W2D2) and/or LHC Masterclasses
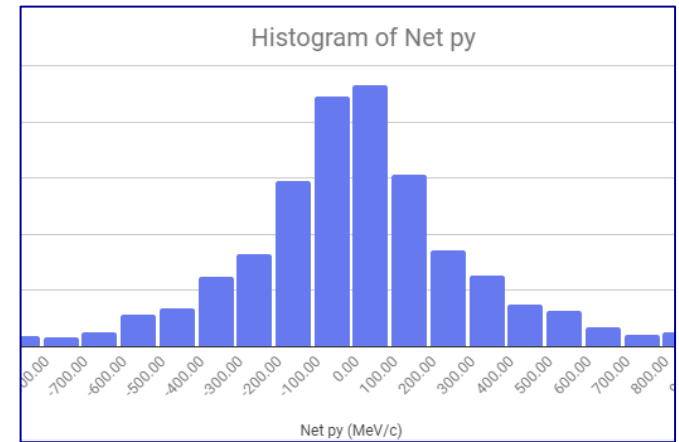
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Center Workshops

QuarkNet Neutrino Workshops

Includes: MINERvA Data & NOvA Data

Facilitation: QuarkNet staff & Neutrino fellows

Supports: Preparation for Neutrino Masterclasses

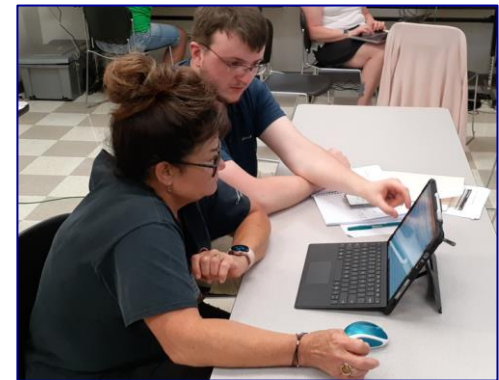Wood, NSF Review, May, 2023

Center Workshops

QuarkNet Coding Workshops

Includes: Coding Notebooks

Facilitation: QuarkNet staff and Coding fellows

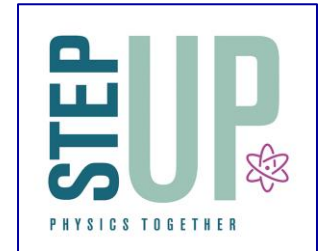**Supports: Coding in the physics classroom**

May be used in conjunction with other workshop threads: cosmic, LHC, neutrino…

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QuarkNet

Center Workshops

Other QuarkNet Workshops

Timely topics: Higgs@10 in 2022
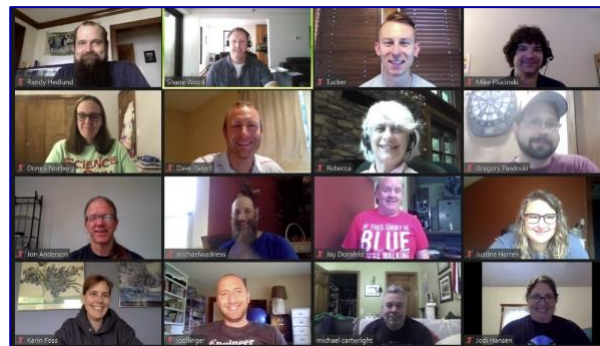
STEP UP, IRIS-HEP

STEAM – Science, Technology, Engineering, Art & Math

Workshop X – Follows an "un-conference" model

New Questions in Particle Physics

Virtual, especially in 2020

Others…

Wood, NSF Review, May, 2023