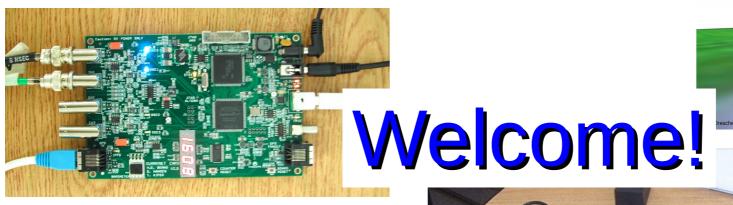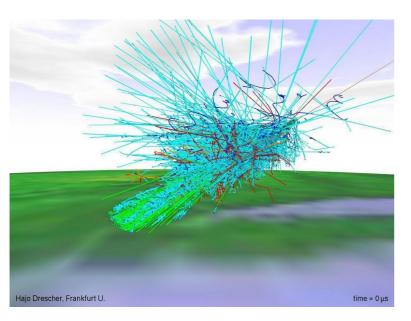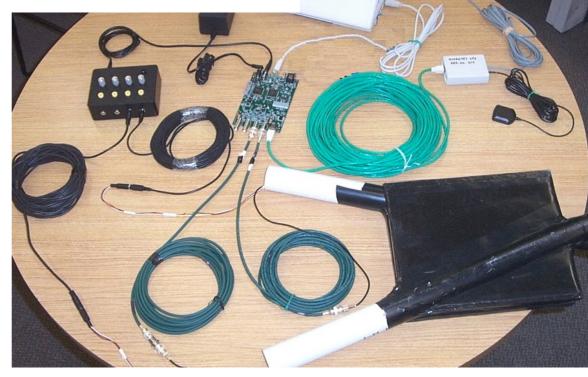# QuarkNet 2021 - Vanderbilt University
21-25 June 2021

Welcome!

QuarkNet 2021 - Vanderbilt University
21-25 June 2021

In-person meeting, Vanderbilt Physics Stevenson Center SC6322. Will try to run a Zoom for the meeting also, but likely up and down, here.

The week in a nutshell:

Monday, news and talks

Tuesday, cosmic ray muon detectors, speed-of-"light"

Wednesday – Thursday, QuarkNet Coding Workshop and CMS

Activities (with Ken Cecire and Jeremy Wegner)

Friday, more Coding (?), cloud chambers, de-brief, survey, other

paperwork, **implementation plans**

Administration

- Check-ins around the room.

- Sign the attendance sheet.

- Some may need Vanderbilt "paperwork" as a "vendor" for direct deposit of your stipend.

- We have **three** working sets of cosmic ray muon detectors (CRMDs) and have laptops for datataking and control. We have a **fourth** set with non-standard (small) scintillator paddles good for shielding experiments.

- We use the "standard" Java program *Equip* to control the boards/detectors.

- Registration and Survey for QuarkNet Central, links on the must-do-items page.

- This years and prevous talks and data sets at GitHub Vanderbilt-QuarkNet Workshops

Monday Schedule

News and Talks

8:30-9:00am Bill Gabella, administration and news

9:00-9:50am Bill Gabella, The LHC and Particle Physics

9:50-10:00am Break

10:00-11:00am Will Johns (online)

11:00-12:00am Dale Julson (online)

12:00-1:00pm Lunch

1:30-2:30pm Collin Dabbieri, Supermassive Black Holes

2:30-3:30pm Bill Gabella, Gravitational Waves, LIGO, schedule and news

Tuesday Schedule

Cosmic Ray Muon Detector

9:00-12:00pm Setup two sets of CRMDs and take two 1 hour data sets, one data set with two paddles swapped

12:00-1:30pm Lunch

1:30pm-3:30pm Analyze the data in Google Spreadsheets. If time, try using stacked data to find the timing offsets and one dataset.

Wednesday Schedule

Coding Workshop, Bill, Ken, Jeremy

9:00am-12:00pm Work through the Vanderbilt Coding agenda here .

12:00-1:30pm Lunch

1:30-3:30pm More on the Coding activity.

Thursday Schedule

Coding Workshop, Bill, Ken, Jeremy

9:00am-12:00pm Work through the Vanderbilt Coding agenda here .

12:00-1:30pm Lunch

1:30-3:30pm More on the Coding agenda.

Friday Schedule

Last Day, some coding, some cloud chamber(s), some de-briefing

9:00-12:00pm Finish coding, discuss classroom possibilities

12:00-1:30pm Lunch

1:30-3:30pm cloud chamber construction and demo, implementation plan (Ken)

News

Congratulations to Ken Cecire!

Ken was awarded the European Physical Society's 2021 Outreach Prize of the High Energy and Particle Physics Division! Check out Notre Dame's story here .

Useful Links for This Workshop

- CRMD User Manual
  https://github.com/gabella/VandyQuarkNet/tree/master/manuals

- Vanderbilt QuarkNet "Drupal" group page:
  http://quarknet.i2u2.org/group/vanderbilt-university-quarknet-center

- QuarkNet Virtual Neutrinos at Vanderbilt by Ken Cecire:
  https://quarknet.org/content/virtual-neutrino-workshop-vanderbilt

- QuarkNet Virtual Neutrino template:
  https://quarknet.org/content/virtual-neutrino-workshop-template-2020

- QuarkNet Virtual Neutrino UofF page:

- https://quarknet.org/content/neutrino-data-workshop-prototype-uf

Useful Links

- Vanderbilt QuarkNet Site:
  http://www.hep.vanderbilt.edu/~gabellwe/qnweb/

- Vanderbilt QuarkNet "Drupal" group page:
  http://quarknet.i2u2.org/group/vanderbilt-university-quarknet-center

- Vanderbilt QuarkNet Workshop 2018 page:
  https://quarknet.i2u2.org/content/vanderbilt-quarknet-worskhop-2018

- QuarkNet Cosmic Ray eLab Teacher page:
  http://www.i2u2.org/elab/cosmic/teacher/

- QuarkNet CMS eLab page:
  http://www.i2u2.org/elab/cms/home/project.jsp

- QuarkNet LIGO eLab Page:
  https://www.i2u2.org/elab/ligo/teacher/

- 2017 Marla Glover's CMS Open Data Page:
  http://quarknet.i2u2.org/content/vanderbilt-cms-data-agenda

- 2016 Ken Cecire's LIGO eLab page:
  https://quarknet.i2u2.org/content/ligo-e-lab-workshop-vanderbilt