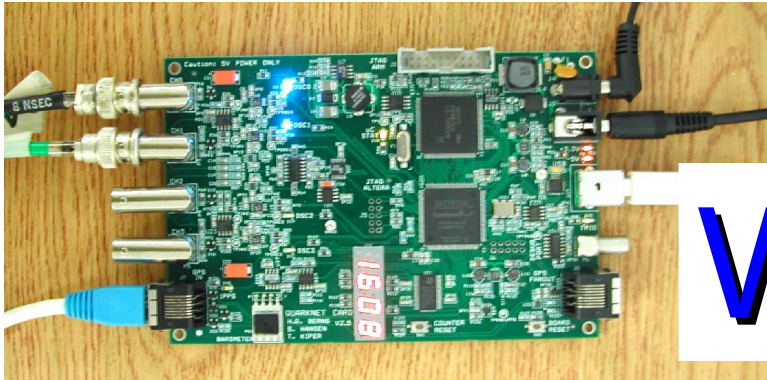


# QuarkNet 2024 - Vanderbilt University

## 17-21 June 2024



# Welcome!





# QuarkNet 2024 - Vanderbilt University

## 17-21 June 2024

Meeting in Vanderbilt Physics Stevenson Center SC6322.

**Monday**, Introductions, News, and Talks,

**Tuesday**, Muon decay

**Wednesday**, Muon decay, day 2, Juneteenth!

**Thursday**, Speed-of-light (muons)

**Friday**, Telescope and Shower mode and Shielding, [must do items](#)  
and survey

# Administration

- Check-ins around the room.
- Sign the attendance sheet.
- Our Admins will send links to set new folks up as “vendors” for Vanderbilt, all legit and for paying the stipends.
- We have **three** working sets of cosmic ray muon detectors (CRMDs) and have laptops for datataking and control.
- We use the “standard” Java program *Equip* to control the boards/detectors. Though simpler programs are possible.
- Registration and Survey for QuarkNet Central, links on the [must-do-items](#) page. Time for Survey Friday.
- This years and prevous talks and data sets at [GitHub Vanderbilt-QuarkNet Workshops](#)



# Lunch Venues Near Campus

## 21<sup>st</sup> Ave Side (the East side):

- Chipotle Mexican Grill
- Subway Sandwich
- Panera Bread
- San Antonio Taco Co.
- Taco Mama-Hillsboro Village
- Double Dogs
- Shokku Ramen
- Hopdoddy

## West End Side (the West side):

- Jason's Deli
- Jersey Mike's Subs
- Oscar's Taco
- I Love Sushi
- Martin's Bar-B-Que
- Wendy's
- Bombay Palace
- Taziki's Mediterranean Cafe

And Many More...



# Week's Agenda

## **Agenda in Google Docs**

[Google Doc Agenda Vanderbilt-QuarkNet 2024](#)

## **Zoom Link, not guaranteed**

[Vanderbilt QuarkNet Zoom Link](#)



# Monday Schedule

## News and Talks

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

9:00-10:00am Nick Spurlock (BME), *PCR, LDNA, and CASPAR*

10:00-10:10am Break

10:10-11:10am Bill Smith and Krystal Ruiz-Rocha, *Gravitational waves and news from LIGO and LISA*

11:10-12:10am Will Johns, *The Pixel Detector and CERN*

12:10-1:30pm Lunch

1:30-2:30pm Aaron Stemo, *Quasars/AGN*

2:40-3:40pm Roman Berens, *Black Holes and theoretical physics*

3:40 – 4pm Think about the use of the weeks material for use in the classroom, see the Guide to Teacher Implementation Plan Development . We will discuss and brainstorm these Friday.



# Tuesday Schedule

[Google Docs Agenda](#)

**Muon Decay, CRMDs, eLabs and Python**

12:00-1:30pm Lunch



# Wednesday Schedule

[Google Docs Agenda](#)

**Muon Decay, CRMDs, eLabs and Python**

12:00-1:30pm Lunch





# Thursday Schedule

[Google Docs Agenda](#)

**Speed-of-muons, systematics**

12:00-1:30pm Lunch



# Friday Schedule

[Google Docs Agenda](#)

**Finish Projects, Discuss Classroom Application, Administration/Surveys**

12:00-1:30pm Lunch



# Friday Schedule

**Last Day, telescope, shower, implementation plans, survey, miscellaneous**

Morning Discuss and maybe demo telescope and shower modes.

12:00-1:30pm Lunch

Afternoon [Must do items](#), [update survey](#), CRMDs, and all other business.

o If a teacher **completed** the Full Teacher Survey anytime in 2023, then complete the UPDATE: 2024 Teacher Survey (once during 2024).

<https://www.surveymonkey.com/r/JNRN6BD> Plan for ~6 minutes here.

oo OR...Spanish version of Update Survey: <https://www.surveymonkey.com/r/JNP67QJ>

o If a teacher did **NOT** complete the Full Teacher Survey anytime in 2023, then complete The Full Teacher Survey. <https://www.surveymonkey.com/r/G8P3C8R> We ask that an individual teacher complete this only once in 2024. Plan for ~15-20 minutes here.

# Useful Links

- 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>
- Vanderbilt QuarkNet Site, GitHub:  
<https://github.com/gabella/VandyQuarkNet>
- Vanderbilt QuarkNet Site, older web pages:  
<http://www.hep.vanderbilt.edu/~gabellwe/qnweb/>
- Vanderbilt QuarkNet Workshop 2023 page:  
<https://github.com/gabella/VandyQuarkNet/tree/master/quarknet2023>
- 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>