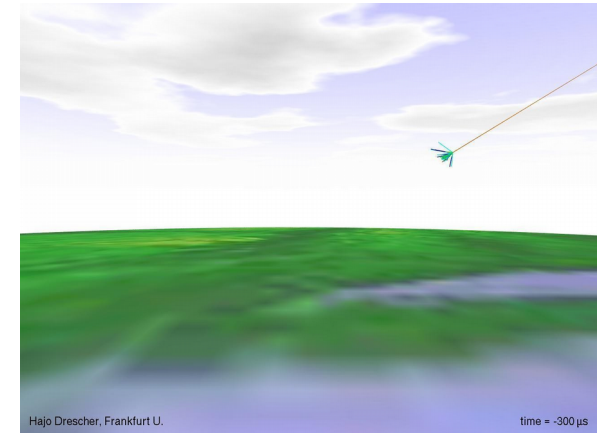
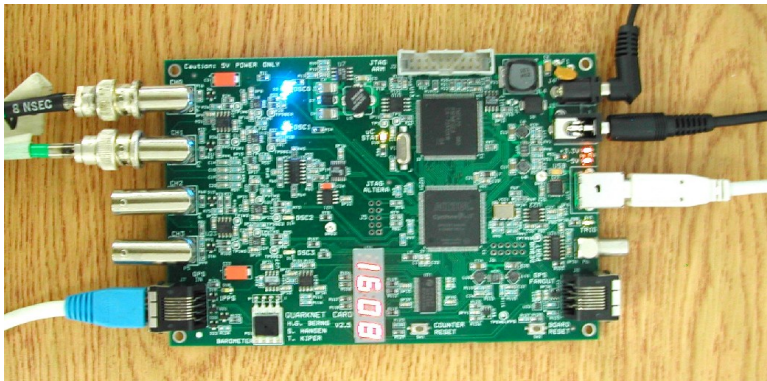




# QuarkNet 2018 - Vanderbilt University

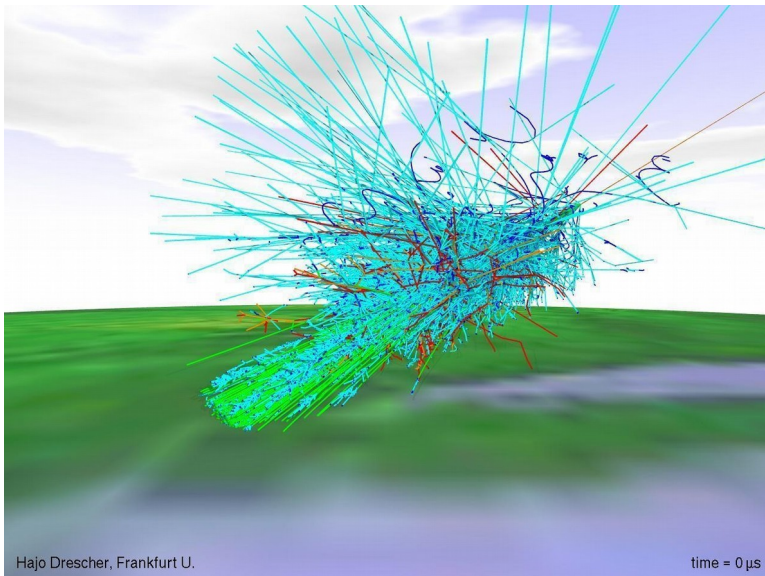
## 25-29 June 2018

# Welcome!



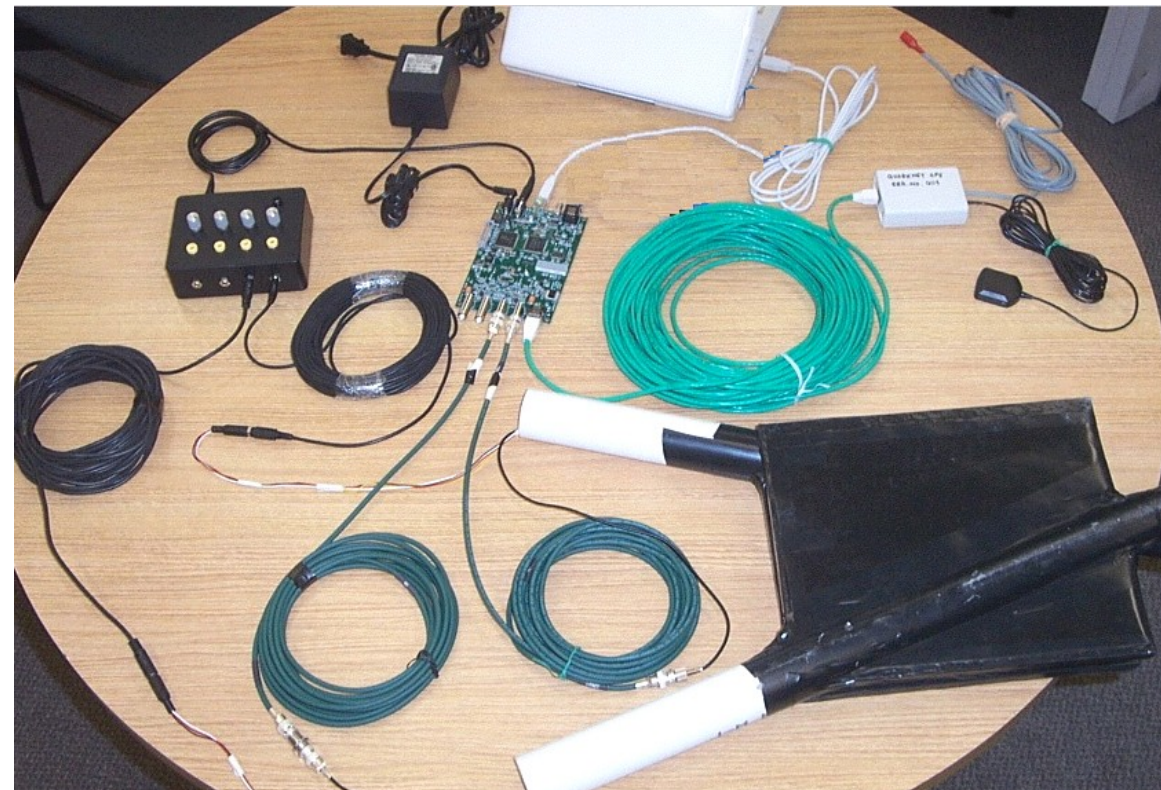
Hajo Drescher, Frankfurt U.

time = -300  $\mu$ s



Hajo Drescher, Frankfurt U.

time = 0  $\mu$ s





# QuarkNet 2018 - Vanderbilt University

## 25-29 June 2018

# Welcome!

The week in a nutshell:

**Monday Morning**, news and Particle Physics talks

**Monday Afternoon**, Astro talks

**Tuesday Morning**, Gravitational Waves and “Tension” in Physics

**Tuesday Afternoon**, eLabs and CRMD

**Wednesday**, more eLabs and CRMD

**Thursday**, Out-of-these-doors, physics demos around Vanderbilt

**Friday**, open discussion(s) and activities



# Administration

- Introductions around the room.
- Make sure you check the day on the **attendance sheet**. It is how the stipend will be calculated. Check it and sign it your last day in attendance.
- Also hand-in the IRS I-9 forms needed to process your stipend.
- Pickup your parking permits.
- We have **two** working sets of cosmic ray muon detectors (CRMDs) and have laptops for datataking and control. We have a **third** set with non-standard (small) scintillator paddles good for shielding experiments.
- We use the “standard” Java program *Equip* to control the boards/detectors.



# 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>



## news and talks

# Monday Schedule

8:00-8:30am Arrive, parking permits for the week, **check the attendance sheet & IRS**

8:30-9:00am The weeks schedule, News, Announcements, Bill Gabella

9:00-9:50am CERN's Large Hadron Collider and CMS Status, Bill Gabella

9:50-10:00am Break

10:00-11:00am Particle Physics, Savannah Starko

11:00-12:00pm Machine Learning and Particle Physics, Andrew Melo

12:00-1:15pm Lunch

1:30-2:30pm Mars, David Weintraub

2:30-3:30pm Tess/Exoplanets, Ryan Oelkers

3:30-4:30pm Pulsars, Nanograv, and Pulsar Timing Arrays, Natasha McMan



# Tuesday Schedule

## Other Science out there and muon detectors

8:30-9:00am Arrive

9:00-10:00am Gravitational Waves and GW170917, Bill Gabella

10:00-10:10am Break

10:10-11:00am, "Tension" in Physics, Bill Gabella

11:00-noon

noon-1:15pm Lunch

1:30-4:00pm eLabs and Cosmic Ray muon detectors (overnight runs?s)



# Wednesday Schedule

## More eLabs and CRMDs

9:00-10:30am eLabs and CRMDs

10:30-10:40am Break

10:40-noon more eLabs and CRMDs

noon-1:15pm Lunch

1:30-4:00pm yet more eLabs and CRMDs

Last years visit from Marla Glover:

<http://quarknet.i2u2.org/content/vanderbilt-cms-data-agenda>



# Thursday Schedule

**Outside on campus, physics and videos, leaky bottles, etc.**

9:00-noon Activities

noon-1:15am Lunch

1:30-4:00pm Activities





# Friday Schedule

## **Open discussion and activities**

9:00-10:50am

10:50-11:00am Break

11:00-noon

noon-1:15pm Lunch

1:30pm-4:00pm