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DANGO (Doings and Goings On) - Vol. 22 | Issue 5

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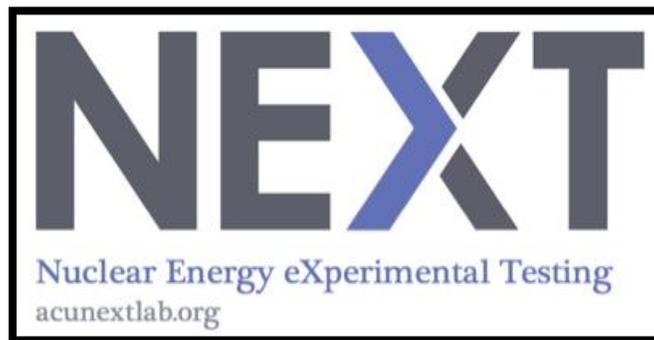
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DANGO (Doings and Goings On)

Picture of the Week Winner: "The Department of Engineering and Physics' most recent new research effort: NEXT Lab at ACU" -Dr. Towell



Group Updates



FROM CECILY TOWELL:

Hermoso Dia Dango,

This week we've finally started working around in the lab. Over the week we rebuilt a mRPC, which took us awhile since different problems with electronics and such kept coming up. However we're working on putting it into a cosmic ray test stand and gas is flowing so we should be able to start taking data soon to see how

well this new design works. The little ones (Haley and Matt) are on the 4pm-midnight shift, so I haven't gotten to see them much which is pretty lame. I probably will not be sending a Dango for the next few weeks since my family and I will be going to Honduras early Monday morning for two weeks. It's a great trip where we get to help build houses, host a few VBS's, hand out food and all that good stuff. Please pray for Haley as she endeavors to survive without me.

Adios por ahora,
Cecily Towell

FROM HALEY STIEN:

Hey Dangoers,

This week I've just been on the Evening shift (4pm-12am), which has been mostly uneventful as we have only had a couple days when we took data. I look forward to Tuesday so that I can finally go back to a normal schedule, but by that time most of the Towells will already be in Honduras.. BUMMER. They are my main source of entertainment/socialization, so I will impatiently await their return. Aside from work, we went to the beach on Saturday, which is always fun. I insisted that I didn't need sunscreen, but my sunburn has proven otherwise. One day I'll learn.

Adios,

Haley

FROM MATTHEW KIMBALL:

Hey DANGO,

This week has been pretty good. We worked for a few days in Mickey's lab and then Haley and myself went back on shift for the evening shift (4pm to 12am). While working in Mickey's lab we made much more progress along the lines of finding out the responsiveness of the Oscilloscope we will be using to test the rest of the electronics. And shift. Well. Shift has been boring. We've had one day of actual data taking and other than that it's been transitions or maintenance that has kept us just treading water.

Talk to you later,

Matthew Kimball

FROM ARIC TATE:

Hello Everyone,

This week turned out to be very productive. We were able to come together as a team to accomplish the tasks laid before us, even when the odds were stacked against us. Our leaders really stepped up and put in performances that will not soon be forgotten. By a strange coincidence the physics research could be described the same way. An anti-static mylar mRPC was built and is now holding high voltage. The previous sentence does not adequately capture the drama that is building a particle detector, but unless you were there I won't be able to convince you otherwise (We aren't all witnesses). I will forge onward next week as most of my team leaves me for Honduras. The primary goal is to read out signals and possibly begin building a 48 gap anti-static mylar mRPC. Go Cavs.

-Aric

FROM DR. RUSTY TOWELL:

Hello DANGO!

Today at BNL we celebrated the 16th and final EOR (End of Run) Party. There were lots of good folks present and of course loads of grilled meats. Earlier this summer, PHENIX held a 25th anniversary dinner. While neither ACU nor I were founding members, I've

been a member of PHENIX for 17 years and ACU has been a member institution for 15 years. During this time PHENIX has produced lots of interesting results and trained several generations of students.

This week Aric, Cecily, and I have spent much of our time in the TOF lab assembling and testing a new prototype mPRC. The gaps in this multi-gap RPC are made with sheets of mylar spaced by fishing line. This makes for extremely thin gas gaps. We got it assembled and installed in the gas vessel yesterday afternoon and flowed gas overnight. Today we were able to raise the HV on it unto 14,000 volts. It appears that we are seeing some real cosmic signals out of it. Next week we plan to take some longer cosmic runs with it to confirm its performance.

Next week I'll be out of the country on a mission trip to Honduras with 3 of my children. We hope to build several homes, a church, host a VBS and share the love of Christ with the people of Honduras. We welcome your prayers that we can be used by God in meaningful ways.

Grace and Peace,
Rusty



FROM VICENTE ROJAS:

“Engineering degrees should have more psychology classes. There’s a formula for almost everything, except for dealing with people”, said Josh, one of my eHT’s bosses, while coming back from a design meeting with the representatives of the City of Brady, TX (City). This was my week’s favorite quote. True enough, once you come out of college, you will hardly ever have to derive a formula. Depending on the field of engineering that you choose, you will have to deal with clients, engineers, operators, manufacturers, among other people. Dealing with people’s egos and interests is a challenging aspect of engineering.

This Thursday (June 16), I got to attend a meeting between eHT and the City’s mayor, project manager, city attorney, water plant manager, among other people. I quickly realize that the agenda served no purpose. Questions got asked left and right, ranging from the legal agreements to the specific piping in a street intersection. Regardless of how unorganized this meeting was, many important details were discussed and agreed upon. Surely, there will be another meeting because Josh didn't even get to talk about his proposed improvements to the water treatment plant.

One of the major projects that I worked on this week had to do with the improvements done to a water disinfection system at Midland’s, TX water purification plant. I spent three straight days digging

up information, understanding complex plans, sketching possible alternatives, and finding the right manufacturers for the different pieces. I finally went to my boss Jordan to give him an update on what I had done. Before I even got to talk to him, he told me that there had been a change of plans and that they were going to redo the whole system a different way. “That’s engineering for you Vicente”, he said. Hopefully, some of the work I did will give me adequate experience for this new plan. As an engineer, it is our job to adapt and adjust ourselves to ever-changing decisions.

Unrelated to work, on Thursday night, I went to the Movies on the Hill event and watched Zootopia. I believe it is a perfect depiction of the problems and struggles that American society faces today. Watch it. I recommended it.

-Vicente



FROM ZHAOJIA XI:

Hello everyone,

This week has been crazy. Monday and Tuesday we had SeaQuest collaboration meeting from 8am to 6pm. I have learned so much about SeaQuest during these two days. It was nice to hear people's presentations from all different positions. Wednesday and Thursday we had Fermilab annual users meeting. Every

experiment in the Fermilab and DOE gave talks about their plans, results and etc. I have understood dark matter and cosmology better than last year. I am and will take swing shift through this whole weekend. Hope every equipment here will work well.

Peace out,
Zhaojia Xi

FROM CALEB HICKS:

<Generic Salutation>,

This week I'm on owl shift so there really isn't anything exciting happening. Shifts have been nice and quiet except for yesterday when everything went wrong. Josh's car managed to lock itself while I was getting my radiation badge, so I spent half of the shift calling locksmiths. Got the car unlocked finally, and less than 30 minutes later one of the important computers crashed and so all the alarms started screaming at me. Finally got everything working again, only to have one of the ROCs crash. So overall a calm week with only one small apocalypse.

<Generic Send-off>,

Caleb Hicks

FROM JOSHUA MARTINEZ:

Wassup DANGO,

This week was rather exhausting, more so than previous weeks. Monday and Tuesday consisted of collaboration meetings which consisted solely of

presentation giving details about the experiment. In all rights it should be very detailed but it was just mentally exhausting attempted to keep up with all of the information. I was very thankful for the breaks and lunch to let my brain process everything that just happened. Wednesday and Thursday was the Fermilab Users Meeting where I learned about all the other experiments going on at Fermilab. This information was not as intense as the collaboration meeting but was still rather difficult to understand some of the talks given. Either way it was rather interesting when my brain wasn't melting out my ears from the overload of information. Today we are having another SQERP meeting I believe and hopefully I can get some work done on my project.

Until next time,
Joshua Daniel Martinez

FROM PAUL CARSTENS:

Greetings!

It's been a busy week! There hasn't been much working, but we've been in talks and conferences non-stop since the week started. Monday and Tuesday we had the SeaQuest collaboration meeting to attend. The talks were quite technical in nature so I could only qualitatively follow along. Wednesday and Thursday we had the user's meeting to occupy us. These talks were still more technical than I could easily understand. However, since they were aimed at an audience that lacked the

intimate knowledge of the experiments that was expected in the collaboration meeting the talks were generally more accessible. Now that it's Friday and the conferences are over we can get back to work. Today I'll be finishing up the study on how the FMag and KMag pt kicks affect jTracker in monte-carlo j/psi data.

-Paul

FROM REUBEN BYRD:

Hi Dango,

This week was a little hectic for all of us, I think. We had to take the owl and swing shift this whole week, plus there was the collaboration meeting Monday and Tuesday and the User's meeting Wednesday and Thursday. Also, the undergrad lectures are still going on, so there was that as well. I worked the swing shift the majority of this week so, sadly, I missed a lot of the talks. One cool thing I got to do was help get the "baseline" measurements from some SiPMs with Ming. He put three fairly close to the beamline to see how (and if) the radiation will affect the optimal operating voltage. What we did was measure that before it has been exposed to anything.

'Til next week,
Reuben

FROM SHON WATSON:

Dear Dango,

My last week at Fermilab was busy with SeaQuest swing shifts. I have been working back in Abilene for the past two weeks. Early this week, I remotely attended most of the SeaQuest collaboration meeting.

I have been working on the Niffte online software. A while back, the Niffte offline framework's build system was transitioned from Autotools to CMake. The online software still uses Autotools. I started trying to migrate the online software to CMake too, but it has been more work than I expected.

-Shon

FROM DR. MIKE DAUGHERITY:

<DANGO!>

We started the week with the two-day SeaQuest Collaboration Meeting. We also had the two-day New Perspectives Conference for young researchers to network and present their work. After that we had the two-day 49th Annual Fermilab User's Meeting. By Thursday evening I felt like we had worked a six day week. Our brains are full with lots of new ideas to try.

</DANGO!>

-Dr. D

FROM DR. DONALD ISENHOWER:

To DangoLand,

This week started with our SeaQuest collaboration meeting. My talk was to give an overview of how everything on the experiment was running. So I had to go and gather information on how our data acquisition system was running, which modules in it had failed in the last few months, how many spares we had of which part, discuss the hodoscopes, discuss the work I have been doing on the high voltage systems and what that likely meant for the rest of the run, and so on for everything else in the experiment and detector. It was fun getting some of that information from people about the subsystems they are responsible for. The meeting went well and preparations for the next two parts, a dark photon search and polarized Drell-Yan were discussed over the rest of the two days. Of the other major thing discussed were results coming out a preparation of a paper being submitted to Nature.

The next two days were the Fermilab Users Meeting. Various talks were given during that time on lots of different topics. Hopefully some of them get mentioned by the other students who got a chance to attend (some were on shift). I refuse to discuss how today went as it was a day that was mostly a no good very bad day and I would like to go to Australia type day. But some days are just like that. Although I am happy that I've found out what was causing my pickup to

make a really bad noise and it is NOT a no good very bad thing that is going to cost me lots of money (cost me \$6).

End of another week for Dr. I. from Fermilab

Picture of the week candidates

Dr. D: The official picture of Wilson Hall for this week's Users Meeting.



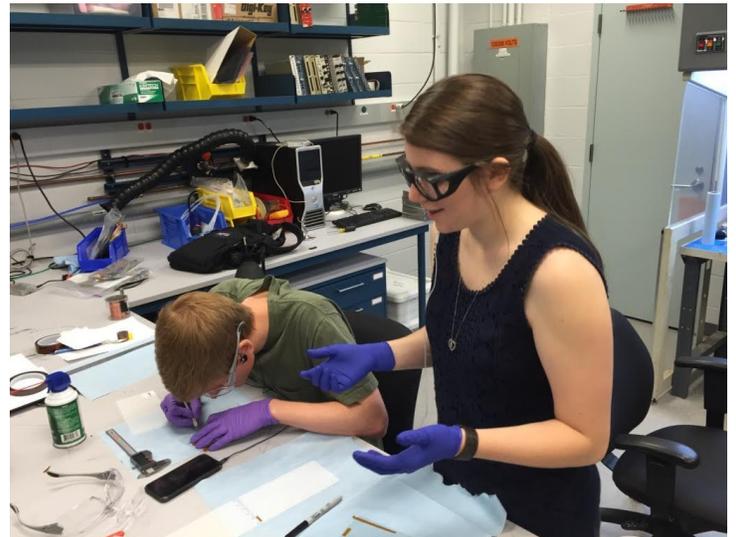
Zhoajia: "Sun's out, Buffalo's out."



Reuben: "The Millennium Park Band Hall"



Dr. Towell: Assembly of the mylar mRPC at BNL in full PPE.



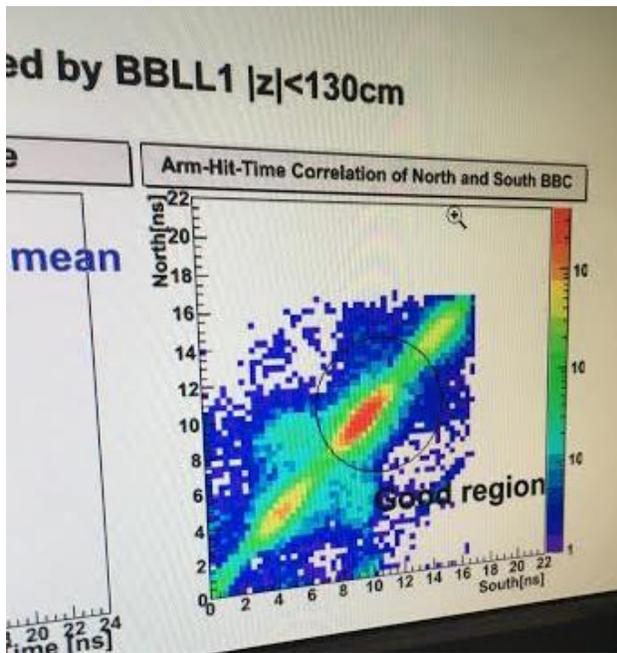
Dr. Towell: Lower Manhattan as seen when returning from the CSC at Lipscomb.



Haley: "Really excited at the beach"



Matthew: "Oh my gosh, the data is a lizard"



Coffee of the Week!

Finally reunited.

Tend Coffee- Cinnamon Bun Latte

