

# DANGO

## (DOINGS AND GOINGS ON)

### UPDATES FROM THE STUDENTS

From Mathew Solomon:

“Hey guys,

So primarily this past week I've been working within the RPC factory learning a lot about programming in order to analyze data for the background noise testing we will be doing for the RPC's. We've been working hard on obtaining a better understanding of C Shell scripting and other computer related projects. The weather here has gotten pretty hot lately and a method of cooling off that we took was heading over to the beach after work and dipping into the water. Today we have the end of run party so thats going to be fun. All in all this week has gone by fast. "wait for it...-dairy!"

—Mathew Solomon”

From Ramsey Towell:

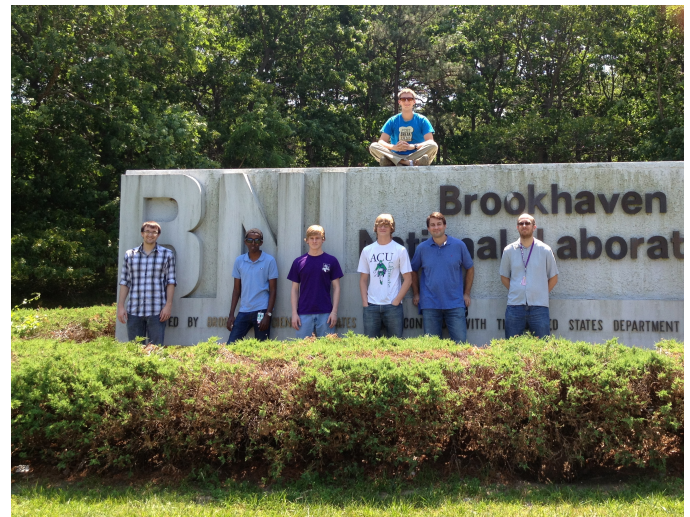
“What's crackin' DANGO,

This week at work, we were given the task of typing some script in C Shell to analyze a bunch of raw data from the RPC's. Unfortunately none of us knows anything about C Shell so we spent hours and hours trying to learn it online and trying to create our own code that won't destroy or delete a lot data that we have received during the run. Speaking of C Shells though, we went to the beach for the first time this summer, yesterday! (wasn't that a fantastic pun) It was a lot of fun but I'm pretty exhausted today from all the running and swimming from yesterday. Also, Walker left us yesterday to go to some friend's wedding, or something dumb like that, so he will be in New Mexico all weekend.

—Ramsey”

From Aric Tate:

“Since the temperature rose a bit this week we decided to go to the beach Thursday. It was a



The customary ACU group picture at Brookhaven.



New York beach.

gregarious occurrence that was enjoyed by all. Today (Friday) we will attend the end of run party (and see a very large grill I am told). As far as work goes we have been concerned primarily with some software related concerns that as a whole entail converting prdfs [phenix raw data files] to root files that are usable for analysis. Today I will actually get to branch out a little and use the oscilloscope to

check various signals instead of working with c-shell, perl, or bash. Adios "it going to be legend...."

From Kyle Bowling:  
"Hello Dango!

Sorry for missing the first two reports as I was on vacation in Hawaii with spotty internet connection so I will extend this report for all three! Upon arriving in late May, me and Noah began our task of cleaning out huge amounts of wires from the work space under NM4. Previous experiments, including KTEV, decided they would rather just cut the wires and leave them where they are instead of clearing them out when their experiments were shut down, so they left behind a ridiculous amount of cables behind for us

to clean up. :( We cleared out and organized tons of useful BNC, LEMO and other connectors. After that, much of our time was dedicated to testing and attempting to repair NIM modules. Once Ryan and Drew both arrived and the materials for the station 3 wire chamber arrived that became our priority. We started with prepping Lab-6 (scintillator production factory/work area) and then moved on to assembling the frame. After that I went on vacation so the following events are lost in the ether. Once I returned, they were in the process of attaching/gluing the feed-throughs so I added to the workforce on that and had it completed two days after. Now we are waiting till the wiring equipment is prepped and ready for us to begin, as well as expecting a lesson from a Tokyo Tech student to come and teach us how to properly tension the wires on Monday. In the meantime we have been making several changes to the other stations downstairs in NM4, including making upgrades to the beam-line hodoscopes. The current plan is to have 4 alternating hodoscopes that monitor the beam-line intensity and prevent cosmic radiation from being measured. One of the second major tasks we have is attempting to upgrade all the bases on our hodoscopes to transistorized bases for higher rates.

God Bless!"



Robert Rathbun Wilson Hall at Fermilab.

From Drew Boles:  
"Sup DANGO!

This week, we started off gluing in feed throughs in each of the 10,000 holes in the wire chamber. We finished that late Tuesday. Then starting

Wednesday, we started to do different tasks that Dr. I left us. (he and his wife left for the weekend. Which stinks because we had to cook for ourselves...) Anyway, this week I finished running some extra cables that were needed from the Counting Room downstairs to a designated rack. I also helped Ryan determine the length of around 80 cables that were attached to the hodoscopes at Station 3 and 4. Finally, today Kyle and I looked for light leaks in all of the scintillators that were available. Not physics related, we got taken out to Swedish Days by Chuck (who works here) on Thursday. I had a nice Brat and also deep fried cookie dough. Yum. Anyway, that's about it for this week!

–Drew"

From Noah Kitts:  
"Hello DANGO,

I actually have not been at work at all this week because I have been sick with 102 fever for 10 days straight now (as of Saturday). While I wish I could be helping at work I am unable to do so because of how sick I am. These past 10 days I have been able to do really nothing but sleep and watch movies. Hopefully I can get well soon, and get back to work.

–Noah Kitts"

From Ryan Castillo:  
"Hello Dango,

This has been a very productive week for us here at Fermilab. We finished gluing feed-throughs into the new Station 3- wire chamber this Tuesday. So we're moving on to the wiring portion of the construction as soon as we become trained in the process on Monday. Besides that we've been doing odd tasks for Dr. I including measuring the length of cables running from the Station 3 & 4 hodoscopes, testing scintillators, and repairing NIM modules. As for funsies, we've been watching lots of movies and playing video games! This weekend we're planning on heading downtown for some good ole chicago style pizza and a day at the beach.

Cheers, Ryan"



## UPDATES FROM THE PROFESSORS

From Dr. Rusty Towell:

Hello Dango,

We've had another great week on Long Island. We have the cosmic test stand getting close to being operational again. The major missing piece is the RPC HV supply, but we should have that solved by the end of next week. Additionally we have been working to develop the code needed to analyze PHENIX Raw Data Files or prdf's and produce root files. We succeeded on Friday to get this done just before the PHENIX End of Run party.

It's nice to be working with Daniel Jumper (ACU class of 2009) on these projects. We even invited him to join us in our group picture at the BNL sign and other social activities including going to the beach, Good Wok Thursday, and a game of Dota.

Sunday I fly back to Abilene to spend a few days at ACU. I'll help welcome our new students to the department during Passport and then welcome our new faculty member to the department. Dr. Ken Olree will be joining us as the "Director of Engineering". I'll return to BNL on Thursday.

I hope everyone has a great week and as Lois Marie always says, "Go with God".

—Rusty”

From Dr. Michael Daugherty:

“Dear DANGO,

Well, we worked really hard this week, but we didn't finish Physics. Guess we'll have to go to back to work next week.

We're working on some projects to monitor dead and noisy channels in the detectors we built last summer, and we've been sweating it up in the factory trying to get the cosmics test stand up and running. The temperature got all the way up to 29 this week. So we have had to spend some time cooling off on the beach working some hydrological engineering projects.

Have a great week,

Dr. D”

From Dr. Donald Isenhower:

“Day 38 at Fermilab:

OK, I have now been at Fermilab for over a month. We have gotten a number of things done, one of which you will have seen on Friday (I'm writing this early so that I don't forget it). The

Japanese are quite happy to have the help from ACU. So the work on the station 3- drift chamber is going well and is on schedule. I've settled on how I'm going to make the hodoscope paddles that will work as a "beam telescope." One will be looking at what is called a SWIC that monitors the beam. The other will view the target from upstream. For those working at PHENIX, you should realize that the number of particles per second interacting in our detector is about 100,000,000 times higher.

SeaQuest gets 40,000 protons in a 1 ns burst, 53.7 million times per second, so without the large front magnet and 7 meters of steel to absorb things, we could never do the experiment.

My goal by the end of the month is to have decided which PMTs we are going to replace and how we can get it done by the end of July. Then if we can just get the other 15 or so things on my list done, I will be quite content! This weekend is a combination of work and family time. I am working from Madison on various tasks so that I can see my family as our schedules are now mostly orthogonal. Thursday I had lunch with Dr. Thad

Walker, who went to ACU with me and works in a related group to my sons. His description of a new miniature detector that can outperform a SQUID they have developed is beyond cool. We will need to get him to give a talk about it at ACU when he comes there for our Visiting Committee or to just visit his daughter!

My photo contribution is an example of a safety warning that only makes sense if you know something about a superconducting magnet. Those who took shifts on PHENIX probably got to see at least one "quench" and maybe it was because there wasn't enough hydration somewhere?

—Dr. I.”



## IN OTHER NEWS...

The PDG will send you a copy of the Review of Particle Physics book for free if you sign up on the website below. Lots of good info there also.



### **The PARTICLE DATA GROUP Announces:**

The 2012 edition of the Review of Particle Physics is now available on the Web: <http://pdg.lbl.gov/>

- Summary Tables
- Particle Listings
- pdgLive
- Review articles

The full-sized book will be mailed in late July.  
The Booklet will be mailed in October.

The PDG recommends our website for the public:  
<http://ParticleAdventure.org>

We thank the 700 members of the particle physics community who contribute to the Review of Particle Physics.

We always welcome your suggestions for improvements.

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