

## Calendar

### [Have a safe day!](#)

Thursday, May 13

1:30 p.m.

#### [Particle Astrophysics Seminar](#)

- Comitium (NOTE DATE, TIME, LOCATION)

Speaker: Takada Masahiro, IPMU, Japan

Title: Subaru Weak Lensing Study of X-Ray Luminous Clusters

2:30 p.m.

#### [Theoretical Physics Seminar](#) -

Curia II

Speaker: George Fleming, Yale University

Title: Three Years of Lattice Strong Dynamics: Have We Learned Anything Yet?

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

4 p.m.

#### [Accelerator Physics and Technology Seminar](#) - One

West

Speaker: Juergen Dietrich, Research Center Juelich - Nuclear Physics Institute

Title: Status of the 2 MeV Electron Cooler for COSY Juelich

Friday, May 14

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

4 p.m.

#### [Joint Experimental-Theoretical Physics Seminar](#) - One West

Speaker: Guennadi Borrisov, Lancaster University  
Title: Evidence for an Anomalous Like-Sign Dimuon Charge Asymmetry

Click here for [NALCAL](#), a weekly calendar with links to additional information.

#### [Upcoming conferences](#)

## Special Announcement

### Use caution: flooding possible on roads today

Heavy overnight storms and rain forecast to continue today may cause flooding on Fermilab roads. Roads and Grounds staff identified areas particularly prone to flooding as the Wilson Street gate, Pine Street gate and Blackhawk Road in the Village. Areas of Main Ring Road could also flood.

If you encounter flooding on a road and you can't see the road through the water, do not attempt to drive through. Find an alternate route to your destination.

If flooding occurs on these or any other roads on site Roads and Grounds will close the road in an area where drivers can turn their vehicles around.

Please call Roads and Grounds at x3303 to report flooding or with have any questions.

## Feature

### Users' Meeting highlights results, looks to the future



Fermilab's 2010 Users' Meeting takes place June 2-3

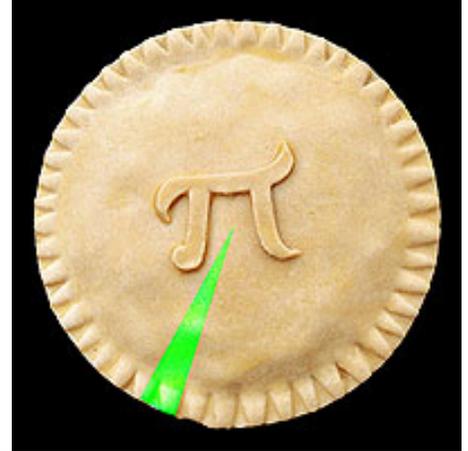
This year's annual Users' Meeting will feature recent experiment results, talks about the laboratory's future plans and physics updates from Washington, D.C. and around the world. The meeting, which will take place Wednesday, June 2, and Thursday, June 3, will provide Fermilab employees and users a chance to learn more about global physics projects and plans for experiments at Fermilab.

All Fermilab employees are invited to attend.

Talks by graduate students will also take place at the meeting. Meeting organizers will choose student talks based on nominations from the student's advisor. Nominations must be sent by May 15 to [GRADTALKS2010@fnal.gov](mailto:GRADTALKS2010@fnal.gov).

## Result of the Week

### A tale of Z's and b's



This analysis involves the fraction of a particular type of events that contain bottom quarks. The green slice represents this fraction and it is a very tiny slice of pie.

By studying certain phenomena, DZero physicists can understand the internal structure of the proton. Learning more about the quantum realm helps us understand where to search for undiscovered particles. Today's [measurement](#) involved a study of collisions in which a Z boson was created with a jet. Jets are a spray of particles. This spray is the debris that occurs when a quark or gluon is knocked out of a proton in the beam.

This particular type of collision involves the strong force and the electroweak force, so it is the sort of collision that strengthens our understanding of the quantum realm. Because the Z boson is a particle that mediates the weak force events of this type are very rare.

DZero physicists sought the fraction of these jets that were initiated by a bottom quark that was created in the collision. These bottom quarks could have been knocked out of the proton or created from pure energy in the collision process. Bottom quarks are rarely created in collisions in the Tevatron, so this kind of study looks at an even smaller portion of the collisions with Z bosons and jets, which itself is a tiny fraction of the number of collisions. The fraction of events with a Z boson and a jet initiated by a bottom quark is a mere 2 percent.

This measurement can also help DZero physicists in the search for the Higgs boson.

## Campaigns

### [Take Five](#)

### [Tune IT Up](#)

## H1N1 Flu

For information about H1N1, visit Fermilab's flu information [site](#).

## Weather



Thunderstorms  
71°/47°

[Extended Forecast](#)  
[Weather at Fermilab](#)

## Current Security Status

[Secon Level 3](#)

## Wilson Hall Cafe

Thursday, May 13  
- Breakfast: Apple sticks  
- BBQ pork sandwich  
- Kielbasa & sauerkraut  
- Chicken marsala  
- Smoked turkey melt  
- Assorted sliced pizza  
- SW chicken salad w/roasted corn salsa

[Wilson Hall Cafe Menu](#)

## Chez Leon

Thursday, May 13  
Dinner  
- Closed

Wednesday, May 19  
Lunch  
- Assortment of quiches  
- Salad of field greens with raspberry vinaigrette  
- Fresh fruit plate

[Chez Leon Menu](#)

Call x3524 to make your reservation.

Fermilab's Graduate Student Association will also hold their annual [New Perspectives](#) conference on June 1.

"It has been a great year. We've had a lot of excitement in the users' community," said Ron Moore, chair of the Users' Executive Committee. "We're looking forward to great presentations on a variety of physics topics including presentations on the Tevatron's current run, the startup of new experiments, such as CMS and MINERvA, and proposed future experiments, such as a neutrino factory, Muon Collider and Project X."

Other talk topics include Higgs searches, top quark measurements, heavy flavor physics, neutrino results from MINOS and MiniBooNE, dark matter searches and talks on the Intensity, Cosmic and Energy Frontiers.

This year's highlights also include lectures by: Department of Energy Under Secretary for Science Steve Koonin, Deputy Director of the Office of Science for High Energy Physics Dennis Kovar and Rep. Bill Foster (D-IL). The GSA poster session will take place during the banquet on Wednesday, June 2.

A public lecture will take place at 8 p.m. Wednesday, June 2, in Ramsey Auditorium given by Secretary of Energy Steven Chu. Tickets for the public lecture are free, but must be reserved. Secure tickets by contacting the Fermilab Box Office, 630-840-ARTS.

[Registration](#) for the meeting is free. The Festa Italiana will take place in Kuhn Barn Wednesday evening following Secretary of Energy Steven Chu's lecture.

-- *Rhianna Wisniewski*

From DOE

## Letter from Under Secretary of Energy

Dear Colleagues,

National Lab Day is this Wednesday, May 12, and I write to encourage and thank you for taking part in this important effort.

National Lab Day is a nationwide effort to connect teachers and students with their local scientists, engineers, and mathematicians with the purpose of increasing science, technology, engineering, and mathematics (STEM) literacy and improving K-12 science learning experiences. At the Department of Energy, we understand the value of this effort and know

One way we search for the Higgs is by looking for events in which a Higgs boson might be created at the same time as a Z boson. Since we believe that the Higgs is likely to decay predominantly into two bottom quarks, we search for events in which we can find a Z boson and two bottom quarks.

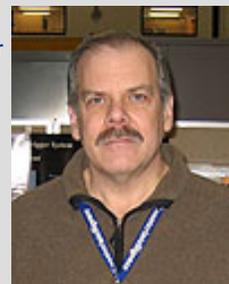
While scientists are not positive the Higgs boson exists, a lot of indirect evidence says it does. One thing we do know is that if the Higgs boson does exist, it is very difficult to produce (or else we would have seen it already). Since any search for the Higgs boson must take into account its rarity, we need to understand the ordinary ways in which Z bosons can be made in conjunction with bottom quarks. Otherwise we could be swamped by much more common, but ordinary, events. In the best traditions of science, this is a measurement that is both interesting in its own right and can provide crucial information for others. Not a bad day's work.

- *Don Lincoln*



These physicists from the State University of New York, Buffalo, have spearheaded this useful analysis.

Fermilab's Mike Diesburg is single-handedly responsible for processing all of DZero's raw data and converting it into a format from which other physicists can begin to make measurements.



## Accelerator Update

May 10-12

- Four stores provided ~43.25 hours of luminosity
- NuMI Lambertson magnet power supply repaired
- NuMI accesses

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

## Archives

[Fermilab Today](#)[Result of the Week](#)[Safety Tip of the Week](#)[CMS Result of the Month](#)[User University Profiles](#)[ILC NewsLine](#)

## Info

[Fermilab Today](#)

is online at:

[www.fnal.gov/today/](http://www.fnal.gov/today/)

Send comments and suggestions to:

[today@fnal.gov](mailto:today@fnal.gov)Visit the Fermilab [home page](#)[Unsubscribe](#) from *Fermilab Today*

that educating and training the next generation of scientists, engineers, and other STEM professionals is critical to solving many of our Country's challenges.

Read the [full letter](#) (pdf)

## In the News

## Scientists seeking NSF funding will soon be required to submit data management plans

From *Science Blog*, May 10, 2010

During the May 5 meeting of the National Science Board, National Science Foundation (NSF) officials announced a change in the implementation of the existing policy on sharing research data. In particular, on or around October, 2010, NSF is planning to require that all proposals include a data management plan in the form of a two-page supplementary document. The research community will be informed of the specifics of the anticipated changes and the agency's expectations for the data management plans.

The changes are designed to address trends and needs in the modern era of data-driven science.

"Science is becoming data-intensive and collaborative," noted Ed Seidel, acting assistant director for NSF's Mathematical and Physical Sciences directorate. "Researchers from numerous disciplines need to work together to attack complex problems; openly sharing data will pave the way for researchers to communicate and collaborate more effectively."

[Read more](#)

## Announcements

### Latest Announcements

[Sign up for summer Science Adventures classes](#)[News for Cigna plan participants](#)[May habitat restoration - May 22](#)[May "Benefits Bulletin" now available](#)[Artist Reception - 5-7 p.m. on May 14](#)[43rd Fermilab Users' Meeting June 2 - 3, registration now open](#)[Argentine Tango Wednesdays through May 26](#)[NALWO Children's Playgroup International Party - May 14](#)[English country dancing - May 16](#)[Pool memberships available now](#)[NALWO Spring Tea - May 20](#)[Sand Volleyball Tuesdays begin May 25](#)[43rd Fermilab Users' Meeting June 2-3, register now](#)[SciTech summer camps start June 14](#)[Employee discount at Batavia Rosati's](#)[Fermilab Arts Series presents Corky Siegel and Chamber Blues - June 26](#)[ANSYS Mechanical Application classes offered in May](#)[Additional activities](#)[Submit an announcement](#)