

Calendar

Have a safe day!

Thursday, Oct. 29

THERE WILL BE NO THEORETICAL PHYSICS SEMINAR THIS WEEK

11:30 a.m. - 2 p.m.

Health Fair - Wilson Hall Atrium

2:30 p.m.

[Particle Astrophysics Seminar](#)

- One West

Speaker: Andrew Wetzel,
Lawrence Berkeley National
Laboratory

Title: Satellite Galaxy Merging
and Disruption

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

THERE WILL BE NO ACCELERATOR PHYSICS AND TECHNOLOGY SEMINAR TODAY

Friday, Oct. 30

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

THERE WILL BE NO JOINT EXPERIMENTAL-THEORETICAL PHYSICS SEMINAR THIS WEEK

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

Campaigns

Take Five

Tune IT Up

H1N1 Flu

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

Weather

In Brief

Flu reporting goes digital

Employees can now report flu-like symptoms to the Medical Office online by completing this [questionnaire](#).

Medical Office employees created the form to help them handle the increasing number of calls from employees reporting flu-like symptoms.

The page-long questionnaire asks for the same information Medical Office employees request from callers. This includes: where the sick employee has been working for the past week, when the onset of symptoms began, whether a personal physician has diagnosed the illness and what the employee's symptoms have been.

The Medical Office may call to follow up with employees who fill out the online form. Please call the Medical Office at x3232 before returning to work after you have been sick with flu-like symptoms.

Filling out the questionnaire does not obviate the need to inform your supervisor that you will be out of the office. Please let him or her know as well.

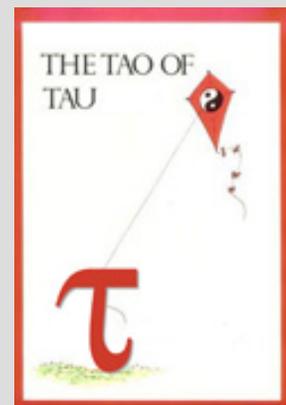
Please contact the Medical Office through the [online form](#) or by phone at x3232 if you or a member of your family exhibits flu-like symptoms such as fever, sore throat, cough, stuffy nose, chills, headache, body aches, nausea, vomiting or diarrhea.

For more information, see Fermilab's flu information [site](#).

Feature

Fermilab Result of the Week

The Tao of Tau



DZero scientists are studying the role the tau lepton plays in events in which the Higgs boson is created. "Tao" literally translates as "the way or path." These physicists hope the tao of the tau will lead them to the origin of mass. [Figure adapted from the cover of "The Tao of Pooh" by Benjamin Hoff.]

Perhaps the most pressing mystery DZero physicists hope to solve is that of the source of the mass of subatomic particles. They are searching for the Higgs boson, the key to questions that have vexed scientists for decades.

So how are they looking for it? The short answer is: every way they can imagine.

For about 20 hours each day, Fermilab accelerator scientists spin proton and antiproton beams in the Tevatron and carefully guide them to collide at the center of the DZero detector. Scientists at the DZero experiment painstakingly configure their equipment so as to capture the most interesting data from these collisions.

While Higgs bosons can be produced alone, scientists think that the simplest way to observe them at the Tevatron is to look for collisions that produce a Higgs boson at the same time as a W or Z boson.

W and Z bosons are well-understood particles that can decay into electrons and muons, two types of leptons that leave striking signatures in the detector. It is the relative ease of recognizing these particles that makes them attractive in Higgs boson searches.

W and Z bosons can also decay into a third type of lepton, the tau lepton. This decay mechanism is much harder to identify

 **Chance of rain**
65°/57°

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

Current Security Status

[Secon Level 3](#)

Wilson Hall Cafe

Thursday, Oct. 29

- Apple sticks
- Tomato florentine
- BBQ pork sandwich
- Kielbasa and sauerkraut
- Chicken marsala
- Smoked turkey melt
- Assorted slices of pizza
- Southwest chicken salad with roasted corn salsa

[Wilson Hall Cafe Menu](#)

Chez Leon

Thursday, Oct. 29

- Closed

Wednesday, Nov. 4

Lunch

- Pork bracirole
- Latin fried rice
- Pineapple flan

[Chez Leon Menu](#)

Call x3524 to make your reservation.

Archives

[Fermilab Today](#)

[Result of the Week](#)

[Safety Tip of the Week](#)

[CMS Result of the Month](#)

[User University Profiles](#)

[ILC NewsLine](#)

Info

Two particle accelerators, one Higgs search



Aurelio Juste, the current co-convenor of the Higgs Group at DZero, will leave Fermilab Nov. 1 for Barcelona.

If physicists find the Higgs boson in the next few years, Aurelio Juste will be part of the action.

Juste, a Fermilab scientist currently serving as co-convenor of the Higgs Group at DZero, will leave Fermilab on Nov. 1 for Barcelona, where he will work for both Fermilab and CERN in the search for the Higgs. He will take a senior research position with ICREA (Catalan Institution for Research and Advanced Studies) and IFAE (Institute for High Energy Physics), where he will join ATLAS, as well as continue his involvement at DZero.

Juste said having both laboratories in the search will lead to synergies, but as a physicist here for the past 11 years, he still is rooting for Fermilab to find the Higgs first.

"Right now my heart is at Fermilab, so I do hope we find the Higgs here. Whether that is the case or not, the LHC will enjoy an interesting future," Juste said.

Juste, who grew up in Barcelona, plans to split his time between both laboratories. After living and working at Fermilab for more than a decade, Juste has strong ties to the area.

"All of my career has been here, so Fermilab will always be a very special place for me," Juste said.

His career at Fermilab began in the years leading up to Run 2 of the Tevatron, where Juste helped construct the silicon detector for DZero. Eventually he became convenor of the Top Physics and Jet Energy Scale working groups at DZero and served as physics coordinator for the last two years.

Of all his time at Fermilab, Juste said, the beginning of Run 2 was a particularly exciting

experimentally. But studying it improves the collaboration's ability to find the Higgs boson.

If scientists discover a Higgs boson, these studies will also help determine whether the Standard Model correctly describes it or if it points to new physics.

DZero scientists have released the results of a [study](#) that searches for the Higgs boson in events in which tau leptons are created. This is a particularly difficult study, and its release demonstrates the collaboration's ever-increasing sophistication in searching for the Higgs.

While the Higgs boson remains undiscovered, it is through careful studies like these that physicists will be able to convince themselves and the world if they do find it hidden within the collision data.

— Don Lincoln



From left: Harvey Bruch, Sonya Wright and Julie Saviano are currently serving as DZero's invaluable administrative support team. After 20 years with DZero, Sonya is preparing to pursue another position within the lab. Her hard-won expertise will be missed.



Subhendu
Chakrabarti
Stony Brook

Yuan Hu
Stony Brook

Phil Rich
U. Manchester
UK

These graduate students and post-docs played central roles in this analysis. Paul Grannis, Krisztian Peters and Stefan Soldner-Rembold also contributed.

Milestones

Fermilab Today is online at: www.fnal.gov/today/

Send comments and suggestions to: today@fnal.gov

Visit the Fermilab [home page](#)

period. Juste hopes to exceed that excitement in the coming years, as both the Tevatron and the LHC sprint in the search for the Higgs boson and other new phenomena.

"I'm sure a very exciting time will come through with the Higgs," Juste said. "The best is yet to come."

— *Chris Knight*

In Memoriam

Marianne Champion



Marianne Champion, a mechanical engineer in the Accelerator Division, died last week. Colleagues are holding a memorial service today at noon.

Marianne Champion, whose generous personality, genuine interest in other people, and laugh made her instantly likeable, died last week. She was 48 years old.

People found it easy to become friends with Champion, who was a mechanical engineer in the Accelerator Division's Mechanical Support Department. She created long-lasting connections everywhere she went, said colleague Christine Ader, who knew Marianne for 15 years.

"I never met anyone who could make me laugh like she did," Ader said. "She was just a happy person and she would always smile or wave at people."

One of Champion's primary responsibilities was keeping the target pile dehumidifying system in the NuMI target hall operational, which presents a challenge because it is 120 feet underground. She also worked on Florinert Fluid System for the Main Injector Accelerator.

"She made work fun," said NuMI Shutdown Coordinator Michael Andrews. "When things break, it gets tense; you need to get things back online. And she'd always take the edge off with humor."

Editor's note: Births, deaths, birthdays, weddings and other notable news from Fermilab employees and users will be included here on a regular basis.

Deaths: Edythe Kline, 92, a former administrative assistant for the University Research Association at Fermilab, died Oct. 24 in Aurora. She worked at the laboratory from 1975 until she retired in 1989. Visitation will be from 4 to 8 p.m. today at Moss Family Funeral Home, 209 S. Batavia Ave. in Batavia. Read her full obituary [here](#).

Submit your [milestones](#) to *Fermilab Today*.

Photo of the Day

NOvA construction



Dawn at the NOvA site. Construction workers began erecting the steel frame for the service building at the future site of the NOvA detector facility in Ash River, Minn., on Tuesday. Photo by Steve Conley, resident engineer with Burns & McDonnell.

Accelerator Update

Oct. 26-28

- Three stores provided approximately 42 hours of luminosity
- FESS cleans TeV sector F0 pond water strainer
- CDF luminosity counter calibrated

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Correction

Colleagues remembered her smiling face and her contagious laugh.

"She had an office next to mine separated by a cinder block wall, but I could always tell when she was in her office because of her wonderful laugh," said Fermilab's Patrick Hurh.

She had worked at Argonne National Laboratory, Corning Fiber Optics and Oak Ridge National Laboratory before coming to Fermilab in 2006. She always spoke fondly of her lake house in Tennessee, where she enjoyed gardening. She did not speak fondly of Chicago's winters.

Champion volunteered at the Chicago Animal Care and Control - she loved Schnauzers - and enjoyed the opera. She always tried to help others, said coworker Maurice Ball, giving time or donations in unexpectedly generous ways.

She is survived by her three children, Nicholas Ferguson, Alex Ferguson, Lori Wiseman née Cox, her brother and sister-in-law Michael and Ann Byram, and also Mark Champion.

Colleagues will hold a memorial service for Champion at noon today in the Huddle Conference Room. Memorial services will take place at 3:30 p.m. on Nov. 2 at 110 Sugarwood Dr., Knoxville, Tenn. Read her full obituary [here](#).

— Chris Knight

In the News

Gamma-ray restricts ways to beat Einstein's relativity

Sometimes a single photon can tell us a lot. Especially when it comes barreling toward us with extremely high energy from a gamma-ray burst billions of light-years away. If you catch just the right photon in just the right way, it might even tell you something about the fundamental structure of space-time and provide guidance toward unifying gravity and quantum physics.

In a [paper](#) first published on the arXiv on August 13, and then published in [Nature](#), the Fermi Gamma-ray Space Telescope team presents a reconstruction of the gamma-ray burst GRB090510, observed on May 10, 2009. The burst included a 31 GeV photon, one of the highest-energy photons ever observed

Correction

In Wednesday's *Fermilab Today*, a caption in the obituary for Robert "Obie" Oberholtzer incorrectly stated that funeral services would be held Friday. [Services](#) will be at 12:30 p.m. today at Assumption Cemetery in Glenwood, Ill.

Fermilab Today regrets the error.

Special Announcement

Health and Wellness Fair today

Today Fermilab's Benefits Office will hold its annual Health and Wellness Fair in the Wilson Hall atrium from 11:30 a.m. to 2 p.m.

At the fair, employees can consult with retirement counselors and a variety of healthcare providers. In addition, the Benefits Office will debut a movie about healthy behaviors featuring children from Fermilab's Children's Center.

From 8 a.m. to 4 p.m., the Benefits Office will also offer employees the opportunity to assess their health risks with a health coach in a free, confidential [health screening](#). They will give registered participants priority, but walk-ins are also welcome.

Announcements

Latest Announcements

[Fidelity Representative available today](#)

[Health and Wellness Fair today](#)

[GSA Halloween Party - Oct. 30](#)

[Fermi Martial Arts classes - Nov. 2](#)

[Health screenings available](#)

[Health Risk Assessments - Learn more about your potential health risks](#)

[Coed indoor volleyball starts in November](#)

[Overcome Your Fear of Public Speaking - Oct. 29](#)

[Facilitating Meetings That Work - Nov. 4](#)

[Fred Garbo Inflatable Theatre at Fermilab Arts Series - Nov. 7](#)

[PowerPoint Tips and Tricks - Nov. 11](#)

from a gamma-ray burst. Although no grand sweeping statements can be made, this observation does place some limits on the kinds of theories physicists can develop about the nature of space-time.

[Read more](#)

[Access 2007: Intermediate - Nov. 18](#)

[Process Piping \(ASME B31.3\) class offered in October and November](#)

[HTML Intro: Intro to Web Publishing - Dec. 1](#)

["The Night Before Christmas Carol" at Fermilab Arts Series - Dec. 5](#)

[Additional Activities](#)

[Submit an announcement](#)