

## Calendar

Thursday, April 2  
THERE WILL BE NO PHYSICS AND DETECTOR SEMINAR TODAY  
2:30 p.m.  
[Theoretical Physics Seminar](#) - Curia II  
Speaker: Witold Skiba, Yale University  
Title: Supersymmetry with Lots of Leptons  
3:30 p.m.  
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over  
THERE WILL BE NO ACCELERATOR PHYSICS AND TECHNOLOGY SEMINAR TODAY  
4 p.m.  
Extreme Beam - Physics at the Intensity Frontier Lecture Series - One West  
Speaker: Yoshitaka Kuno, Osaka University  
Title: Charged Lepton Flavor Violation: Experimental Searches with Muons

Friday, April 3  
3 p.m.  
DIRECTOR'S COFFEE BREAK (NOTE TIME) - 2nd Flr X-Over  
4 p.m.  
[Joint Experimental-Theoretical Physics Seminar](#) - One West  
Speaker: Chad Finley, University of Wisconsin  
Title: Recent Results and Current Status of ICECUBE

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

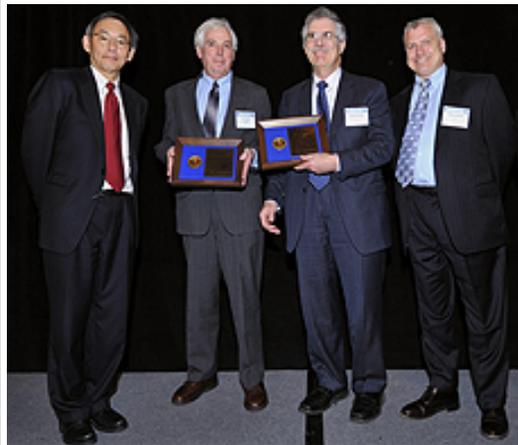
## Weather

Showers  
47°/33°

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

## In Brief

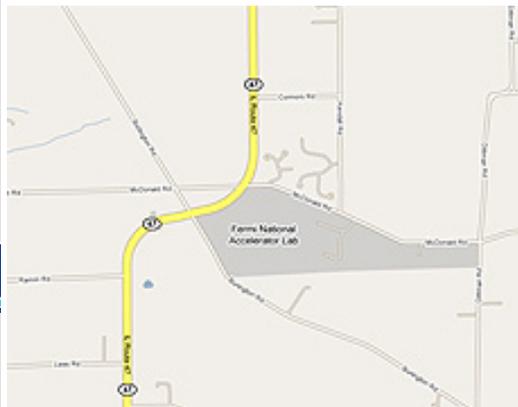
### U.S. CMS and U.S. ATLAS receive DOE award



Secretary of Energy Steven Chu (left) presented an Award for Achievement to U.S. CMS and U.S. ATLAS at the 2009 Annual DOE Project Management Workshop Tuesday in Alexandria, Virginia. Fermilab's Dan Green (middle left) and Brookhaven's Howard Gordon (middle right) accepted the awards on behalf of U.S. CMS and U.S. ATLAS. Pepin Carolan (right) served as DOE Federal Project Director for the two projects. He recognized Ken Stanfield, Ed Temple and Jim Yeck for their past contributions to the U.S. CMS project. "The U.S. CMS project could not have been so successfully executed without the very capable project management team," Carolan said.

## Letter to the Editor

### A good laugh

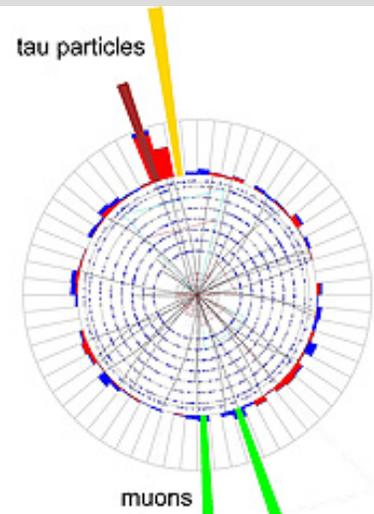


Dear *Fermilab Today*,

As you might imagine, the article in today's April Fool's edition of *Fermilab Today* titled

## Fermilab Result of the Week

### The God Particle (or is it particles?)



A simulated event where  $h$  decays into  $aa$ , which in turn decays into muon and tau lepton pairs.

Fermilab's director emeritus, Leon Lederman, wrote a book called *The God Particle* which described (among other things) the search for the Higgs boson. That book was first published in 1994 and fifteen years later the search continues. In fact, unless you've been totally oblivious to the exciting Tevatron program and the impending turn on of the LHC, you'll know that it is a topic that is hugely interesting for many of Fermilab's scientists.

It may surprise you that the question of whether there is only one Higgs boson is still very much open. This week, we present the results of a study in which DZero collaborators searched for a Higgs boson predicted by a super-symmetric extension of the Standard Model.

In general, in these extensions, there is not a single Higgs boson, but rather many, with different electrical charges and various quantum properties. While there are many models that incorporate the principle of supersymmetry, DZero scientists have explored one called NMSSM. In this model, the so-called "CP even" Higgs boson ( $h$ ) can decay into two lighter "pseudo-scalar" Higgs bosons ( $a$ ). Hence, the search was for  $h \rightarrow aa$ . Because the "a" could be extremely light, these particles could then decay into muons or tau leptons.

This is the [first search](#) at a hadron collider for

**Current Security Status**

[Secon Level 3](#)

**Wilson Hall Cafe**

- Thursday, April 2
- Santa Fe black bean
  - Steak tacos
  - Chicken Wellington
  - Chimichangas
  - Baked ham & Swiss on a ciabatta roll
  - Assorted Slice Pizza
  - Crispy fried chicken ranch salad

[Wilson Hall Cafe menu](#)

**Chez Leon**

- Thursday, April 2
- Dinner
- Crab cakes
  - Stuffed flank steak
  - Orzo w/ pine nuts & parmesan
  - Lemon Neapolitans

- Wednesday, April 8
- Lunch
- 5 spice roast chicken
  - Ginger scented rice
  - Snow peas w/toasted almonds
  - Hawaiian cake

[Chez Leon menu](#)  
Call x3524 to make your reservation.

**Archives**

**Fermilab Today**

[Result of the Week](#)

[Safety Tip of the Week](#)

[ILC NewsLine](#)

**Info**

"Fermilab to move west" came as a real shock when I realized the location of the "new" Fermilab site near the intersection of Route 47 and Burlington Road completely covers the Strom Farm, an 80-acre farm where my parents reside. I'm not sure what would come as more of a shock to my parents: learning that Fermilab is moving to their farm, or me moving back in with them so I could walk to work. I'll let you know if any superconducting magnets start showing up on their doorstep. Thanks for the good laugh!

Best regards,  
Derek Strom  
**Special Announcement**

**Extreme Beam lecture today, 4 p.m. in One West**



The second lecture in the Extreme Beam lecture series will take place today at Fermilab.

The second lecture of the Extreme Beam lecture series will take place at 4 p.m. today in One West. Yoshitaka Kuno, from Osaka University's Department of Physics, will give a talk titled "Charged Lepton Flavor Violation: Experimental Searches with Muons."

The lecture series, which will feature talks at Fermilab throughout 2009, will give in-depth information about the science and accelerator and detector technologies that will create a world-leading physics program at the Intensity Frontier.

Visit the [Extreme Beam Web site](#) for more information.

**In the News**

this particular physics process. No evidence was observed that this proposed type of production actually occurs. While a successful observation would have been preferable, failure to observe is also an important result because it tells us what the answer is not. Since we never know which of our various ideas about the Higgs boson(s) is the correct one, until the Higgs boson is observed, we must leave no stone unturned.

-- Don Lincoln



The DZero forward muon team operates the part of the muon detectors nearest the beams. Members of the team currently at Fermilab are from left to right: S. Kulikov, of IHEP, Protvino; V.Lipaev, of IHEP, Protvino; V.Malyshev, of JINR, Dubna; V. Tokmenin, of JINR, Dubna; I.Vasilyev, of IHEP, Protvino; A. Shchukin, of IHEP, Protvino; and Yu. Yatsunenکو, of JINR/Fermilab. Other physicists not currently at Fermilab also contribute.



Andy Haas, currently a Panofsky Fellow at SLAC, is the brains behind this interesting analysis.

**Accelerator Update**

- March 30 to April 1
- Four stores provided ~37.25 hours of luminosity
  - No MI QF bus ground fault found
  - Recycler set record stash size, 477.2E10

- [Read the Current Accelerator Update](#)
- [Read the Early Bird Report](#)
- [View the Tevatron Luminosity Charts](#)

**Announcements**

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)

## Crystals against cancer

From **CERN Bulletin**, March 9, 2009

This is a remarkable example of direct technology transfer from particle physics to medicine. Clinical trials have begun in Portugal on a new medical imaging system for the diagnosis of breast cancer, which uses positron emission tomography (PET). The system, developed by a Portuguese consortium in collaboration with CERN and laboratories participating in the Crystal Clear collaboration, will detect even the smallest tumours and thus help avoid unnecessary biopsies.

Antimatter is a useful commodity...and not only for making bestsellers and Hollywood blockbusters! A groundbreaking new positron emission tomography (PET) device has just been commissioned for the first time in Europe. If trials are successful, it promises to be an important step forward in the diagnosis of breast cancer. In February, the PET-Mammography consortium of eight Portuguese institutes, including the national particle physics laboratory LIP, Lisbon's Garcia de Orta Hospital and the Porto Institute of Oncology, commissioned a prototype PET device dedicated to breast imaging, ahead of clinical trials. The device was developed over the last five years in the framework of the Crystal Clear collaboration. The collaboration, whose spokesman is Stefaan Tavernier of Brussels' Vrije Universiteit, has been in the vanguard of crystal work for particle physics and its spin-off applications since 1990.

[Read more](#)

### In the News

## Extra positrons make for a cosmological mystery

From **Ars Technica**, April 1, 2009

*More results are released in this week's issue of Nature that find too many electrons and positrons hitting the Earth to be explained by our current understanding of the origin of cosmic radiation. A potential exotic source of these particles is suggested to exist somewhere in our cosmological neighborhood.*

One of the biggest challenges of science is figuring out what to do with unexpected results. They can reflect anything from a statistical anomaly to a deep problem that cuts to the heart of our understanding of the

## Latest Announcements

[Read joke of the day during April, National Humor Month](#)

[Have a safe day!](#)

[Spring book fair today](#)

[Fermilab club & league fair](#)

[Blackberry Oaks Golf League](#)

[Goodrich Quality Theater and AMC Theater tickets](#)

[Got golf? Join the Fermilab Golf League](#)

[New Financial Planning & Investment Services at ACU](#)

[Muscle toning classes](#)

[Wanted: safety messages](#)

[English country dancing, April 5](#)

[COMSOL Multiphysics workshop at Fermilab - April 6](#)

[Outlook 2007 new features class April 8](#)

[Barn Dance April 12](#)

[Harlem Globetrotter employee discount April 13](#)

[Changes to Participating Pharmacies Blue Cross Pharmacy Program](#)

[Artist within - employee art show '09](#)

[MathWorks Seminar - April 21](#)

[Word 2007: Styles and Templates class offered April 23](#)

[Coed softball season begins May 13](#)

[Discount tickets to "1964"...Beatles tribute - June 6](#)

[SciTech summer camps](#)

[Sustainable Energy Club](#)

[WDRS researches transit benefit program](#)

universe. There seems to be something unexpected lurking in the cosmic rays that strike the earth, which appear to be comprised of an unusual amount of antimatter.

[Read more](#)

[Additional Activities](#)

[Submit an announcement](#)

[staging\\_thur\\_new](#)