

## Calendar

**Thursday, Aug. 14**  
**2:30**

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

Curia II

Speaker: H. Nielsen, Niels Bohr Institute

Title: New Bound States Containing Several Top Quarks Bound by Higgs Exchange

**3:30 p.m.**

DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over  
THERE WILL BE NO ACCELERATOR PHYSICS AND TECHNOLOGY SEMINAR TODAY

**Friday, Aug. 15**

**3:30 p.m.**

DIRECTOR'S COFFEE BREAK - Atrium (NOTE LOCATION)

**4 p.m.**

[Joint Experimental-Theoretical Physics Seminar](#) - Auditorium (NOTE LOCATION)

Speakers: A. Savoy-Navarro, LPNHE, Université Pierre and Marie Curie  
A. Askew, Florida State University

Title: Recent CDF and DZero Results (as part of the Hadron Collider Physics Summer School)

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

## Weather



**Mostly Sunny**  
**81°/57°**

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

## Current Security Status

[Secon Level 3](#)

## Feature

### Making a splash



Children play in the Fermilab pool.

Sounds of splashing and laughter often drift from the Fermilab Village. Children at Fermilab's Day Camp and laboratory employees had the option this summer to enjoy the Fermilab pool.

That almost didn't happen.

When faced with severe budget cuts earlier this year, Fermilab's Directorate had to choose what to fund. They decided that the pool was to stay closed. But after meeting with a group of concerned users and employees at the end of May, the Directorate agreed to work with a committee to open the pool.

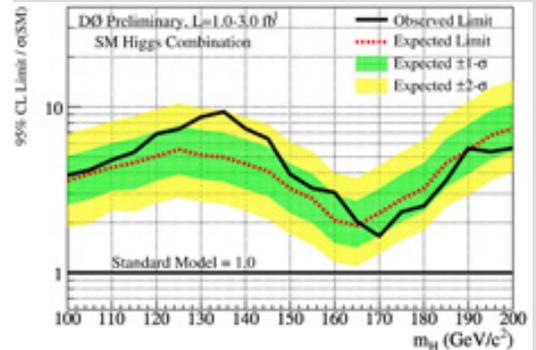
To offset the laboratory's portion of the pool operation cost, the committee agreed to increase pool membership fees and decrease hours of operation. Under a tight 4.5-week schedule, members of the pool committee, including Dee Hahn, Kirsten Tollefson, Peter Wilson and Selitha Raja, worked with FESS to clean and maintain the infrastructure, hired lifeguard and maintenance companies and organized swimming lessons through the Naperville YMCA. Raja also enlisted the help of NALWO members to sell pool memberships and recruit volunteers to clean the pool deck, lay mats and clean and set up pool furniture.

"None of us had any experience at all. I don't think any of us even own a pool," said Hahn, a CDF collaborator. "I was actually amazed that we were able to do so much in such a short amount of time."

The pool opened on July 1. Although the pool

## Fermilab Result of the Week

### Watching for the Higgs



This figure shows the Higgs boson production rates as a function of Higgs boson mass that can be ruled out by DZero searches at the 95 percent confidence level. The units are multiples of the Standard Model theoretical prediction and a value of 1.0 or less would indicate exclusion.

"The world is watching." This phrase became a daily mantra for members of the DZero collaboration as they carefully finalized Higgs search results for the ICHEP physics conference. Since Run II of the Tevatron began in 2001, people around the globe have been waiting to see if the physicists dedicated to finding or ruling out the Higgs boson would succeed. After many studies of search potential over the years, DZero researchers were ready to show what they can do with their data.

DZero's search for the Higgs boson is performed in a series of mutually exclusive search channels, each designed to find a specific Higgs boson signature. These channels are determined by the ways the Higgs could be produced and how it might decay. DZero's search includes Higgs bosons produced by themselves, in association with a vector boson (W or Z), and via the fusion of vector bosons. The researchers cast a very broad net of potential final states, looking for Higgs decays to bottom quarks, W bosons and photons. After separating unique decays from any associated particles, DZero physicists searched a total of 21 decay channels for potential Higgs  $c$  masses below 150 GeV/ $c^2$  and three decay channels for masses above 150 GeV/ $c^2$ . For a Higgs mass of 115 GeV/ $c^2$ , which is the lowest mass not excluded by experiments at the former LEP collider, DZero

**Wilson Hall Cafe****Thursday, Aug. 14**

- Santa Fe black bean
- Steak tacos
- Chicken Wellington
- Smart cuisine: spinach enchiladas
- Baked ham & Swiss on a Ciabatta roll
- Assorted slice pizza
- Crispy fried chicken ranch salad

[Wilson Hall Cafe menu](#)

**Chez Leon****Thursday, Aug. 14****Dinner**

- Closed

**Wednesday, Aug. 20****Lunch**

- Shrimp & pasta salad
- Cherry turnovers

[Chez Leon menu](#)

Call x4598 to make your reservation.

**Archives**

[Fermilab Today](#)

[Result of the Week](#)

[Safety Tip of the Week](#)

[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)

will officially close at 6:30 p.m. Sunday, Aug. 17, interest is sufficient to warrant additional weekend use. The pool will reopen for the weekends of Aug. 23-24, and Aug. 30-Sept. 1.

"This year was quite a success," Hahn said. "We hope to see everyone at the pool next year."



Pictures thanking Fermilab Director Pier Oddone for opening the pool were drawn by Monica Sasse's daughters, Kristina and Jenna, who attended the Fermilab Day Camp this summer. The pictures hung on Oddone's office door for months.

**Feature****Multicultural event group launches diversity survey**

Fermilab draws its employees from across the globe and a wide range of ages, races, and cultures. This diversity makes the laboratory vibrant and successful.

And Fermilab wants your help celebrating that.

Through a [survey](#), due Aug. 25, you can give input on what employee clubs you belong to, what clubs you want formed and how the laboratory should celebrate its diversity.

The results will help the Planning Group for Multicultural Events, a subcommittee of the Diversity Council formed last [July](#), select celebration activities such as lectures, displays and performances.

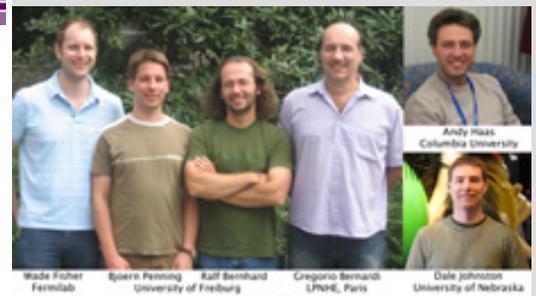
The inaugural event set for lunchtime Oct. 17 will give employees a chance to see how diversity shines in the laboratory through about a dozen display tables highlighting

excludes Higgs boson production at a rate 5.3 times what the Standard Model theory predicts.

In the most sensitive regions from 160-170 GeV/c<sup>2</sup>, DZero's results exclude Higgs production as low as 1.7 times the Standard Model prediction. This achievement is significant as past predictions never indicated that searches for high-mass Higgs bosons perform as well as, or better than, low-mass searches. With large efforts by the whole collaboration, DZero's searches at high mass have steadily improved simultaneously with steadily improving theoretical predictions for Higgs production. These efforts culminated in the breathtaking announcement that DZero and CDF experiments together have excluded a Higgs boson with a mass of 170 GeV/c<sup>2</sup> at the 95 percent confidence level. With the first results from the LHC still to come, DZero researchers are doing their best to keep the world's eyes focused on the Tevatron. With record amounts of data ready for analysis and a long list of improvements to the analyses being implemented, DZero is ready to hold that attention for a long time to come.

Read more about the DZero combined Higgs limits in this DZero conference [note](#)

Read more about the Tevatron combined Higgs limits in the Fermilab [press release](#) or [this](#) combined CDF-DZero conference note.



A team of DZero collaborators made primary contributions to the combined Higgs search results for Higgs masses above 150 GeV/c<sup>2</sup>.



various ethnic groups from Europe, Asia, the Americas and Africa. Also, on display will be informational tables representing veteran, disabled as well as gay, lesbian, bi-sexual and transgender employees. Traditional ethnic performances and food will augment the displays.

Other groups may sign up by mid-September to participate by contacting [Sandra Charles](#).

"It acknowledges that we all have unique identities, but that we are one community," said Dianne Engram, Diversity Council chair.

The council and its subcommittees grew out of an initiative launched by Director Pier Oddone to increase participation in diversity groups and awareness of the laboratory's diversity.

"The term diversity embraces our many human differences," Engram said. "It refers to gender, age, culture, language, ethnic origin, and professional status, among other characteristics."

Eventually, the subcommittee will display a summary and contact information on its Web site for the various employee-led organizations, offering a resource for those new to the laboratory. The Web site will be operational by October.

"We are exposing people to different groups," said Sandra Charles, subcommittee chair. "We hope people will start talking about diversity and other people will get involved."

-- Tona Kunz

### In the News

## Ecologists hope barn owl takes to Fermilab

*DuPage County Forest Preserve project aims to rejuvenate population*

**From *Chicago Tribune*, Aug. 12, 2008**

After four years of working to save the endangered barn owl, experts hope the rarely seen birds will make a comeback in Illinois.

A project at the DuPage County Forest Preserve District has raised 11 young owls with minimal human contact, said Dan Thompson, an ecologist at the forest preserve who manages the program. Five have already been released into McHenry and Kane County preserves, but experts' highest hopes are pinned on one that will be freed at the end of

The physicists who operate the data acquisition (DAQ) system for the DZero experiment represent the front line for high efficiency and high-quality data collection. Their 24-hours-a-day schedule makes the DZero Higgs search, and all DZero physics, possible.

### Accelerator Update

#### August 8-13

- Six stores provided ~101 hours of luminosity
- Controls and kicker problems in Pbar
- ECool front end problems
- Network problems cause Operators to take the master switch
- Linac I- source problems

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

### Announcements

#### Have a safe day!

#### Change in retiree medical plan premium

Effective Oct. 1 the cost of the Fermilab retiree medical plan will change. All retirees and employees will receive a letter with the details of the changes. The information is also available online as a [pdf file](#). The Benefits Office will hold two meetings to answer questions regarding the changes: Tuesday, Aug. 19, at 2 p.m. in Curia II, and Thursday, Sept. 11, at 2 p.m. in One West.

#### Aug. 21 deadline for University of Chicago Tuition Remission Program

The deadline to apply for the tuition remission program at the University of Chicago for the Fall 2008 quarter is Aug. 21. For more information and enrollment forms, contact Nicole Gee at x3697 or visit the [Web site](#).

#### Foreign per diem meal change

Fermilab Accounting will use the GSA Foreign Per Diem Breakdown table to make deductions for foreign travel reimbursement. This is effective as of travel date Aug. 1. Please refer to GSA - FTR Appendix B to Chapter 301 (Allocation of M&IE rates to be used in making deductions from the M&IE allowance).

#### Altera's Quartus II Software Design classes

The Office for Professional and Organization Development will offer classes in Altera's Quartus II Software Design Series. Altera's Quartus II Software Design Series: Timing Analysis - Sept. 16. [Learn more and enroll](#). Altera's Quartus II Software Design Series:

the month at the Fermi National Accelerator Laboratory west of Warrenville.

The birds hatched in the spring and have been housed at the Springbrook Nature Center in Itasca, where they've practiced flying and honed their hunting skills on live mice, Thompson said. When they are released, the birds will be monitored with satellite tracking devices. The birds are about a foot tall with big eyes and a face shaped like a pie pan.

[Read more](#)

Optimization - Sept. 17. [Learn more and enroll](#). The enrollment deadline for both classes is Aug. 29.

**Pidgin: On site IM Client Class  
Aug. 26 or Aug. 28**

Learn what instant messaging has to offer and how to use Pidgin, an instant messaging client supported by the Computing Division. [More information](#)

**International Folk Dancing Thursday**

International Folk Dancing will meet in Ramsey Auditorium on Thursday, Aug. 14. Dancing begins at 7:30 p.m. with teaching and children's dances earlier in the evening and request dancing later on. For more information, call (630) 584-0825 or (630) 840-8194 or e-mail [folkdance@fnal.gov](mailto:folkdance@fnal.gov).

**[Additional Activities](#)**