

Calendar

Friday, June 23

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

4:00 p.m. Joint Experimental Theoretical Physics Seminar - Curia II (note location)

Speaker: A. Askew, Florida State University

Title: Recent Di-Boson and Electroweak Results from DZero

Monday, June 26

PARTICLE ASTROPHYSICS SEMINARS WILL RESUME IN THE FALL

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-over

4:00 p.m. All Experimenters' Meeting - Curia II

Announcement: Heartland Blood Centers will be here for the Fermilab Blood Drive on June 27 and 28, from 8:00 a.m to 2:00 p.m. in the Wilson Hall Ground Floor NE Training Room. Appointments can be scheduled on the [web](#) or by calling Diana at x3771.

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

Weather



Partly Cloudy **79°/55°**

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

Syphers says Tevatron has power of two jelly donuts



The Tevatron accelerates two particle beams to near the speed of light. Their combined kinetic energy equals about 800 dietary calories--or two jelly doughnuts.

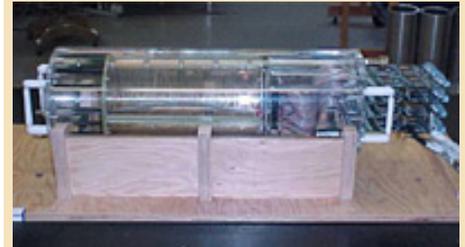
To super-cool 1,000 magnets and zip two beams of particles near the speed of light, Fermilab's Tevatron uses 12.2 megawatts of power--enough to power 61,000 personal computers. But when the beams reach their maximum speeds, the particles only possess the energy of two jelly doughnuts, said Mike Syphers of the Accelerator Division on Tuesday.

As part of an ongoing lecture series for the Summer Internships in Science and Technology (SIST) program, Syphers helped interns get up to speed on particle accelerators. From basic physics to the development of the first cyclotron in 1931, he left few stones unturned--including the doughnut-level energy of each proton and antiproton beam in the Tevatron.

"It really doesn't sound like a lot, but try eating two jelly doughnuts in 21 microseconds," Syphers said. "When you do the math, the energy in each beam is about 400 dietary calories." In other

ILC NewsLine

The Canadian ILC Group and the Time Projection Chamber



A 30-cm TPC prototype that the ILC Canada group built and used in magnetic field tests at TRIUMF and DESY.

Although it sounds like a device used on Star Trek, a Time Projection Chamber (TPC) is a gas-filled cylindrical chamber that acts like a three-dimensional electronic camera, making a photo-copy of a particle track as it flies through the detector. For about a decade now, a group of scientists in Canada has been developing and testing Micro-Pattern Gas Detectors (MPGD), contributing to the worldwide R&D for a high resolution TPC tracker for the future International Linear Collider.

[Read More](#)

Yesterday's DASTOW a huge success: sampling of images



[Secon Level 3](#)**Wilson Hall Cafe****Friday, June 23**

- Old Fashioned Ham & Bean
- Black & Blue Cheese Burger
- Summer Herb Cod
- Stuffed Manicotti
- Roasted Veggie & Provolone Panini
- Assorted Pizza Slice
- Vegetarian Stir Fry

The Wilson Hall Cafe accepts Visa, Master Card, Discover and American Express.

[Upcoming Menu](#)**Chez Leon****Wednesday, June 28****Lunch**

- Dominican Beef Salad
- Root Vegetable Vinaigrette
- Orange Cake with Sorbet

Thursday, June 29**Dinner**

- Peach and Brie Quesadillas w/Lime Honey Sauce
- Red Snapper Veracruz
- Jicama, Carrot, Green Bean Julienne
- Bourbon Walnut Tart w/Vanilla Ice Cream

[Chez Leon Menu](#)

Call x4598 to make your reservation.

Search

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Info

words, the energy stored in the beams could boil two and one half gallons of room-temperature water instantly.

Some other fun facts presented during the lecture:

- The first circular particle accelerator, developed by E. O. Lawrence, can fit in the palm of a hand.
- A typical TV set can accelerate particles to 20 percent of the speed of light.
- It takes only 0.033 seconds for Fermilab to get a beam of protons up to 99 percent of the speed of light
- Tevatron's magnets are cooled to a chilly -450 degrees Fahrenheit.

Upcoming SIST lectures and a PDF version of Syphers' lecture can be found [here](#).

--*Dave Mosher*

Excavation experts bask in MINOS's subterranean glory



DASTOW participants gathered in front of Wilson Hall for a photo at 8:45 am. Some sons and daughters returned to their parents' computers to design a [web page](#) after the photo was taken.



Mr. Freeze (PPD's Jerry Zimmerman) illustrated physics principles with liquid nitrogen at the 9:00 am cryogenic show.



Parents and children visited the Fermilab Fire Station at 10:00 am.



DASTOW participants visited the buffalo pasture after lunch.

Accelerator Update

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

Send comments and suggestions to today@fnal.gov

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This group of excavation experts took a tour of MINOS Hall last Thursday. (Click on image for larger version.)

MINOS Near Hall wasn't built in a day. In fact, it took 180 people digging for twenty months to just make the cavern. Last Thursday, a group of civil engineers who specialize in underground excavations came to see the 350-foot-deep Hall and learn about how it was made.

After a series of short lectures about the ILC, Fermilab physics, neutrinos and NSF's proposed DUSEL lab, the engineers were given a tour of the detector hall at MINOS. Chris Laughton, the Fermilab civil construction manager on the MINOS project, outlined the methods, challenges and solutions involved in the excavation. "When you think of physics you think of white lab coats and everything has to be perfectly clean and air tight. It's nice to see an example of good, cost-efficient engineering," said Michael Crow after his tour of MINOS.

The lecture on the ILC outlined the immense difficulties involved in mining two parallel tunnels, roughly six meters wide and thirty-five-kilometers long. (So long that engineers need to account for the curvature of the earth in their plans.) "They're really going to be pushing the threshold of underground excavations," said Crow.

After the tour, the group ate lunch and got back on the bus to return to Chicago. "It's trips like this that remind you why you became a civil engineer. It's great to see your work being used for something, and when people start talking about quarks and muons...it's just great to see,"

June 21 - 22

- One store provided two minutes of luminosity
- Booster chopper problems
- D0 access completed
- Store 4787 quenched

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Announcements

Blood Drive June 27, 28

Heartland Blood Centers will be here for the Fermilab Blood Drive on June 27 and 28, from 8:00 a.m to 2:00 p.m. in the Wilson Hall Ground Floor NE Training Room. Appointments can be scheduled on the [web](#) or by calling Diana at x3771.

Discount Tickets

Discount tickets are available for "110 in the Shade" at the Cahn Auditorium from August 19 - 27; Disney on Ice, "Monsters, Inc." at the Allstate Arena from September 21 - 24; and Disney Live, "Mickey's Magic Show" at the Rosemont Horizon from October 12 - 15. Tickets are ordered directly. Registration forms can be found in the Recreation Office or on the [recreation web page](#).

English Country Dancing

English country dancing will continue at Fermilab's Barn, generally meeting the last Sunday afternoon of the month, will meet next on Sunday, June 25 at 2 p.m. Please contact folkdance@fnal.gov or call 630-584-0825 or 630-840-8194.

Professional Development

In response to employee requests, The Office for Professional & Organization Development has scheduled additional summer classes: Excel Pivot Tables on

said Crow.
--Ben Berger

In the News

Research News, June 21, 2006

Berkeley Lab's Saul Perlmutter Wins Shaw Prize in Astronomy

BERKELEY, CA — Saul Perlmutter, a member of the Physics Division at the U. S. Department of Energy's Lawrence Berkeley National Laboratory, professor of physics at the University of California at Berkeley, leader of the international Supernova Cosmology Project, and principal investigator of the SuperNova/Acceleration Probe (SNAP) project, has won the Shaw Prize in Astronomy for the discovery that the expansion of the universe is accelerating.

Perlmutter shares the \$1 million prize with Adam Riess of the Space Telescope Science Institute and Brian Schmidt of Australia's Mount Stromlo Observatory. The presentation ceremony is scheduled for Tuesday, September 12, in Hong Kong.

[Read More](#)

July 13; Excel Formulas and Functions on July 13; and Introduction to LabVIEW on July 18. To enroll please see [our website](#).

Wisconsin Dells Discount Book

The Wisconsin Dells Coupon Book contains over \$6,000 in 2-for-1 and 50-percent-off values from over 100 Wisconsin Dells merchants. These are rare coupons that you won't find on any street corner or brochure rack. The book sells for \$20 retail and in many cases savings from just one coupon can reimburse the \$20 purchase price or more. For even better savings, the Recreation Office is selling these books for \$15.25 each. The coupons are good until April 30 of 2007. Check out the sample books available in May in the Recreation Office. Order forms can be found online or in the Recreation Office.

NALWO Chicago Boat Tour on July 6

See Chicago's fascinating architecture and historic landmarks by cruising down the Chicago River, and then out onto Lake Michigan to see the world-famous skyline. A bus (with air conditioning) will be leaving from the Lederman Education Center at 9:45 am, and we will be back around 4:00 pm. Tour costs are \$18 for adults, \$8 for kids age 3 - 11, and children under 3 years are free. For further information and to register contact: Selitha Raja at (630) 305-7769, SelithaR@hotmail.com.

New [classified ads](#) have been posted on Fermilab Today.

[Upcoming Activities](#)