Fermilab Today

Thursday, July 3, 2008

Layoff Information

New information on Fermilab layoffs, including an up-to-date Q&A section, appears on the layoff Web pages.

Furlough Information

Information on the furloughs at Fermilab, which stopped May 31, 2008, is available on the furlough Web pages.

Calendar

Thursday, July 3
1 p.m.
Physics and Detector Seminar - West Wing, WH-10NW
Speaker: A. Para, Fermilab
Title: Developments in Dual Readout Calorimetry
THERE WILL BE NO THEORETICAL PHYSICS SEMINAR THIS WEEK
3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over
THERE WILL BE NO ACCELERATOR PHYSICS AND TECHNOLOGY SEMINAR TODAY

Friday, July 4
Happy Independence Day!

Click here for NALCAL, a weekly calendar with links to additional information.

Weather

Mostly sunny
75°/57°

Extended Forecast
Weather at Fermilab

Current Security Status

Secon Level 3

Photo of the Day

Fermilab receives $29.5 million in supplemental funding

Fermilab Director Pier Oddone addresses Fermilab employees, users, contractors and distinguished guests during an All-Hands meeting Wednesday. Oddone thanked Senator Dick Durbin, Congresswoman Judy Biggert, Congressman Bill Foster as well as local mayors, politicians and community members for their support for Fermilab during the laboratory's budget crisis. Acting Deputy Secretary of Energy Jeffrey Kupfer announced that Fermilab will receive about $29.5 million in supplemental funds. View the streaming video of the event. Check Monday's issue of *Fermilab Today* for more information.

Feature

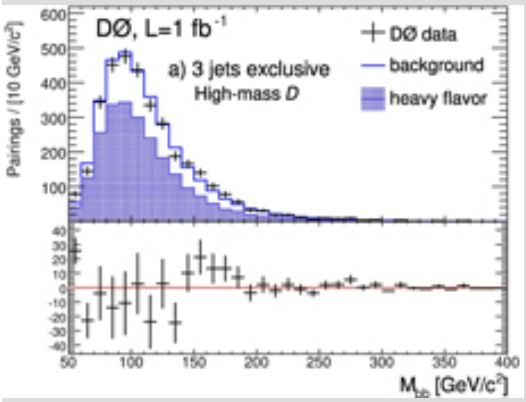
Dixon Bogert, Fermilab's "Indiana Jones," retires

Dixon Bogert, a physicist in the Accelerator Physics Center, retires today after 38 years.

When floodwater started making its way to the uncompleted Main Injector in 1996, Deputy Project Manager Dixon Bogert rushed to the scene. Clad in a necktie and rubber boots, he waded to the source to address the problem.

Fermilab Result of the Week

Beauty in symmetry



This figure shows the invariant mass of two beauty quarks in the DZero analysis. The contributions from data (dots), all heavy-flavor quarks (blue shaded) and other expected backgrounds (blue line) are shown in the figure. An excess of signal-like events would show up as an excess over the expected background and would be evident in the background-subtracted data distribution at the bottom of the figure.

Throughout the ages, people have discovered beauty in many different places. Frequently, beauty arises along with a fundamental symmetry, such as the bilateral symmetry of butterflies or the rotational symmetry of most flowers. Physics is no different. Fundamental symmetries have led to elegant theories that describe the interactions among the particles of our universe. These theories are so successful that many physicists believe there might be a broad symmetry for all elementary particles, so far undetected, known as supersymmetry. The theory of supersymmetry could hold the key to many mysteries of our universe, including the Higgs boson. By searching for a supersymmetric Higgs boson, physicists at the DZero experiment can simultaneously address two of the hottest questions in physics: supersymmetry and the Higgs boson.

Supersymmetric theories predict a total of five Higgs bosons: two charged and three neutral ones. Scientists expect these neutral Higgs bosons to couple to particles in the same fashion as in non-supersymmetric theories, but with a potential enhancement (suppression) for down-type (up-type) quarks. Such an enhancement could make a supersymmetric Higgs boson decay to two

Wilson Hall Cafe

Thursday, July 3
- Tomato Florentine
- *Pork BBQ sandwich
- Olive & artichoke paella
- Smart cuisine: Chicken Marsala
- Smoked turkey melt
- Assorted slice pizza
- SW chicken salad w/roasted corn salsa

Wilson Hall Cafe menu

Chez Leon

Thursday, July 3
Dinner
- Closed

Wednesday, July 9
Lunch
- Stuffed portabella mushroom
- Salad of field greens
- Fresh fruit tarts

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/

Send comments and suggestions to:
today@fnal.gov

"He was only truly in his element when bouncing around in his red overland Jeep or wading through the muck in galoshes," said Steve Holmes, Associate Director of Accelerators. "We would never have completed the Main Injector on time and on budget without Dixon's contributions."

Bogert, affectionately known as the "Indiana Jones of Fermilab," has been the go-to man since he started at the laboratory in 1970. He retires today after 38 years.

At a reception Tuesday, more than 100 people came to the second floor crossover to bid farewell to Bogert, a physicist in the Accelerator Physics Center.

"Dixon has been instrumental in developing all of our major accelerators in the last 20 years," said Elaine McCluskey of the Accelerator Division, who worked closely with Bogert on the Main Injector and NuMI projects.

Since joining Fermilab's Physics Division in 1970, those seeking guidance have often ended up at Bogert's office door. During the last few decades, his main role has been working as a translator between physicists and civil construction engineers. He transformed abstract calculations into the blueprints of the buildings and tunnels we walk through today.

"He's one of the few people with contributions so big that we can see them from space," said APC head Vladimir Shiltsev, referring to satellite images that show the rings of Fermilab. "There is definitely a 'D' stamp somewhere."

Although Bogert is retiring, he is not going far. He will continue to work at Fermilab as a guest scientist.

-- Jennifer L. Johnson

In the News

beauty (or bottom) quarks, which scientists could see at the Tevatron.

A two-beauty quark decay would be very hard to find among similar backgrounds. However, DZero physicists have greatly increased their ability to find this decay by looking for Higgs bosons produced in association with an additional beauty quark, defining a three-beauty quark final state.

Identifying the true beauty amongst the many pretenders is a delicate procedure. By using neural networks to identify beauty quarks and likelihood techniques to isolate potential Higgs events, DZero scientists searched in one inverse femtobarn of data for candidate events. By carefully comparing the shapes of the expected backgrounds and the signal, the researchers found no evidence for supersymmetric Higgs boson production. Although this analysis did not find new physics, the search is far from over. By combining the three-beauty quark search with searches for Higgs decays to tau leptons, these physicists will be able to set tighter limits on this theory than ever before. With three times more data soon ready for analysis, DZero will have a very realistic chance at the beautiful goal of finding both supersymmetry and the Higgs particle in one elegant package.

Read more

A team of DZero physicists worked together to design this supersymmetric Higgs boson search.

Fermilab back on track with funding

From ***Kane County Chronicle***,
July 3, 2008

BATAVIA – Fermilab physicist Rob Roser wasn't hopeful for the future of the laboratory after Congress slashed its budget last December.

"I was going to bet we were not going to see money this year," Roser said.

But Fermilab's future is a bit brighter now that President Bush has signed an emergency spending bill that includes $400 million in funding for science programs.

"The door that was slammed shut is now cracked open," U.S. Rep. Bill Foster, D-Geneva, told Fermilab employees Wednesday.

Foster, himself a former Fermilab scientist, pushed for the additional funding, along with U. S. Sen. Dick Durbin, D-Ill., and U.S. Rep. Judy Biggert, R-Ill.

"Fermilab is back," Durbin told the employees. "We determined as a delegation that we would take this on."

Fermilab Director Pier Oddone announced that the laboratory would not have to lay off approximately 140 researchers and their staff because of the infusion of funds. About 1,900 people work at Fermilab.

"This yoke that we have been working under is lifted," Oddone said.

Read more

In the News

New Money Prevents Layoffs at Fermilab

From ***New York Times***,
July 3, 2008

With an infusion of money, the Fermi National Accelerator Laboratory will avoid layoffs of 80 employees and resume work on a project to investigate ephemeral particles known as neutrinos.

At an all-employee meeting at the laboratory, located in Batavia, Ill., outside Chicago, state politicians and Energy Department officials presented the news under a banner that proclaimed, "Fermilab is back!" and

Left to Right: Jon Hays, Daniela Bauer, Tim Scanlon, Ray Beuselinck, Stephen Robinson, Phil Vint and Gavin Davies. (Imperial College, London)

Left to Right: Per Jonsson, Rick Jesik, Nicolas Osman and Theo Christoudias (Imperial College, London)

DZero's Level-3 trigger algorithm group designs algorithms used to efficiently record data events for eventual analysis. The members who designed the beauty-quark identification algorithm enabled analyses like this one to be successful.

Result of the Week Archive

Special Announcement

Cap lifted on vacation balance

Because of the supplemental funding that the laboratory will receive, Director Pier Oddone has decided to remove the special cap imposed on vacation time balances. Earlier this year, the laboratory announced that employees must take all vacation time accrued between the end of January and the end of September before the end of the fiscal year. Now, employees can again accumulate vacation time according to standard laboratory policy. The Payroll Office will remove the special vacation cap statement ("max. vac. hrs/ days permitted in Sept. 08") from all payroll stubs issued after July 14.

Accelerator Update

June 30 to July 2
- Four stores provided ~42 hours and 6 minutes of luminosity
- TeV abort problem fixed by TEVCAL reboot
- Booster Watchdog trips fixed and switched to backup WavTek generator

Read the Current Accelerator Update
Read the Early Bird Report
View the Tevatron Luminosity Charts

Announcements

“Accelerating Science for America.”

“The difficult time has come to an end,” said Jeffrey F. Kupfer, the acting deputy energy secretary. The Department of Energy finances Fermilab.

Tucked in with billions of dollars for the wars in Iraq and Afghanistan, the supplemental spending bill signed by President Bush on Monday includes $150 million for the National Institutes of Health and $62.5 million each for the Department of Energy’s Office of Science, NASA and the National Science Foundation.

In a budget showdown in December, Mr. Bush had insisted on a bottom-line spending target, and Congress made last-minute cuts to the science budget. Fermilab’s financing dropped to $320 million. Beginning in February, all Fermilab employees had to take two days of unpaid furlough a month, and laboratory officials anticipated cutting 200 jobs out of a work force of 1,940.

Read more

Have a safe day!

International Folk Dance Thursday

International Folk Dancing will take place in the Ramsey Auditorium this Thursday, July 3. Dancing begins at 7:30 p.m. with teaching and children's dances earlier in the evening and request dancing later on. We may break in the evening to view area fireworks from the 15th floor.For more information, call (630) 584-0825 or (630) 840-8194 or e-mail.

TIAA CREF counseling Thursday

Chad Stein from TIAA CREF will conduct individual counseling sessions at Fermilab on Thursday, July 3. Please make your appointment by calling 1-800-842-2005 x5602 or via the TIAA CREF Web site

Fermilab Housing Office reservation requests due July 14

Reservation requests can now be made to the Fermilab Housing Office for houses, apartments, and dormitory rooms for the remainder of 2008 and spring of 2009. Since there will be a large influx of experimenters, and requests may exceed our available facilities please submit your request for reservations to the Housing Office by Monday, July 14, 2008. Requests can be made for any period and need not commence on any particular date. For further information, please contact the Housing Office at (630) 840-3777 or via e-mail. Individual housing requests can be made by using our online housing request form . Requests for multiple housing units are best handled by direct e-mail.

Additional Activities