Fermilab Today

Thursday, June 3, 2010

Calendar

Have a safe day!

Thursday, June 3
9 a.m. – 5 p.m.
Users' Annual Meeting - Auditorium
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, June 4
1 p.m.
Special Joint Experimental-Theoretical Physics Seminar (NOTE TIME) - One West
Speaker: Giovanni De Lellis, University Federico II and INFN
Title: Observation of Events with Decay Topologies in the OPERA Experiment
3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over
4 p.m.
Joint Experimental-Theoretical Physics Seminar - One West
Speaker: John Harris, Yale University
Title: First Results from ALICE

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

Upcoming conferences

Campaigns

Take Five

Tune IT Up

H1N1 Flu

For information about H1N1, visit Fermilab's flu information site.

Special Announcement

Users' Meeting continues today

Fermilab's annual Users' Meeting continues today. Registered users and Fermilab employees who have their supervisor's permission can attend today's lectures and events, which includes talks about the Energy Frontier, including the LHC; on congressional perspectives of high-energy physics from Rep. Bill Foster (D-IL); flavor physics; astrophysics and Fermilab's proposed future experiments, including Project X, Mu2e, a Muon Collider and LBNE.

Feature

Justin Evans wins 2010 Tollestrup Award

Justin Evans

When Justin Evans began working on the MINOS experiment in 2004, he didn't expect that he'd be involved in two leading neutrino results. But six years later, Evans is now convening working groups on the MINOS experiment's world-leading measurements of the muon-neutrino and antineutrino oscillation parameters.

"It is great that the committee recognizes the work we've done is important," Evans said.

The Tollestrup Award is given annually for outstanding work conducted by a postdoctoral researcher at Fermilab or in collaboration with Fermilab scientists.

Evans, a postdoc at University College London, made significant contributions to the measurement of the larger of the neutrino mass differences, and to the first direct measurements of the muon antineutrino oscillations parameters.

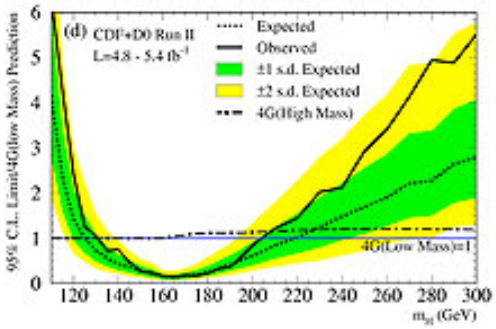
Those measurements influenced the decision for MINOS to take data with an antineutrino beam, a move that is allowing the collaboration to make a much more precise measurement of antineutrino oscillation parameters.

Emanuela Barberis, from Northeastern University and chair of the Tollestrup Award committee, said Evans' work shined in all required areas.

"We had a very competitive group of submissions," Barberis said. "Justin took the lead in measurements that pertain to a fundamental area of neutrino physics. The work he has done in just a few years is reflected very

Result of the Week

Tevatron siblings search for fourth generation



The figure shows that the fourth generation model (4G) of heavy fermions is excluded by data for Higgs masses between 130 and 200 GeV. The horizontal line at one is the prediction for the fourth-generation models; the solid black line represents the maximum amount of Higgs boson production that could be hiding in the data, while the dashed line is the expectation for the sensitivity if there is no fourth-generation production. When the sensitivity is less than one, it means that the analysis has sensitivity to the Higgs boson.

One of the main reasons particle physicists are so excited about finding the Higgs boson is that they expect its properties are sensitive to phenomena beyond the Standard Model.

In particular, physicists believe that the Higgs boson interacts more strongly with heavy particles than with lighter ones. They can study lighter particles because they are easier to produce in accelerator experiments than heavier ones. Scientists are always interested in knowing what's lurking beyond their reach, and they think the Higgs boson could be the perfect tool to explore what may be out there.

One possibility is the existence of a fourth family or generation of heavy fermions. Fermions are one of two broad categories that physicists use to classify particles. This category is defined by its subatomic spin and includes quarks and leptons. By postulating a fourth generation, physicists suggest that there could be an extra pair of very heavy quarks in addition to the three families that exist in the Standard Model: up-down, charm-strange and top-bottom. CDF and DZero collaborators have taken advantage of this idea, since they believe that the presence of a fourth generation would raise the expected Higgs boson production rate at the Tevatron by a factor of seven to nine over that predicted by the Standard Model. Already the collaborations have been able to test for the presence of a Standard Model Higgs boson with a mass in a narrow range around 165 GeV (more information).

If the bottom and top quarks had heavy fourth-generation

Weather

Cloudy
76°/54°

Extended Forecast
Weather at Fermilab

Current Security Status

Secon Level 3

Wilson Hall Cafe

Thursday, June 4
- Breakfast: Apple sticks
- Minnesota wild rice w/chicken
- Tuna melt on nine grain
- Italian meatloaf
- Chicken casserole
- Buffalo crispy chicken wrap
- Assorted sliced pizza
- Mandarin chicken

Wilson Hall Cafe Menu

Chez Leon

Thursday, June 3
Dinner
- Melon & prosciutto
- Prime rib
- Whipped potatoes
- Steamed asparagus
- Fruit sorbet

Wednesday, June 9
Lunch
- Chipotle roasted salmon
- Pineapple cilantro rice
- Sautéed zucchini
- Coconut flan

Chez Leon Menu
Call x3524 to make your reservation.

Archives

poignantly in his leadership within the collaboration."

The award, which is sponsored by Universities Research Association, Inc., highlights the work Evans has already done and Barberis said it will help him in the future, too. It is important for postdocs to have their contributions recognized at an early stage in their career, Barberis explained.

"This is a huge award to get," Evans said. "And it comes at an exciting time for MINOS, with a number of new results to be released this summer."

-- Rhianna Wisniewski

Photo of the Day

Julie Kurant's chalkboard artwork reminds, inspires

Julie Kurnat, a drafter in TD's Design and Drafting Department, creates seasonal and holiday artwork on the blackboard located in the group's common area. She poses with her Memorial Day drawing. Don Mitchell from the department said Kurant's work "really livens up the atmosphere for our group." View a larger version of the drawing.

Special Announcement

Wilson Hall closed Saturday, June 5

The high-rise building will be closed starting at 12:01 a. m. June 5 and re-open at 6 p.m. to accomodate generator upgrades. Crews must connect the power distribution from the new generator to the existing electrical switchgear, which is located in the basement of the highrise. To make the connection, the power must be shut off in Wilson Hall.

During this shutdown, crews will also upgrade domestic water pump controllers by installing energy-efficient controllers. As a result, all restroom facilities will be closed during this outage.

Additionally, Facilities Engineering Services Section staff members will take advantage of the outage and perform preventive maintenance on electrical equipment throughout Wilson Hall.

cousins, and the Higgs boson mass were within the range accessible to the Tevatron, the CDF and DZero collaborations would have found much more evidence of it by now. The signal would stand out very prominently from the backgrounds. By not observing such a signal, CDF and DZero set a very strong limit: The mass of the Higgs boson is not between 131 GeV and 204 GeV if a fourth generation of fermions exists (more information).

This result is an example of the excellent cooperation between the CDF and DZero collaborations, which pool their data together to make the strongest statements possible about the nature of elementary particles.

-- edited by Tom Junk

Special Announcement

London Consulate adds requirement for U.S. visa applicants

Fermilab's Visa Office has learned that the London Consulate now requires certain applicants for a U.S. visa to understand The William Wilberforce Trafficking Victims Protection Reauthorization Act of 2008. The Wilberforce Act relates to the legal rights of employment-based "non-immigrants" (temporary visitors) under U.S. federal immigration, labor and employment laws. Applicants for H-1B, J-1, or B-1 visas must read the informational pamphlet provided by the Consulate. During the interview, the consular official will ask the applicant about the pamphlet. If the applicant either has not yet read the pamphlet or is unable to answer the consular officer's questions, the interview and/or visa issuance might be delayed. If you have questions or concerns about the Wilberforce Act or about visa applications in general, please contact the Visa Office.

Accelerator Update

May 31 - June 2
- Three stores provided ~33.5 hours of luminosity
- Booster has problem with ion pump
- MI flying wire repaired
- Store 7864 quenched due to kicker pre-fire
- Thunder storms cause a number of systems to trip off

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

Fermilab Today

Result of the Week

Safety Tip of the Week

CMS Result of the Month

User University Profiles

ILC NewsLine

Info

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today@fnal.gov

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Please power down all personal electronics before you leave for the weekend.

If you have questions, please contact John Kent III at x4753.

In the News

House passes reauthorization of America COMPETES bill

From ***AIP FYI***, June 1, 2010

"Mr. Speaker, I demand a division of the question on the adoption of the amendment to enable the separate votes" declared House Science and Committee Chairman Bart Gordon (D-TN) last Friday. For the third time, the America COMPETES reauthorization bill was before the House. About an hour after Gordon made his demand, H.R. 5116 passed the House by a vote of 262 to 150.

The procedure that Gordon called for essentially untied the package of proposed changes that House Science and Technology Committee Ranking Republican Member Ralph Hall (TX) had used to stop the legislation when the House first considered it on May 13. Just before the House was to vote on the bill, Hall used a House procedure to send the legislation back to the Science Committee with instructions on how it should be rewritten. Hall's package of changes included a three-year freeze in the authorization levels for the National Science Foundation, the Department of Energy's Office of Science, and the National Institute of Standards and Technology. It also reduced the authorization period from five years to three years, eliminated the authorization for several new programs in the bill, and added a new veterans' benefit. Hall's package also included a provision to prohibit the payment of salaries to employees of the Executive Branch for viewing, downloading, or exchanging pornography on a Federal Government computer or "while performing official Federal Government duties." In describing the pending vote on Hall's motion, Rep. Lynn Jenkins (R-KS) described the choice facing Members: "If you think a couple of days of suspension, a reprimand, a transfer is the right response when someone uses government computers to spread pornography, then vote against this motion. But if you think spreading pornography with a government computer is an act that should lead to dismissal, then vote for this motion. I urge a vote for this motion." Hall's motion passed by a vote of 292 to 126.

Read more

Announcements

Latest Announcements

Blood drive - June 21 and 22

International Folk Dancing cancelled June 3, resumes in Auditorium June 10

Learn about green science in Nature's Power Lab, a Science Adventure

Adult swim lessons - Mondays

Adult water aerobics - Mondays

Toastmasters meeting - today

Video series on scientific case for God's existence starts June 15

Pool opens June 8

Walk to Health class begins June 7

Butts & Guts class begins June 7

Behavioral interviewing

Earned Value Management (EVMS) - June 7&8

Lecture Series: Intermediate/ Advanced Topics in C++

Diversity Office volunteer opportunity May 25-June 8

10,000 Steps Per Day walking program

Sand volleyball held on Tuesdays began May 25

SciTech summer camps start June 14

Employee discount at Batavia Rosati's

Fermilab Arts Series presents Corky Siegel and Chamber Blues - June 26

Sign up for summer Science Adventures classes

Introduction to LabVIEW course being held July 13

Embedded Design with LabVIEW FPGA and CompactRIO seminar being

offered July 13

Interaction Management Coaching forum - July 27

Submit an announcement