Fermilab Today

Thursday, June 22, 2006

Calendar

Thursday, June 22

8:45 a.m. – 2:00 p.m DASTOW

2:30 p.m. Theoretical Physics Seminar - Curia II

Speaker: S. Nandi, Oklahoma State University

Title: Unification of Gauge and Higgs Couplings in Extra Dimensions

3:30 p.m. DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over

4:00 p.m. Accelerator Physics and Technology Seminar - Curia II

Speaker: D. McGinnis, Fermilab

Title: Introduction to Radio Frequency Fundamentals for Particle Accelerators – Part II

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

Click here for a full calendar with links to additional information.

Weather

Chance Showers **85°/59°**

Extended Forecast

Weather at Fermilab

Current Security Status

Correct URL for downloading Accomplishment Report form

One of the links in yesterday's article on the annual performance review did not work. Here are the correct links for downloading the report form for the Annual Statement of Accomplishments for Employee and for Scientist. The forms are also available through the Performance Reviews website.

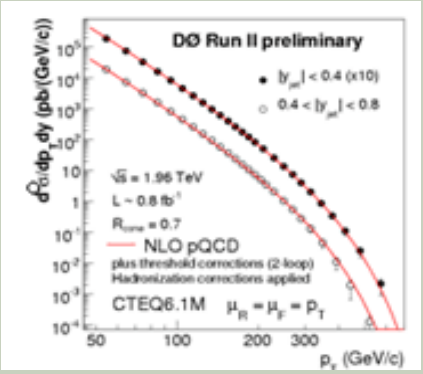
The deadline to submit the Accomplishment Report to your supervisor is July 15, 2006. More information is in yesterday's article.

Conger takes on role as CFO

Cynthia Conger has recently been appointed Fermilab Chief Financial Officer. (Click on image for larger version.)

Fermilab Result of the Week

Probing QCD at DZero



The inclusive jet production rate, measured in two regions of jet angles. The measurement spans over eight orders of magnitude. The predictions from perturbative QCD are overlaid on the data as red lines.

Quantum Chromodynamics (QCD) is a theory that describes the way elementary particles interact via the strong force (one of the 4 fundamental forces of the Standard Model (SM)). Comparing calculations from QCD with data offers a way to improve our description of the strong force. As the protons and anti-protons collide in the Tevatron, many of the particles ejected have the signature of collimated sprays of particles (quarks or gluons) which are referred to as jets. The DZero detector measures their energies and directions as they emerge from the collision.

When transverse jet momenta with respect to the beam direction are large, the contributions from low-energy physics processes are small and the production rates of jets can be predicted by perturbative QCD. The inclusive jet cross section in proton-antiproton collisions at large transverse momentum is directly sensitive to the strong coupling

Secon Level 3

Wilson Hall Cafe

Thursday, June 22

-Santa Fe Black Bean
-Sloppy Joe
-Stuffed Peppers
-Sauteed Liver & Onions
-Baked Ham & Swiss on a Ciabatta Roll
-California Pizza
-Crispy Fried Chicken Ranch Salad

Wilson Hall Cafe Menu

Chez Leon

Thursday, June 22
Dinner
-Wasabi Seafood Salad
-Asian Beef w/Rice Noodles and Vegetables
-Strawberry Rhubarb Tart

Wednesday, July 5
Lunch
-Oriental Chicken Salad w/ Vegetables
-Banana Bourbon Cake w/Bourbon Creme Anglais

Chez Leon Menu
Call x4598 to make your reservation.

Search

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search

Info

She's moving on up--or, in this case down. This week sixteen-year Fermilab accounting veteran Cindy Conger is packing her things to leave her fourth-floor job as Chief Accounting Officer to start her second-floor job as Chief Financial Officer. "I'm excited about playing a major role in the financial success of the lab," she said. "We have a good financial foundation to build on."

Since the position is new, Conger looks forward to molding the job with help from Director Pier Oddone and Bruce Chrisman, former Associate Director for Administration who was appointed Chief Operating Officer in April. Conger says Chrisman wears a "number of hats" and has informally tackled the duties of a CFO in the past, so he has been a big help. "I've really enjoyed meeting with Pier and Bruce over the last few weeks," she said. "We seem to have similar, collaborative working styles."

Conger says the biggest challenge will be familiarizing herself with the budget and how it is formulated, working with the Department of Energy to help make sure funds are allocated where they are most needed, and ensuring Fermilab is in financial compliance in order to perform well under audit. In this respect, Conger is perfect for the job. Before her 16 years at Fermilab, she worked for the accounting firm Earnst and Young and had annual assignments auditing Fermilab. "Those assignments were my favorite," said Conger, whose old job will be filled by former Assistant Chief Accounting Officer Mike Rhoades. "I've always been fascinated by Fermilab--I love what we do here. Contributing to a place that expands the bounds of human knowledge…it's just wonderful."

constant (alpha_s) and the intricate density pattern of particles in the proton. Furthermore, potential deviations from the prediction of perturbative QCD at high transverse momentum may indicate new physics beyond the SM.

DZero studied the transverse momentum spectrum of the outgoing jets and finds that the emission of these jets is in good agreement with perturbative QCD calculations. The measurement is sensitive to the quark and gluon content of the proton and allows one to reduce the gluon density uncertainty at high momentum fraction. This is one of the limitations of beyond-SM searches at the Tevatron and the LHC. In addition, this information provides a deeper understanding of QCD, which is essential for obtaining more reliable SM calculations, thereby increasing the ability to gauge any departure from theory that could signal the presence of new physical phenomena.

Above: Christophe Royon (left), Mikko Voutilainen and Alexander Kupco (not pictured) contributed to this analysis.
Below: The following people, among many others, contributed to the L1 Calorimeter trigger upgrade at DZero, which will allow extended studies of inclusive jet production: Selcuk Cihangir (Fermilab), Wojciech Szymulanski(Krakow), Todd Adams (Florida State), Darien Wood (Northeastern), Maris Abolins (Michigan State), Enrico Lunghi (Fermilab), Wendy Taylor (York University), Sabine Lammers (Columbia), Mike Hildreth (Notre Dame), Hal Evans (Indiana U.), Marco Verzocchi (Fermilab), Mike Mulhearn (Columbia) and Jovan Mitrevski (Columbia).

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

Send comments and suggestions to today@fnal.gov

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Fermilab Safety Tip of the Week archive

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--Siri Steiner

Milestones

After a job well done, Public Affairs intern Jennifer Lauren Lee will have her last day on Friday. Ohio State graduate Dave Mosher will take her place. Thanks for the great stories Jenny; welcome aboard Dave! (Click on image for larger version.)

Science Grid This Week

Accelerating Cancer Research

caBIG™ cancer Biomedical Informatics Grid™ an initiative of the National Cancer Institute

Today's cancer researchers, whether they are combing through animal genomes or collecting medical histories from human patients, are in the midst of an information explosion. New techniques in biomedical research create huge amounts of data, greatly increasing the chance of scientific breakthroughs but making those advances difficult to achieve. The cancer Biomedical Informatics Grid™ project is developing a computing infrastructure to help scientists accelerate progress in cancer prevention and treatment by synthesizing, standardizing and analyzing all that data.

Read More

In the News

Result of the Week Archive

Accelerator Update

June 20 - 21

- Two stores provided 12 hours and 39 minutes of luminosity
- Store 4782: initial average luminosity of 111.37E30
- Linac quadrupole magnet shorted
- MiniBooNE Horn power supply repaired
- Switchyard problems
- Store 4782 aborted
- D0 begins its 16-hour access

Read the Current Accelerator Update

Read the Early Bird Report

View the Tevatron Luminosity Charts

Announcements

DASTOW 2006

Today is Fermilab's 2006 Daughters and Sons to Work day. The program is here. Have a fun and safe day!

Fermilab Association of Rocketry

The Fermilab Association of Rocketry is having their monthly club meeting on June 21, at 5pm in Users Center TV room. We are always looking for new members; anyone interested in model rocketry is most welcome. Join the club at the meeting and have this year's membership dues waived.

More details

Wired, June 19, 2006:

New Observatory a Ray of Hope

The keys to the secrets of the universe draw tantalizingly closer as the largest telescopic array in the Northern Hemisphere cleared its last major hurdle before its installation in Utah.

The Telescope Array is a joint project between the University of Tokyo and the University of Utah that will look for and measure rare and extremely powerful cosmic rays emanating from space.

“We’re looking at cosmic rays – single particle energies that are a million times stronger than what we can make on Earth,” said Charlie Jui, a physics professor at Utah who is working on the project.

A $2.4 million grant from the National Science Foundation – added to the $14 million raised by the Japanese government -- and approval by the Bureau of Land Management cleared the way for the array to begin operation in 2007. It will have a life span of about 10 years.

Read More

Women's sports league at Fermilab

Fermilab resident Heather Hall is gathering information for all-women's sports, but she is unsure which sport women would be most interested in playing. Please send an email to Heather at heather.hall@ge.com (or leave a voicemail at x4915) listing your interest level and what sport you wish was available to you.

Blood drive sign-up

The next Fermilab blood drive is planned for June 27 and 28, with two more drives later in the year. You can get more information and sign up here.

Upcoming Activities