

Calendar
Thursday, May 27
2:30 p.m. Theoretical Physics Seminar -

Curia II

Speaker: R. Gandhi, Harish-Chandra

Research Institute, India

Title: Atmospheric Neutrino Physics

Possibilities Using a Large-Mass Iron

Calorimeter

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

THERE WILL BE NO ACCELERATOR

PHYSICS AND TECHNOLOGY

SEMINAR TODAY

Friday, May 28
3:30 p.m. Wine & Cheese - 2nd Flr X-
Over

4:00 p.m. Joint Experimental Theoretical
Physics Seminar - 1 West

 Speaker: S. Pate, New Mexico State
University

Title: Don't Forget to Measure Delta s

Wilson Hall Cafe
Thursday, May 27

Santa Fe Black Bean soup

Marinara Meatball Sub \$4.75

Butter Crumb Baked Fish \$4.75

Pork Chop Teriyaki \$3.75

Baked Ham & Swiss on a Ciabatta Roll

\$4.75

Sausage & Sweet Onion Strombolis

\$2.75

Crispy Fried Chicken Ranch Salad \$4.75

[Wilson Hall Cafe Menu](#)
[Chez Leon](#)
Weather
**New Perspectives from
Graduate Students**

Save the date for
New Perspectives
2004, the annual
conference
organized by the
Graduate Students'
Association for all
Fermilab graduate
students. On

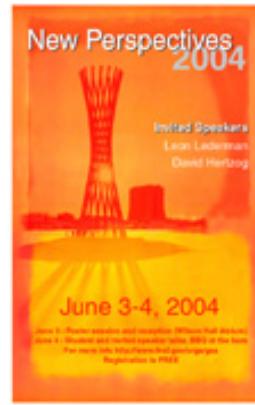
Thursday, June 3
and Friday, June 4,

(Click on photo for
larger version.)

will have the
opportunity to attend talks and view
students' posters that illustrate the broad
range of research being conducted at
Fermilab. In addition to students' talks
from CDF, DZero, MINOS, MiniBOONE
and FINeSSE, Nobel Laureate Leon
Lederman and David Hertzog of the
Brookhaven g-2 experiment will speak at
the conference.

Posters will be on display in the Atrium of
Wilson Hall for both days, with a wine and
cheese reception from 5:00 p.m. - 7:00
p.m. on June 3. The three best posters
will be awarded prizes, which will be
presented in remembrance of George
Michail. Talks will take place from 9:00
a.m. to 5:00 p.m. on June 4 in Curia II.
The poster prize-winners will be
announced at the end of the day, before
the conference comes to a close with a
barbecue at the Kuhn Barn at 6:00 p.m.

If you are a graduate student who would
like to present at New Perspectives, there
is still time to submit an abstract for a talk


Fermilab Result of the Week
**DZero Swings Right in Top
Quark Analysis**


According to standard theory, W bosons from decays of top quarks are supposed to spin counterclockwise relative to their motion (negative helicity), and not clockwise (positive helicity). This can be checked at CDF and DO in Run II of the Tevatron. A new proof for the ability to measure such parameters has been developed at DO by Florencia Canelli (UCLA), Juan Estrada and Gaston Gutierrez (Fermilab), and was the basis of Florencia's PhD thesis at the University of Rochester. (Click on image for larger version.)

The observation of the top quark in 1995 at CDF and DZero opened new ways of probing subtleties of the Standard Model. Although the predictions of the Standard Model have thus far had remarkable success, new interactions are expected to appear near Tevatron energies. With the top quark being the heaviest of all elementary particles, it has been argued that its interactions might offer first experimental evidence for the limitations of the theory.

For example, the Standard Model predicts that top quarks decay to W bosons that spin just like left-handed screws - a property called negative "helicity".



Looking for any right-handed helicity in



Chance Thunderstorms **79%52°**

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or a poster by emailing gsaOfficers@fnal.gov this week. More information about the conference and a form for free registration is [available online](#).

Electrical Safety Month Profiles

In connection with Electrical Safety Month, Fermilab Today offers a series of profiles recognizing Electrical Coordinators at Fermilab. This is the final article in the series.

Electrical Safety Manager Leon Beverly

Leon Beverly has been supervising electricians at Fermilab for 35 years. He began his career at the lab on May 20, 1968 as a linac technician, and supervised electricians for the first time in 1969 when the installation of equipment started in the brand-new linac building. Since then he has worked on electrical engineering design and installation for many experiments in



Leon Beverly

the fixed-target area. Now a senior engineering associate and head of the PPD Site Department and the floor manager for the MINOS installation, Beverly has seen the

awareness of safety at the lab increase over the past three decades.

"Safety and your work go hand-in-hand; you can't separate one from the other," said Beverly. "People have always been responsible for their own safety. What's changed is the level of daily safety awareness. With all the training programs available now and the adoption of Integrated Safety Management, there is a

such W bosons is a way to find deviations from theory. In a new analysis, similar to that developed for measuring properties of the top quark (especially its mass -

see [Fermilab Today, January 15, 2004](#)), DZero has shown that its approach is viable. Although the extracted value of the helicity is still imprecise, with more data from Run II, a significant test of the standard model will be forthcoming. In the meantime, DZero is delighted that this new method will provide an excellent way of making this important measurement.



DZero's data-taking operations are led by Run Coordinator Arnd Meyer (Aachen)(left) and his deputy Michele Weber (Fermilab)(right).

[Result of the Week Archive](#)

Alvin: The Symposium 6/1

A symposium in honor of Alvin Tollestrup and his contributions to Fermilab will be held Tuesday, June 1 at 3:00 p.m. in One West. All are invited to



attend the symposium, Alvin Tollestrup where Fermilab's Vladimir Shiltsev will discuss the Tevatron, Giovanni Punzi from INFN Pisa will speak on the CDF silicon vertex trigger, and James Annis from Fermilab will discuss the dark energy survey project. Refreshments will

(Click on image for larger version.)

lot more awareness of safety protocols."

In his 36 years at Fermilab, Beverly has served several times on the electrical safety subcommittee and once on the subcontractor safety subcommittee. He has also participated in the electrical portions of operational readiness reviews for multiple experiments, including KTeV and DZero Run I.

Accelerator Update

May 24 - May 26

- Operations established one store during this period of time that, added to an existing store, provided approximately 31 hours and 14 minutes of luminosity to the experiments.
- The TeV set a new record with an initial luminosity of 68.92E30
- The Recycler resumes stashing antiprotons

[View the current accelerator update](#)

[View the Tevatron Luminosity Charts](#)

In the News

From *ScienceNews*, May 22, 2004

Dark Doings

Ever since 1998, Robert Caldwell has been obsessed with something dark and repulsive. He spends nearly every waking moment trying to comprehend a mysterious entity that may be undermining gravity and pulling everything apart, making the universe expand at a faster and faster rate. This presumed force, sometimes called dark energy, might ultimately rip apart every object in the cosmos, from the tiniest of atoms to gargantuan clusters of galaxies.

"It's both fascinating and terrifying," says Caldwell, a cosmologist at Dartmouth

be provided at the conclusion of the talks.

"We're using Alvin's 80th birthday as a way to honor him and all the good things he's done for the lab," said Fermilab physicist Peter Limon.

Announcements

Weekly Time Sheets Due May 28

Weekly Time Sheets for the week ending May 30th are due in Payroll by 10:00 a.m. on Friday, May 28, 2004

Hadron Collider Physics 2004

Deadline for Discounted Registration Fee is May 31

The 15th Topical Conference on Hadron Collider Physics will be at Michigan State University from June 14 to June 18. Register before May 31 and receive a discounted registration fee. This conference is of particular interest to the Fermilab Community because it covers the research being conducted with the Tevatron. Support is available for graduate students who would like to attend the conference.

[more information](#)

Fermilab Picnic and Cougar Game

DEADLINE TO REGISTER FOR THIS EVENT IS MAY 28

The picnic will be held Saturday, July 10 at the Kane County Cougar Stadium beginning at 4 PM. The cost for the event is \$12.00 per person.

[more information](#)

College in Hanover, N.H.

[read more](#)

Fermi National Accelerator Laboratory



Office of Science/U.S. Department of Energy

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