

Calendar

Friday, March 11

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

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

Speaker: J. Olsen, Princeton University

Title: The Other Angles: Measurements of a and g at BaBar

Monday, March 14

2:30 p.m. Particle Astrophysics Seminar - Curia II

Speaker: S. Ando, University of Tokyo

Title: Neutrino Probes of Extragalactic Supernovae

3:30 p.m. DIRECTOR'S COFFEE

BREAK 2nd Flr X-Over

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

Weather



Snow Likely **34°/17°**

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

[Secon Level 3](#)

Wilson Hall Cafe

Tune in to Chicago's NBC5 on Monday Morning



NBC5's Ellee Pai Hong interviews Mike Perricone next to Fermilab's buffalo herd. The film crew shot footage of the buffalo and the view from the 15th floor of Wilson Hall. (Click on image for larger version.)

Chicago's NBC5 will feature a segment about Batavia and Fermilab on Monday, March 14 in between 6:00 a.m. and 7:00 a.m. NBC5's Ellee Pai Hong visited Fermilab last week to get material for the segment. Unless breaking news occurs, the segment will run on Monday morning on Channel 5.

Machine Shop Improves Safety, Efficiency with Better, Stronger Tool



The Technical Division Machine Shop has replaced all old Set-B kits (red handle) with the new Set-E kits (yellow handle). (Click on images for larger version.)

Rare Decay May Point to Supersymmetry



Members of the HyperCP collaboration carried out their experiment at Fermilab. (Click on image for larger version.)

A Fermilab experiment that began as an attempt to detect CP violation has made an observation that may signify major advances in physicists' knowledge of supersymmetry. In a paper published in Physical Review Letters and a presentation at Fermilab by HyangKyu Park of the University of Michigan, the HyperCP experiment at Fermilab (E871)--a collaboration of 33 physicists and 10 institutions--reports that it has found evidence for the rare decay of a Sigma-plus hyperon into a proton and two muons. This decay is allowed according to the Standard Model of particles and interactions. However, the properties of the three decay events recorded by the HyperCP collaboration may imply that this decay proceeds through a neutral intermediate state, which--if it exists--would be consistent with a supersymmetric particle called a sgoldstino.

"If this is confirmed, every type of high energy physics will be affected," said Park. "A new physics model would change everything, and although we have

Friday, March 11

Beef Pepper Pot Soup

Buffalo chicken wings \$4.75

Cajun Breaded Catfish \$3.75

Spaghetti with Meat Sauce \$3.75

Honey Mustard Ham & Swiss Panini

\$4.75

Cheesy Breadsticks \$2.25

Carved Turkey \$4.75

The Wilson Hall Cafe now accepts Visa, Master Card, Discover and American Express at Cash Register #1.

[Wilson Hall Cafe Menu](#)

[Chez Leon](#) is now open. Call x4512 to make your reservation.

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As a result of a recent injury to a Machine Shop employee, and the ensuing investigation, the Technical Division recently banned the use of the "Set B - Standard Deburring Kit" in all Technical Division machine shops at Fermilab. Business Services and the Technical Division also placed a moratorium on the Fermilab Stockroom deburring tool (Set B - kit), stock #1246-096000.

During the accident investigation, the Technical Division learned from several employees that the standard deburring tool kit blades often broke while removing sizable burrs from large holes or from harder materials. "We in the Technical Division not only wanted to understand the root-cause of these injuries, but we also want to find ways to help prevent such an injury in the future," said Romesh Sood of the Technical Division.

[read more](#)

- Lisa Zyga

In the News

From the *Cornell Chronicle*, March 10, 2005

Three of Hans Bethe's friends and colleagues relate fond memories

Hans Bethe was a collective mentor to Cornell's Department of Physics. Among his friends and colleagues in the department were David Mermin, the Horace White Professor of Physics; Saul Teukolsky, the Hans A. Bethe Professor of Physics and Astrophysics, and chair of the department; and Kurt Gottfried, professor of physics, emeritus, whose third-floor Newman Lab office was for many years just down the hall from Bethe's. Here they recount anecdotes about the humanity and humor for which Bethe is warmly remembered.

investigated several possibilities for what the intermediate particle could be, it seems to fit with the framework of supersymmetric model."

By observing the decay of the Sigma-plus (made from a strange quark and two up quarks) into a proton and two muons, the HyperCP physicists measured the smallest-ever branching ratio of a baryon decay. The mass distribution of the two muons was much narrower (1 MeV difference) than what the Standard Model predicts (40 MeV difference, or between 210-250 MeV), creating a buzz among experimenters at Fermilab. The dimuon's narrow mass distribution range suggests an intermediate particle state between the transition from the Sigma-plus to the two muons, which could be the sgoldstino. If the intermediate state exists, its mass would be 214.3 MeV, published in the HyperCP paper on January 21.

[read more](#)

- Lisa Zyga

Correction

Yesterday's announcement of the Employee Art Show gave a wrong email address for Georgia Schwender. Please resend your email to georgia@fnal.gov. The deadline for submissions was yesterday.

Announcements

A little over two years ago I received a phone call from Rose Bethe asking if I would be willing to interview Hans on the early history of solid state physics and his role in its development, with the resulting videotape to be shown at the March 2003 meeting of the American Physical Society. My field of physics for much of my career has been in solid state theory. Hans, though, said goodbye to the field in 1933, lured into nuclear physics by the discovery of the neutron.

[read more](#)

Volunteer Translators Needed for Education Materials

In celebration of the World Year of Physics the Fermilab Education Office is looking for volunteers to translate a few of our resources. After polling teachers internationally, we have selected some physical science and physics materials at the middle and high school levels. With assistance, we can share these activities in some of the major world languages. If you would like to volunteer, Susan Dahl at sdahl@fnal.gov or x3094 Please include what materials and what language you are able to translate.

[more information](#)

New Classifieds Posted on Fermilab Today

New [classified ads](#) have been posted on *Fermilab Today*. A permanent link to the classifieds is located in the bottom left corner of *Fermilab Today*.

Fermilab Folk Club Barn Dance

There will be a Fermilab Folk Club Barn Dance on Sunday, March 13 at 6:30 p.m. with music by the Good Intentions Paving Company and calling by Paul Watkins.

[more information](#)

[Upcoming Activities](#)