

Calendar

Thursday, September 30

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

Speaker: P. Zerwas, DESY

Title: Reconstructing Supersymmetric Theories at High Scales

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

4:00 p.m. Accelerator Physics and Technology Seminar - 1 West

Speaker: A. Valishev, Fermilab

Title: Beam-Beam Effects and Optics at the Tevatron

4:00 p.m. Fermilab Advanced Analysis Methods Seminar - Curia II

Speaker: B. Roe, University of Michigan

Title: A New Technique for Separating the Wheat from the Chaff in Data

Friday, October 1

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

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

Speaker: T. Maruyama University of Tsukuba

Title: $t\bar{t}$ Cross Section Measurement Using Kinematic Fitting of B-Tagged Lepton+Jet Events at CDF

Wilson Hall Cafe

So Long, George Zielbauer

George Zielbauer will be retiring today after 35 years at Fermilab. Over the years he has worked as a designer in various departments such as: the Proton Department, Main Ring and the Beam Division. For the past 12 years he has worked in the Technical Division as a designer in Engineering and Fabrication.



George Zielbauer

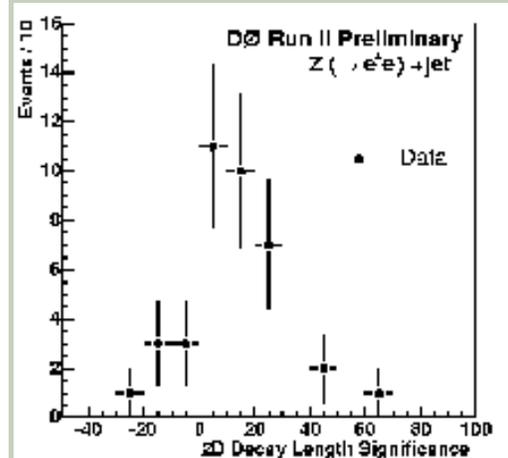
"Working at Fermilab over the last 35 years is like being at a college campus. It has always been interesting, exciting and fun. I will definitely miss Fermilab and my colleagues the most," said Zielbauer.

A father of 4 children and grandfather of 2, Zielbauer looks forward to spending time with his family and pursuing various interests. As one of the founders of the Aurora Kickers soccer team in 1959, soccer has always been a part of his life. In addition to traveling to Europe, Zielbauer will continue to be a soccer coach for Aurora and Naperville teams after he retires.

2004 Co-Ed Softball League Championship Finals

Fermilab Result of the Week

First Steps Toward Finding the Higgs



The plot shows the distance between the proton-antiproton collision point and the secondary vertex divided by the measurement error where the secondary vertex is caused by the decay of the particle generated by the proton-antiproton collision. The asymmetric shape implies the existence of the b quark. From this DZero measures the ratio of Z+b events to Z+ "all other quark" events, except top quark, to be $.024 \pm .005(\text{stat}) + .0004 \pm .0005(\text{sys})$. (Click on image for larger version.)

The Higgs boson is the last particle yet to be discovered in the Standard Model of particle physics. It arises from the Higgs field that is thought to permeate the universe and to give mass to all other particles. At the Tevatron, we can search for a Higgs produced in association with a Z boson. The Higgs would decay immediately into one b anti-b quark pair. However, there are direct ways to produce a Z b anti-b at the Tevatron without involving a Higgs and these processes present severe backgrounds to the search for the Higgs.

To imagine how to search for this Higgs signal, suppose you are looking for your friend's car in a huge parking lot. You

Thursday, September 30

Tomato Florentine

Grilled Chicken Cordon Bleu Sandwich

\$4.75

Chimichangas \$3.75

Chicken Marsala \$3.75

Maryland Crab Salad \$3.75

Italian Sausages Calzones \$3.25

SW Chicken Salad with Roasted Corn

Salsa \$4.75

[Wilson Hall Cafe Menu](#)

[Chez Leon](#)

Weather



Mostly Sunny 73°/50°

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

[Secou Level 3](#)

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The 2004 championship team Final Force: (Front Row Left to Right) Wanda Newby, Katie Kosirog, Amber Larson, Dave Hockin, Bob Zwaska (Second Row Left to Right) Margaret Votava, Duane Newhart, Todd Sullivan, Dan Johnson (Back Row Left to Right) Tony Busch, Denny Mcauliff, Bob Kingsley, Greg Vogal, Bill Luebke (Click on image for larger version.)

The Co-ed Softball League championship finals were last week. The 2004 championship team is Final Force. D-Zero Nuts came in second; Isotopes placed third; Euro Trash placed fourth and Boomers placed fifth.

In the News

From the *Daily Herald*, September 28, 2004

Batavia, Fermilab may team up

by Gala M. Pierce

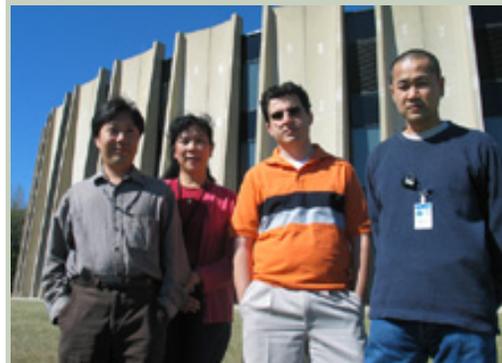
Batavia officials are searching for a way to keep electricity costs down while maintaining reliability for residents after the city's contract with ComEd expires in 2007.

Since the proposed 138,000-volt power towers along Randall Road were shot down, leaders have looked to the east.

For several months, Batavia and Fermilab representatives have discussed sharing property and electrical substations as a way to secure low-cost and reliable electric power through 2021.

must distinguish your friend's car from others, which are the backgrounds, based on the car's make, model, year, color, and so on. The features of the background must be as well understood as those of your friend's car. Higgs hunters face a similar problem except we can't always definitely distinguish the difference between our signal events (our friend's car) from similar events (similar cars). What we do instead is count total number of events (or cars) matching our description and compare them to the number we'd expect. Likewise, observing Z+b production and measuring its rate are crucial.

DZero has made the first measurement of Z+b production in a hadron collider environment. This was done by comparing the number of events with Z+b to the number of events with a Z and other quarks. This is an exciting measurement and an important first step in looking for the Higgs this way.



(Left to Right) Su Yong Choi (UC Riverside), Qizhong Li (Fermilab), Yildirim Mutaf (SUNY Stony Brook) and Kazu Hanagaki (Fermilab) have all worked on this analysis. (Click on image for larger version.)

[Result of the Week Archive](#)

Announcements

From the *Daily Herald*, September 23, 2004

Scientist enthralled by 'flying flowers'

by Sammi King

...Peterson is known as Fermilab's butterfly expert. At the young age of 8, he started hunting for bugs and butterflies, doing what many youngsters do - catch them and put them in a jar with holes punctured in the top. By the time he was 10 he had an entire collection.

"The Elmhurst Library displayed my butterfly collection in the library when I was 10 years old," Peterson said. "I had caught and identified 100 butterflies and moths in the area."

[Read more](#)

Power Outage News

Cancellations

The following scheduled power outages have been cancelled: October 5, 6, and 7 for Meson areas MS1, 2, 3, MDB, MS6 and 7. The October 8 power outage has also been cancelled for the following Meson substations: ML5, 12, & 14, and for the Meson Cryo Central building.

Transfer Gallery

Scheduled Power Outage on October 2: Feeder 43 work will begin at 7:00 AM and end around 3:00 PM on Saturday; no power to the Transfer Gallery for up to seven and a half hours, but probably less

Recreation Travel Center

Copper Canyon Adventure, May 16

On Thursday, September 30 from noon to 1:00 p.m. in the Comitium, Collette Vacations will give a tour presentation for the Copper Canyon Adventure scheduled for May 16. Four times larger than the Grand Canyon, this spectacular area is filled with beauty and unique cultures and traditions. This 9 day vacation includes 18 meals and air for \$1,629 Twin/pp.