

## Calendar

Thursday, Jan. 8

THERE WILL BE NO PHYSICS AND DETECTOR SEMINAR THIS WEEK  
THERE WILL BE NO THEORETICAL PHYSICS SEMINAR THIS WEEK  
3:30 p.m.

DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over  
4 p.m.

[Accelerator Physics and Technology Seminar](#) - One

West

Speaker: Alexey Burov.  
Fermilab

Title: Head-Tail Modes for Strong Space Charge (Part 2)

Friday, Jan. 9

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

[Joint Experimental-Theoretical Physics Seminar](#) - One West

Speaker: Andreas Kronfeld,  
Fermilab  
Title: Accumulating Evidence for Nonstandard Leptonic Decays of  $D_s$  Mesons

[Click here](#) for NALCAL, a weekly calendar with links to additional information.

## Weather

 Partly sunny  
24°/15°

[Extended Forecast](#)  
[Weather at Fermilab](#)

Current Security Status

[Secon Level 3](#)

Wilson Hall Cafe

## In Brief

## G.P. Yeh elected APS Fellow



G. P. Yeh

Fermilab scientist G.P.

Yeh was elected an

American Physical

Society Fellow in the

Division of International

Physics, an honor

bestowed annually on

only one-half of one percent of the APS total

membership. Yeh is a scientist in the

Computing Division.

Yeh was selected as a fellow in the Division of International Physics for his work in building international collaborations in physics, including his leadership of the Taiwan group at CDF, for acting as a special advisor to the Japanese government on the creation of the Institute of Science and Technology in Okinawa and for his contributions to the discovery of the top quark.

He was among 225 new fellows elected in 2008.

### Announcement

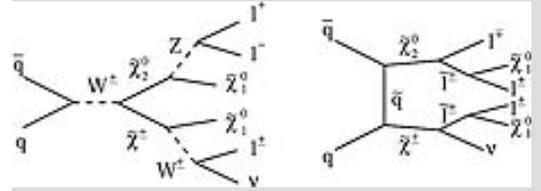
## URA Thesis award competition underway

Fermilab and the Universities Research Association invite submissions for the 12th annual URA Thesis award competition. The award recognizes the most outstanding thesis related to work conducted at Fermilab or in collaboration with Fermilab scientists. The thesis must be completed in the 2008 calendar year.

Nominations must be submitted to [Steve Brice](#) by March 1, 2009 and should include at least two letters supporting the merits of the thesis being nominated. At least one letter should be from a member of the thesis committee of the Ph.D. granting institution. Selection will be

## Fermilab Result of the Week

## Desperately seeking SUSY



These Feynman diagrams show two possible ways that three leptons can be made in a supersymmetric model. A chargino and the second heaviest neutralino eventually decay into three charged leptons, a neutrino and two of the lightest neutralinos.

Many of the most intriguing possible extensions to the Standard Model of particle physics include the principle of supersymmetry (SUSY). All models incorporating SUSY predict particles beyond those we have already observed. These SUSY particles are generally unstable, except for the lightest supersymmetric particle (LSP). Since supersymmetry is preserved in particle decay, all decaying SUSY particles must have a supersymmetric daughter particle. However, since the LSP is by definition the lightest supersymmetric particle, there is no particle into which it can decay. We know that the LSP must be electrically neutral; otherwise we would have observed it by now. The LSP is the leading candidate for dark matter.

Scientists from the DZero experiment have just completed a study searching for events that decay into LSPs. They searched for events in which a chargino and the second-lightest neutralino are created, concentrating on ways they can decay that are specific and easy to identify. These particles are the SUSY partners of the Standard Model force-carrying particles and Higgs boson. In these decay modes, the SUSY particles decay only into leptons (three charged and one a neutrino) and LSPs. Both the neutrino and LSPs escape detection entirely.

Because there are three types of electrically-charged leptons (electrons, muons and taus), which scientists expect to play a role in this type of process, DZero collaborators searched for all physically-possible combinations of leptons in events that also had a large amount of missing energy. The experimenters found the number of events predicted by the Standard Model.

Thursday, Jan. 8  
 - Santa Fe black bean  
 - Steak tacos  
 - Chicken Wellington  
 - Chimichangas  
 - Baked ham & swiss on a ciabatta roll  
 - Assorted sliced pizza  
 - Crispy fried chicken ranch salad

[Wilson Hall Cafe menu](#)

**Chez Leon**

Thursday, Jan. 8  
 Dinner  
 - Closed

Wednesday, Jan. 14  
 Lunch  
 - Stuffed cabbages  
 - Mashed potatoes  
 - Apple strudel

[Chez Leon menu](#)

Call x3524 to make your reservation.

**Archives**

[Fermilab Today](#)

[Result of the Week](#)

[Safety Tip of the Week](#)

[ILC NewsLine](#)

**Info**

[Fermilab Today](#)

is online at:

[www.fnal.gov/today/](http://www.fnal.gov/today/)

Send comments and suggestions to:

[today@fnal.gov](mailto:today@fnal.gov)

made by the Thesis Awards Committee. Each thesis will be judged on clarity of presentation, originality and physics content. To qualify, the thesis must have been submitted as partial fulfillment of the Ph.D. requirements in the 2008 calendar year, be written in English, and it must have been submitted in electronic form to the Fermilab Publications Office in accordance with Fermilab policy.

For more details visit the [URA Thesis Award Web site](#).

**In Brief**

## Tickets for Gallery Chamber Series events now available

The Gallery Chamber Series continues to bring some of the finest Chicago-area musicians to Fermilab to perform in an ideal setting for chamber music – the 2nd floor Art Gallery at Fermilab.

The Millar Brass Ensemble will kick off the 2009 season on Sunday, Jan. 11, at 2:30 p.m. The ensemble, which has an international reputation for the finest brass playing, will perform antiphonal music for large ensemble in the Wilson Hall atrium.

On Sunday, Feb. 8, at 2:30 p.m. experience the Waller/Maxwell Guitar Duo, who will perform works for both 19th century and modern guitars. The duo, made up of Anne Waller and Mark Maxell, will perform works by Sor, Beethoven/Carulli, Mertz, Granados and Falla.

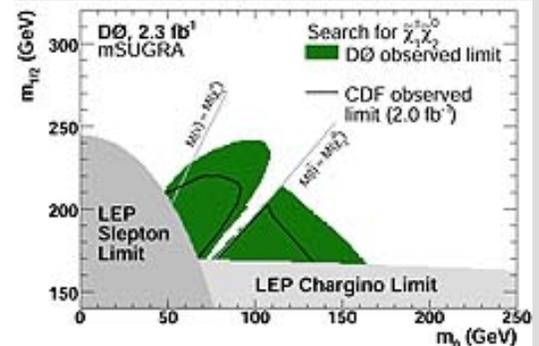
The 2009 Gallery Chamber series will close on Sunday, March 8, with a 2:30 p.m. performance by the Arianna String Quartet. The quartet, which has been lauded as one of America's finest chamber ensembles, have played throughout the world and have been heard on radio programs in Canada, Japan, Chicago and the U.S.

Tickets for the series are now available. The cost is \$36 total or \$15 for each individual concert. For more information or telephone reservations, call (630) 840-ARTS (2787) weekdays from 9 a.m. to 4 p.m. or visit [www.fnal.gov/culture](http://www.fnal.gov/culture).

**In Brief**

Since the measurement found no events beyond those predicted by the Standard Model, it is possible to rule out certain models that incorporate the principle of supersymmetry. For those models that cannot be completely ruled out, certain parameters for that model can be excluded. While supersymmetry has not been discovered, we now know more about what isn't true. With extra data expected over the next couple of years, we will continue to explore what events that have three charged leptons and missing energy can tell us about supersymmetry.

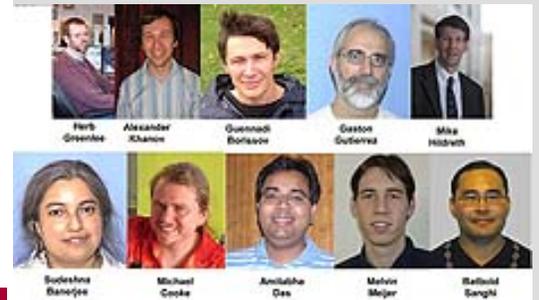
More information on these analyses can be found [here](#).



This measurement rules out the green region for a particular SUSY model called mSUGRA. Earlier limits shown were set by the LEP experiments (gray) and the CDF experiment (black line). This new measurement is a significant improvement. [A version with more technical information is available in the links.]



These scientists played a crucial role in performing this analysis.



The tracking algorithms group studies the performance of the tracks used in this analysis and pursues improvements that would benefit future results.

## Expert talks about the plight of the honeybee Jan. 16

America's honeybees are disappearing and it is putting food supplies in jeopardy.

Close to 100 crop plants in the U.S. rely on the honeybee as their sole pollinator in order for species survival. California's \$2 billion almond industry depends entirely on honeybees. More than three-quarters of flowering plants, the foundations for terrestrial food chains – depend on pollinators.

On Friday, Jan. 16, Dr. May Berenbaum, a leading expert in Colony Collapse Disorder from the University of Illinois Urbana-Champaign will discuss what is being called the pollinator crisis, the plight of the honey bee and advances in entomology that provide hope for the future of America's bees.

The lecture, titled "BSI: The Case of the Disappearing Bees" will take place in Ramsey Auditorium at 8 p.m. Tickets are \$5. For more information, call (630) 840-ARTS or visit [www.fnal.gov/culture](http://www.fnal.gov/culture).

### In the News

## Warrenville resident calls for stripping away healthy-living excuses

From the *Wayne Republican*, Jan. 4, 2009

"Gardening Nude" has been labeled a common-sense guide as well as a motivational self-help book written by author Shawna Lee Coronado, who is on the board of directors of the Fermilab Natural Areas.

Coronado is a writer who is passionate about greening and healthy living. Coronado's mission is to inspire the world to get healthier, happier and greener.

In explaining her book title, Coronado says, "The term, 'gardening nude,' is a metaphoric expression which means to strip away the negative excuses and feelings, get off your fanny, and get out into nature to improve your health and lifestyle. It is all about living life happy and to the fullest.

"My goal," Coronado says, "is to touch as many lives as I can in a positive way – showing people that they can make a difference in their communities and for themselves by practicing a green, healthy and

-- Don Lincoln

### Accelerator Update

Jan. 5-7

- Four stores provided ~34.5 hours of luminosity
- Cryo experts tightened the A3 wet engine belts
- Store 6706: third highest with a luminosity of 352.15E30

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

### Announcements

[Have a safe day!](#)

[Science Chicago hosts Mythbusters](#)

[Python Programming - Jan. 6 - 8](#)

[Winter Driving Skills Seminar - Jan. 7](#)

[International Folk Dancing, Jan. 8](#)

[English Country Dancing, Jan. 11](#)

[Barn Dance Jan. 11](#)

[Argentine Tango Classes begin Jan. 14](#)

[Outlook 2007 New Features classes scheduled Jan. 15 and Feb. 3](#)

[Barn Dance Jan. 18](#)

[Intermediate / Advanced Python Programming - Jan. 27 - 29](#)

[Scottish country dancing, Jan. 6](#)

[Submit an announcement](#)

[Additional Activities](#)

less-stressed lifestyle.”

[Read more](#)