

Calendar

Thursday, March 5
11 a.m.
[Presentations to the Physics Advisory Committee](#) - Curia II
11 a.m.
[Theoretical Physics Seminar](#) - One West (NOTE TIME and LOCATION)
Speaker: Spencer Chang, University of California, Davis
Title: Discovering Nonstandard Dark Matter
THERE WILL BE NO PHYSICS AND DETECTOR 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: Aida Todri, University of California, Santa Barbara
Title: Power Network Distribution for IC Designs and Its Challenges in Deep Submicron Technologies

Friday, March 6
9:45 a.m.
[Presentations to the Physics Advisory Committee](#) - Curia II
3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over
4 p.m.
[Joint Experimental-Theoretical Physics Seminar](#) - One West
Speaker: John M. Campbell, University of Glasgow
Title: A Fresh Look at Single Top Production

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

Weather

Feature

Public lecture opportunity: Fact or fiction? The science behind "Angels and Demons"



"Angels & Demons" actors Tom Hanks and Ayelet Zurer with film director Ron Howard stand in front of the Globe at CERN.

It's not every day that a major motion picture places particle physics in the spotlight.

But this May, Sony Pictures will release "Angels and Demons," an action-packed thriller based on Dan Brown's best-selling novel, which focuses on an apparent plot to destroy the Vatican using a small amount of antimatter. In the book and the movie, that antimatter is made using the Large Hadron Collider, and is stolen from CERN. Parts of the movie, which stars Tom Hanks and was directed by Ron Howard, were filmed at CERN.

The U.S. particle physics community would like to take advantage of this opportunity to tell the world about the science behind the movie, the Large Hadron Collider and the excitement of particle physics.

To do this, the Fermilab, SLAC and U.S. LHC users' organizations are joining forces to create "Angels and Demons" public lecture nights, which will take place across the country and correspond to the movie premier.

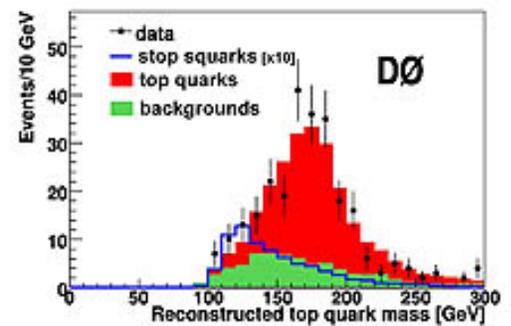
While each institution will be responsible for the local logistics of planning the public lecture, the Fermilab Office of Communications and the CERN Press Office can help.

If you would like to host a lecture, please contact Elizabeth Clements (lizzie@fnal.gov)

Fermilab Result of the Week

You can't top stop

*Search, search, search for squarks,
They're what we'd like to see,
And so we hunt and hunt and hunt for
Supersymmetry...
- To the tune of "Row, row, row your boat"*



DZero scientists used several variables to look for the presence of a stop squark signal. In this plot, the distribution of reconstructed top quark mass for events in which top quarks were made (red), stop squarks were made (blue) and unrelated background (green) are compared to data.

Supersymmetry is a scientific principle proposed as a likely extension of the Standard Model. If true, it would answer a number of questions. A particular theory that incorporates this idea, the minimal supersymmetric standard model, predicts that each existing subatomic particle has two supersymmetric cousins that have similar names. For instance, the cousin of the top quark is the stop squark.

Because the top quark has such a huge mass, the MSSM predicts that the two stop squarks could have very different masses. The lighter of the two could have a mass comparable to the top quark itself. Ironically, the supersymmetric partner of the behemoth top quark might be the lightest of the squarks.

A [paper](#) detailing the search by DZero physicists for the lighter stop squark has just been accepted for publication in *Physics Letters B*. Top quarks [decay](#) 100 percent of the time into a b quark and a W boson. In this study, the analyzers assumed that stop squarks [decayed](#) 100 percent of the time into a b quark and a chargino (the supersymmetric analog of the W boson). The chargino then decays into a W boson and another supersymmetric particle called the neutralino.

 Sunny
59°/44°

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

Current Security
Status

[Second Level 3](#)

Wilson Hall Cafe

Thursday, March 5
- 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, March 5
Dinner
- Beef fondue with assortment of sauces
- Romaine w/parmesan vinaigrette
- Banana split tartlet

Wednesday, March 11
Lunch
- Chicken breast stuffed w/ sundried tomatoes & goat cheese with a shallot thyme sauce
- Orzo
- Carmel apple shortcake

[Chez Leon menu](#)

Call x3524 to make your reservation.

Archives

or Katie Yurkewicz (katie@fnal.gov).

[Read more](#)

Photo of the Day

NLDC members meet with Secretary of Energy Chu



The Executive Committee of the National Laboratory Director's Council met with Secretary of Energy Steven Chu on Wednesday, Feb. 25. From left: Adam Cohen, chief operating officer of Princeton Plasma Physics Laboratory and NLDC secretary; Sam Aronson, director of Brookhaven National Laboratory and NLDC chair; Thom Mason, director of Oak Ridge National Laboratory; Steven Chu, Secretary of Energy; Tom Hunter, director of Sandia National Laboratories; and Pier Oddone, director of Fermilab.

Announcement

Customer satisfaction survey

The Office for Professional and Organization Development will conduct a customer satisfaction survey that will be sent to you today.

The survey will be sent to you via SurveyMonkey.com. Please note that this survey comes from the Fermilab Office for Professional and Organization Development and is not an attempt at phishing. Please contact Karen Karlix (x4365) if you have any questions.

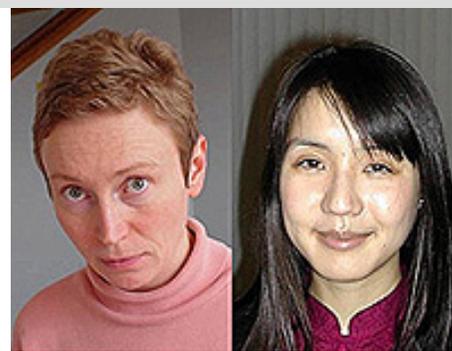
In the News

The neutralino is a leading dark-matter candidate. It does not interact with matter and escapes the detector. Thus, both the top quark and the stop squark have a b quark and a W boson as a decay product. This makes the data set used for studying top quarks also ideal to search for stop squarks.

Because the masses of the stop squark, the chargino and the neutralino are all unknown, DZero physicists searched for many possible combinations. While their search revealed no evidence for the existence of the stop squark, the data did allow them to set limits on the production of these elusive particles. With additional data, there remains an encouraging chance that the Tevatron might discover squarks. One thing is clear: Physicists the world over will continue to search for supersymmetry in the upcoming years.

*OK, everybody, all together:
Search, search, search for squarks...*

-- Don Lincoln



Regina Demina
Univ. Rochester

Su-Jung Park
U. Göttingen, Germany

These physicists played a leading role in this analysis.



Susan Blessing
Florida State

Peter Ratoff
Lancaster Univ., UK

The DZero Style Council. All papers that come from DZero undergo stringent scientific and grammatical review. Susan Blessing or Peter Ratoff reads each publication to ensure it conforms to the strict language standards of physics journals.

Accelerator Update

[Fermilab Today](#)[Result of the Week](#)[Safety Tip of the Week](#)[ILC NewsLine](#)[Info](#)

Fermilab Today

is online at:

www.fnal.gov/today/

Send comments and suggestions to:

today@fnal.gov

Quantum superheroes: The science of "Watchmen"

From *New Scientist*, March 3, 2009

It's 1985. Nixon's still in the White House and Zeppelins fill the sky. And a motley crew of costumed heroes have come out of retirement to unravel a mystery that starts with the brutal slaying of a former colleague and ends with... well, that'd be telling.

This is the alternate world of "Watchmen" - a world populated by ordinary people who do extraordinary things, and one extraordinary person who has forgotten what it's like to be ordinary.

That person is Doctor Manhattan, formerly physicist Jon Osterman, whose body is destroyed by an "intrinsic field subtractor" before he somehow learns to reconstruct himself as an omniscient blue giant who can teleport, replicate himself, manipulate objects using only his mind, and see through time. He's basically a giant Smurf with spooky quantum powers.

[Read more](#)

In the News

Fermi telescope captures gamma-ray burst

From the *Stanford News Service*, March 4, 2009

Editor's Note: A Fermilab team helped to [manufacture](#) a key component of the Fermi gamma-ray telescope called the Large Area Telescope. The project name was changed from Gamma-ray Large Area Space Telescope (GLAST) to its current name when it launched on June 11, 2008.

Just months after launching, the Fermi gamma-ray telescope has revealed the most massive gamma-ray blast ever detected, painting a new picture of the high-energy universe.

The orbiting observatory, whose design and assembly was directed by researchers at Stanford University and the SLAC National Accelerator Laboratory, features the most sensitive instruments capable of recording gamma rays, the highest energy photons in the universe. And now they've detected the most massive, fastest and highest energy gamma-ray burst ever recorded.

March 2-4

- Three stores provided ~28 hours of luminosity
- Booster LCW pump at CUB trip
- NTF treatment resumed after power supply replaced
- TeV quench during shot setup

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Announcements

Latest Announcements

[Fermilab Barnstromers Delta Dart night March 11](#)

[Have a safe day!](#)

[Phillips Park Golf League](#)

[New electronic org chart](#)

[Muscle Toning classes](#)

[Kyuki Do classes March 30](#)

[Arianna String Quartet performs in Gallery Chamber Series March 8](#)

[On-site Housing summer 2009 deadline March 9](#)

[New deadline for The University of Chicago Tuition Remission Program March 5](#)

[Fermilab Arts Series presents Solas March 14](#)

[Altium Designer Lunch and Learn Seminar - March 17](#)

[Excel 2007 Pivot Tables class March 18](#)

[PowerPoint 2007: Intro class March 19](#)

[Bulgarian Dance workshop, March 19](#)

[URA visiting Scholars applications due March 20](#)

[NALWO Adler Planetarium trip March 21](#)

[Child Care program offered March 24](#)

"You get a lot of little ones, a few medium sized ones and every once in a while you get a big whopper," said Patrick Nolan, a Fermi team member and senior research scientist with Stanford's Hansen Experimental Physics Laboratory. The Fermi telescope detects gamma-ray bursts almost daily, but this giant was roughly twice the size of any others.

[Read more](#)

[Publisher 2007: Intro class April 1](#)

["Conflict Management & Negotiation Skills" class April 1](#)

[English Country Dancing April 5](#)

[Outlook 2007 New Features class April 8](#)

[SciTech summer camps](#)

[Introduction to LabVIEW class March 5](#)

[Additional Activities](#)

[Submit an announcement](#)