

Calendar

Thursday, Feb. 12
THERE WILL BE NO PHYSICS AND DETECTOR SEMINAR THIS WEEK
2:30 p.m.

[Theoretical Physics Seminar](#) -

Curia II
Speaker: Graham Kribs, University of Oregon
Title: Dirac Dark Matter
3:30 p.m.

DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over

4 p.m.
[Accelerator Physics and Technology Seminar](#) - One West

Speaker: Laurie Waters, Los Alamos National Laboratory
Title: Nuclear Applications of Accelerators; Experience in the 'A' Programs (APT, ATW, AAA, AFCI)

Friday, Feb. 13

3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over
4:00 p.m.

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

Speaker: Yurii Maravin, Kansas State University
Title: Observation of $Z \gamma \rightarrow \nu \nu \gamma$ at DZero **8:00 p.m.**

[Fermilab International Film Society](#) - Auditorium

Tickets: Adults \$5
Title: Triumph of the Will

Saturday, February 14

8:00 p.m.
[Fermilab Arts Series](#) - Auditorium
Tickets: \$25/\$12
The Dixie Hummingbirds

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

Weather

Feature

Iliana Bozhanova steps up Bulgarian dance at Fermilab



Iliana Bozhanova, renowned Bulgarian folk dance instructor

A renowned Bulgarian dance instructor will offer tips at Fermilab tonight during her only stop in the Chicagoland area.

As part of her U.S. tour, Iliana Bozhanova has agreed to teach a master class on Bulgarian folk dance at Fermilab's Kuhn Village Barn from 7:30 p.m. to 10:30 p.m.

Bozhanova has worked as a choreographer for groups all across Europe and is currently a choreographer for the Ensemble Voivodintsi in Bulgaria.

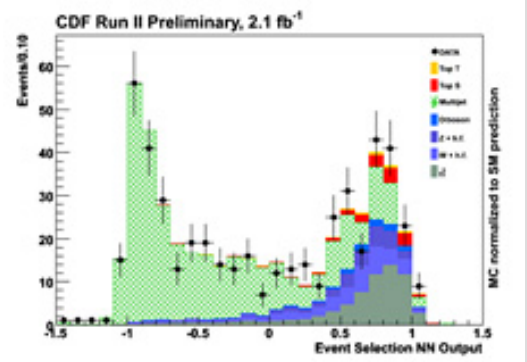
Bulgarian dancing is one of the favorite styles practiced by Fermilab's International Folk Dance Group because it doesn't require partners and offers a choice of musical rhythms.

"Bulgaria is at a crossroads. There are a lot of interesting rhythms in that part of the world, and within Bulgaria, from challenging and aggressive music in the North to the more melodic style in the South," said PPD's Doug Jensen, who has participated in the international folk group since it started more than 20 years ago.

Many Bulgarian dances are line dances where people cross their arms in a 'W' across their chest, or in a low 'V' in front of them. Footwork is characterized as very quick and heavy or

Fermilab Result of the Week

Single top, on the road to the Higgs!



Multivariate techniques are developed to separate the events due to detection artifacts (left) from single top events. At the right of the plot, an excess of single top events (orange & red) appears over the remaining backgrounds.

Experimentalists are captivated by the hunt for rare particles.

After a long quest, scientists at Fermilab discovered the top quark in 1995 in events where it was produced in pairs. Fourteen years later, scientists have firmly established the existence of its companion process, the production of top quarks one at a time.

Single top production, an important Standard Model measurement, shares the same detector signature as another long-sought particle, the Higgs boson. Single top events are only a few times more likely to occur than Higgs boson events, so measuring single top is an important step toward the Higgs.

Single top quarks are produced at a rate of about one in 10 billion of all collisions at the Tevatron. Isolating the top quark's signal from background signals is a key step in measuring its properties. This enormous background can be reduced in proton-antiproton collisions by requiring more leptons in the data. Because of the reduction in backgrounds, events with a lepton, jets and neutrino-caused energy imbalance have been the best place to look for single top quarks.

For the first time, in order to study more events with single top quarks, a group of CDF scientists looked for the single top in events with jets, missing energy and no leptons. To isolate a sample of candidate events, they had

 **Breezy**
41°/25°

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

[Current Security Status](#)

[Secon Level 3](#)

[Wilson Hall Cafe](#)

Thursday, Feb. 12

- Minnesota Wild Rice w/ Chicken
- Tuna Melt on Nine Grain
- Smart Cuisine: Italian Meatloaf
- Chicken Casserole
- Smart Cuisine: Vegetarian Salad Wrap
- Assorted sliced pizza
- *Mandarin Chicken

**Carb restricted alternative*

[Wilson Hall Cafe menu](#)

[Chez Leon](#)

Thursday, Feb. 12

Dinner

- Valentine's Day Dinner
- Shrimp cocktail
- Chateaubriand with cabernet sauvignon sauce
- Crispy potato torte
- Green bean & blue cheese gratin
- White chocolate-raspberry
- Crème brulee

Wednesday, Feb. 18

Lunch

- Swiss steak
- Mashed potatoes
- Steamed broccoli
- Praline cheesecake

[Chez Leon menu](#)

Call x3524 to make your reservation.

[Archives](#)

slow and "cat-like".

Mady Newfield, who runs Fermilab's International Folk Dance Group, invited Bozhanova to come to Fermilab after meeting her at the annual Folk Ball in Madison, Wis., a few years ago. Tonight's class is free but suggested donations are \$8 for adults and \$4 for students. No pre-registration is required.

Bulgarian dancer Nina Kavardzikova will give another workshop on March 19.

--*Kristine Crane*

For more information on the International Folk Dance group, call (630)584-0835, or (630)804-8194, or e-mail folkdance@fnal.gov.

[Click here](#) to check out Bozhanova's choreography:

[In the News](#)

Entertainment Tonight searches for angels and demons at CERN

From *symmetrybreaking*, Feb. 11, 2009

[Entertainment Tonight](#) offers you a chance to see inside the world's largest science experiment mentioned in the upcoming [movie Angels and Demons](#).

The prime-time television show broadcasts live Thursday and Friday, Feb. 12-13, from [CERN](#), the European laboratory for particle physics research on the border of France and Switzerland.

CERN serves as one of the settings for the Angels and Demons movie to be released by Sony Pictures in May. The movie is based on [the best-selling novel](#) by Dan Brown, which explores the boundary between science and religion through an action-packed mystery.

Angels and Demons focuses on a plot to destroy the Vatican using a small amount of antimatter. In the book, that antimatter gets stolen from CERN and the heroine is a CERN scientist.

It is unclear how closely the movie will follow the book. In past interviews, Dan Brown has discussed the [role CERN played in his book](#). CERN has posted a [Q&A section](#) on its Web site to clarify the distinctions between the events in the book and real-life science at CERN.

to understand the giant background contributions to an unprecedented level. The group found a more than two standard deviation excess of events over the expected background. Their independent measurement of the key properties of these events will add precision to a combined result with the lepton-based single top searches.

The techniques used in CDF will help pave the way to the main challenge that scientists at CDF hope to conquer: the discovery of the Higgs boson.

[Click here](#) to learn more.



These people helped in the analysis. From left to right: Daniela Bortoletto, Artur Apresyan, Fabrizio Margaroli and Karolos Potamianos.

[Accelerator Update](#)

Feb. 9-11

- Three stores provided ~31.25 hours of luminosity
- Accumulator power supply LCW leak repaired
- Cross Gallery, MCR, Computer Room transformer failed
- Store 6792 and stash lost
- The TeV suffered a 6-house quench
- The complex is down until at least Thursday afternoon (2/12/09)

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

[Announcements](#)

Latest Announcements

[On-site housing - Summer 2009](#)

[Have a safe day!](#)

[Daycamp information and registration](#)

[2009 standard mileage reimbursement Rate](#)

[Muscle Toning classes](#)

[Outlook 2007 New Features classes scheduled Feb. 26](#)

[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

The movie stars Tom Hanks and is directed by Ron Howard.

You can see a trailer of the movie [here](#).

In the News

Use stimulus to expand scientific research funding

From *Houston Chronicle*, Feb. 10, 2009

A key question being debated in Congress is, "How much emphasis should we place on immediate economic stimulus vs. long-term growth?" One investment that satisfies both requirements is the proposed expansion of funds for scientific research supported by the National Institutes of Health (NIH), of particular benefit to the Texas Medical Center, the National Science Foundation (NSF), which supports all of Texas' research universities, NASA and other agencies.

Investments in scientific research, development and education give the greatest "bang for the buck," both in their ability to immediately energize the economy and in their long-term benefits.

Every dollar going into a research grant has a multiplier effect as it supports education, small business and human innovation. Studies show increased economic activity, including wages paid, of at least \$2.5 for each dollar invested in NSF, resulting in higher tax revenues for state and federal governments.

Scientific research funds support education by training students and postdoctoral fellows in all 50 states, who in turn recirculate their stipend dollars. Small American companies benefit as they receive orders for specialized high tech equipment — indeed many startup companies depend on such purchases in their early phases — and these dollars also get circulated back into the economy.

[Read more](#)

[Nominations requested for job profiles](#)

[Fermilab Barnstormers](#)

[Bulgarian Dance Workshop, Feb. 12](#)

[Barn Dance Feb. 15](#)

[Kyuki Do classes - Feb. 16](#)

[Facilitating Meetings That Work class offered Feb. 16](#)

[Fermilab Blood Drive Feb. 17 & 18](#)

[Argentine Tango Classes begin Feb. 18](#)

[NALWO - Mardi Gras Potluck Dinner - Feb. 20](#)

[Discount tickets: World's Toughest Rodeo presents Toughest Cowboy - Feb. 21](#)

[NALWO - Brown Bag Lunch Program - "Australia: Travels in the Land Down Under" - Feb. 24](#)

[English Country Dancing, March 1](#)

[Introduction to LabVIEW class offered March 5](#)

[NALWO - Adler Planetarium Trip - March 21](#)

[Child Care program offered - March 24](#)

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

[Interpersonal Communication Skills class being offered April 8](#)

[Additional Activities](#)

[Submit an announcement](#)