

## Calendar

[Have a safe day!](#)

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

[Theoretical Physics Seminar](#) -  
Curia II

Speaker: William Detmold,  
College of William and Mary  
Title: Many-Body Lattice QCD  
3:30 p.m.

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

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

Speaker: Marina Putti,  
University of Genova/Florida  
State University  
Title: Radiation Effects on  
MgB2: A Review and a  
Comparison with A15  
Superconductors

Friday, May 1  
12 p.m.

Traffic Safety Seminar - One  
West  
Video Presentation: "Matt's  
Law"

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

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

Speaker: Vladimir Shiltsev,  
Fermilab  
Title: When Will We Know A  
Muon Collider Is Feasible?

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

## Weather

## In Brief

### Concerned about swine flu?

Like everyone else, Fermilab staff members are watching reports of the 2009 H1N1 influenza (swine flu) and making plans for dealing with a potential widespread infection. So far, we know the symptoms of swine flu are similar to those of seasonal flu including fever, cough, sore throat, body aches, headache, chills and fatigue. Some people have also reported symptoms of diarrhea and vomiting. Also, like seasonal flu, underlying medical conditions can worsen swine flu symptoms.

The most important measures you can take to prevent infection are:

- thorough and frequent hand washing;
- covering coughs and sneezes;
- not touching eyes, nose and mouth;
- and staying home when ill.

Care should also be exercised when travelling to or from areas where there is an active infection risk. As of April 29, the Center for Disease Control recommends that U.S. travelers avoid all nonessential travel to Mexico. See <http://www.cdc.gov/travel/> for updates. If you return from an affected area and you believe you were exposed to someone infected with swine flu, or are experiencing symptoms consistent with swine flu, you should immediately report your illness to your personal health care provider.

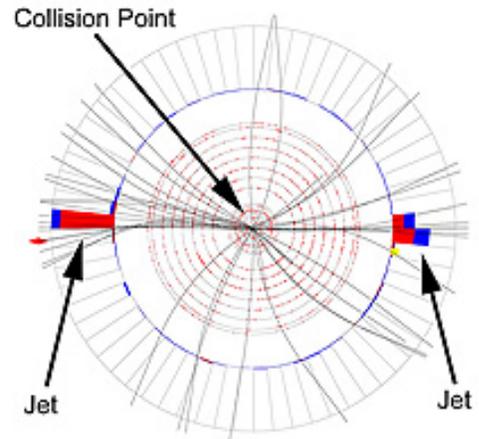
State and local health departments will determine the need for additional public health measures. For the latest information please see:

- the Illinois Department of Public Health Web site, <http://www.idph.state.il.us/>,
- the CDC flu information page <http://www.cdc.gov/swineflu>,
- the CDC has answers to frequently asked questions posted on its [Web site](#)
- [Read](#) a message from DOE's Chief Medical Officer Mike Ardaiz, MD, MPH, CPH.

## Milestone

## Fermilab Result of the Week

### The highest-energy collisions ever recorded



The DZero collaboration analyzes events in which two jets were produced, such as the one shown above. In this picture the beams collide in the center of the circle. The red and blue rectangles show the energy of the jets, while the curving black lines show the passage of the particles. Experimenters counted the number of collisions as a function of the collision energy. The precision of these measurements is unprecedented.

When a proton and antiproton collide in Fermilab's Tevatron, many things can occur. The most common thing that happens is that a quark or gluon (collectively called partons because they are part of a proton) from one beam hits a parton from the other beam and they get knocked sideways like two billiard balls. These partons then turn into jets of subatomic particles that are measured in a detector. While you might think that something so common might be well studied, it is not true in this case because of how difficult it is to study the reaction.

DZero physicists have [recently announced](#) a new measurement that is a noteworthy improvement over earlier results. They investigated collisions of record-setting energy between partons. The fact that we see such violent collisions is directly attributable to the Fermilab Accelerator Division's extraordinary ability to improve and operate the Tevatron at record efficiencies. The delivery of extra beam increases the chances of seeing these extreme collisions. Improvements over seven years in the collaboration's understanding of

 Heavy rain  
70°/51°

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

Current Security  
Status

[Secon Level 3](#)

Wilson Hall Cafe

Thursday, April 30

- Santa Fe black bean
- Steak tacos
- Chicken wellington
- Chimichangas
- Baked ham & Swiss on a ciabatta roll
- Assorted sliced pizza
- Crispy fried chicken ranch salad

\*Carb restricted alternative

[Wilson Hall Cafe menu](#)

Chez Leon

Thursday, April 30

Dinner

- French onion soup
- Filet mignon w/ cabernet sauce
- Buttermilk mashed potatoes
- Asparagus
- Marzipan cake w/ chocolate sauce

Wednesday, May 6

Lunch

- Smoky bacon and blue cheese
- Chicken salad pitas
- Apple walnut salad
- Lemon blueberry pound cake

[Chez Leon menu](#)

Call x3524 to make your reservation.

Archives

## Shirley Ann Jackson appointed to the President's Council of Advisors on Science and Technology

Shirley Ann Jackson, a world leader in science, has been appointed to the President's Council of Advisors on Science and Technology. Jackson, who currently heads the Rensselaer Polytechnic Institute, began her career as a postdoc in Fermilab's Theory group in 1973, and worked as part of the group from 1975-1976.

Jackson was the first African American woman to earn her Ph.D. from MIT. She is the University Vice Chairman of the U.S. Council on Competitiveness, a former Chair of the US Nuclear Regulatory Commission and chairs the New York Stock Exchange Regulation Board. She is a past president of the American Association for the Advancement of Science, a member of the National Academy of Engineering and a fellow of the Academy of Arts and Sciences.

Read a [FermiNews article](#) on Shirley Ann Jackson

Read a [press release](#) from *Rensselaer Polytechnic Institute*, April 27, 2009

Read the official White House PCAST membership [press release](#).

### Photo of the Day

## Star Wars comes to Fermilab



Characters dressed as storm troopers stand in front of the west stairwell in the Wilson Hall atrium on Sunday, April 26. The troopers are part of "Star Wars Forgotten Realm" a "Star Wars" fan movie produced by Fermilab physicist Darren Crawford.

its detector have increased the accuracy of measuring these extreme collisions. The collaboration's understanding has allowed them to cut the uncertainty of the measurement in half. This new measurement certainty, combined with doubling the angular range over the measurements taken, is a significant improvement over previous results.

Because they involve the most violent collisions ever recorded, measurements like these are attractive for searches of new physical phenomena. DZero physicists can consider many ideas for new phenomena, including looking for particles inside quarks, finding new and heavy particles that decay into jets and looking for extra dimensions. While the measurements of partons show good agreement with the Standard Model, their precision also allows us to study new phenomena by looking for small and subtle deviations from predictions. If we find anything, *Fermilab Today's* ROW readers will be among the first to know.

-- Don Lincoln



Don Lincoln  
Fermilab

Mandy Rominsky  
U. Oklahoma



Mike Strauss  
U. Oklahoma

Markus Webisch  
Louisiana Tech

These analyzers played a crucial role in this analysis.



The DZero run coordinators are responsible for facilitating the efficient day-to-day operations of the experiment. After 14 months of service in this role, Marc Buehler is stepping down and Stefan

[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)

Fermilab accelerator physicist Todd Johnson dressed as a character for "Star Wars Forgotten Realm," a "Star Wars" fan movie being filmed at Fermilab.



Gruenendahl (left) is joining the team. Left to right: Fermilab's Stefan Gruenendahl and Bill Lee, and University of Virginia's Marc Buehler.

## Accelerator Update

April 27 - 29

- Four stores provided ~ 38.5 hours of luminosity
- NuMI autotune problems
- Tuesday day shift accesses for maintenance

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

## Announcements

## Latest Announcements

[May 22 deadline for The University of Chicago Tuition Remission Program](#)

[Angels & Demons Lecture Night: The Science Revealed](#)

[Susan Werner - singer/songwriter Performs on Arts Series](#)

[Science Adventures for children](#)

[Greek Folk dance workshop today](#)

[Registration for Users' Meeting now open](#)

[April is National Humor Month...click on the link for the joke of the day](#)

[NALWO - spring tea tomorrow](#)

[Distracted driving seminar - A traffic safety subcommittee event](#)

[English country dancing, May 3](#)

[Word 2007: New Features class May 5](#)

[Excel 2007: New Features class May 7](#)

[National Day of Prayer observance May 7](#)

[Best of Dance Chicago - Fermilab Arts Series - May 9](#)

[Rapid Hardware Prototyping and](#)

## Special Announcement

## Today's Earth Day/Arbor Day celebration postponed

The Earth Day/Arbor Day tree planting and celebration that was scheduled for Thursday, April 30, has been postponed due to wet ground conditions.

Roads and Grounds staff plan to hold this event on Tuesday, May 5, at 11:30 a.m., weather permitting. Please check *Fermilab Today* for updates.



Plant a tree on April 30.

## In the News

## Living physics

From **Science News**, posted April 26, 2009

*From green leaves to bird brains, biological systems may exploit quantum phenomena*

Until a century or so ago, nobody had any idea that there even was such a thing as quantum physics. But while humans operated for millennia in quantum darkness, it seems that plants, bacteria and birds may have been in the know all along.

Quantum effects, human researchers have only recently discovered, may explain how the first steps of photosynthesis convert light to chemical energy with such high efficiency. Other studies suggest that quantum tricks may enable migratory birds to navigate using Earth's magnetic field lines.

Through studies like these, scientists are

beginning to understand how quantum mechanics — weirdness supposedly confined to the realm of subatomic physics — affects everyday biology.

[Read more](#)

[Industrial Control Application Development seminar May 13](#)

[Co-ed softball season begins May 13](#)

[Summer co-ed volleyball league begins June 1](#)

[Argentine Tango classes through May 13](#)

[Discounted rates at Grand Geneva Resort, Lake Geneva, WI](#)

[Conflict Management and Negotiation Skills class June 3 and 10](#)

[Discount tickets to "1964"...Beatles tribute - June 6](#)

[SciTech summer camps](#)

[Additional Activities](#)

[Submit an announcement](#)