

## Furlough Information

New furlough information, including an [up-to-date](#) Q&A section, appears on the [furlough Web pages](#) daily.

## Layoff Information

New information on Fermilab layoffs, including an [up-to-date](#) Q&A section, appears on the [layoff Web pages](#) daily.

## Calendar

**Friday, May 16**  
**8:30 a.m. - 6:00 p.m.**  
 US CMS 2008 Run Plan Workshop  
[See schedule here](#)  
**3:30 p.m.**  
 DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over  
**4:00 p.m.**  
[Joint Experimental-Theoretical Physics Seminar](#) - One West  
 Speaker: J. Marriner, Fermilab  
 Title: Results from the SDSS-II Supernova Survey

**Monday, May 19**  
**11:00 a.m.**  
[Special Theoretical Physics Seminar](#) - One West  
 (NOTE DATE, TIME, LOCATION)  
 Speaker: M. Grazzini, INFN, Firenze  
 Title: Higgs Production at Hadron Colliders: Selected Results  
**2:30 p.m.**  
[Particle Astrophysics Seminar](#) - Curia II  
 Speaker: G. Sciolla, Massachusetts Institute of Technology  
 Title: DM-TPC: A Novel Approach to Directional Dark Matter Detection  
**3:30 p.m.**  
 DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over  
**4:00 p.m.**  
 All Experimenters' Meeting - Curia II  
 Special Topic: MTest Beam Content; CALICE

## Special Announcement

### Layoff information update

Layoff notifications at Fermilab will not occur the week of May 19. *Fermilab Today* will provide another update before the Memorial Day weekend.

## Feature

### CDF physicist tackles world of professional bicycle racing



Reid Mumford

The prairie-powered wind at Fermilab may hold doors shut and nearly knock scientists off their feet, but Reid Mumford loves it. What others call a nuisance has helped propel Mumford from a budding physicist to a professional bicycle racer.

The 32-year-old joined in 2007 the ranks of Kelly Benefit Strategies/Medifast, a Minneapolis-based team. In a sport that requires half the team fall under age 27, Mumford had to work extra hard to secure a spot. After he collided with a van during practice, he had to work even harder to recover and reclaim his spot on the team.

That's where Fermilab comes in.

"The wind makes training here hard, which is a good thing. Most of the people I race against live in high-altitudes," he said. "If I didn't have the wind, it would be hard to get faster."

Mumford practices 17 hours a week, often doing sprints by the silicon building and distance training on the ring road.

"It's good because there are not stop signs, so there is nothing to dodge but geese," Mumford said.

John Hopkins' University professors and CDF co-workers support Mumford's bid for bicycling fame, helping him fit in training and weekend races with the grueling grad

## From iSTGW

### No business like show biz: Final rehearsal for WLCG



Before the show can go on, there must be extensive, full-scale dress rehearsals. For the Worldwide LHC Computing Grid, that means several Common Computing Readiness Challenges. *Stock image courtesy of sxc.chu.*

#### Opening night

Like a theatrical company on the eve of a big new production, CERN's Computing Centre and its partner computing sites are preparing for their opening night.

This summer, the two stars of their show will mark their debuts: [The Large Hadron Collider](#) — largest particle accelerator built to date — will start up, and the [Worldwide LHC Computing Grid \(WLCG\)](#) will collect, move and process the massive amount of data the LHC generates.

In the next few months, final touches will be added to ensure that the WLCG and the people involved with it can put on their best performance, says Jamie Shiers, responsible for overall coordination of the system's practice runs — known as 'Common Computing Readiness Challenges.' To prepare, WLCG staff have run these "dress rehearsals" for years, which have become more intense as curtain time nears.

"These final two dress rehearsals are much more realistic," he says. "Before this, the testing was done in isolation; now it is everyone at the same time."



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

## Weather



Partly Cloudy  
71°/53°

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

## Current Security Status

[Secon Level 3](#)

## Wilson Hall Cafe

### Friday, May 16

- New England clam chowder
- Black & blue cheese burger
- Mardi Gras jambalaya
- Smart cuisine Dijon meatballs over noodles
- Bistro chicken & provolone panini
- Assorted Slice Pizza
- \*Carved top round of beef

**\*Carb Restricted Alternative**

[Wilson Hall Cafe Menu](#)

## Chez Leon

### Wednesday, May 21 Lunch

- Cabbage & bacon calzone
- Caesar salad
- Espresso mousse

### Thursday, May 22

Dinner  
CLOSED

[Chez Leon Menu](#)

Call x4598 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)

student hours of particle data analysis.

His current and likely future career have much in common. Mumford's interest in school emerged late when high school science teachers challenged him. A desire in 2006 to challenge the "really fast guys" pushed him to move up to the professional circuit.

Mumford uses the hours practicing to work out complex particle physics problems in his head and recharge before sifting through millions of particle collisions to find rare events.

"Cycling is a tough sport. You don't win much, but the one day that everything works is a beautiful thing," Mumford said. "Just like high-energy physics research."

Occasionally CDF colleagues and fellow recreational racers from Fermilab come out to cheer him on. This year, he'll race at criteriums in Chicago in July, and Downers Grove and Elk Grove in August. [Click here](#) to see the full team schedule.

-- Tona Kunz

## Readers Write

AD's Dave Peterson wrote this letter to comment on a correction in the [May 14, 2008 issue](#) of Fermilab Today.

## How a radar gun works

Dear Fermilab Today,

The original article on the operation of radar was correct. The frequency of the received pulse is shifted up or down proportional to the relative motion of the radar gun and the remote object. Doppler radar detects the frequency (and hence wavelength) difference between the transmitted and received signals to determine the velocity of the object.

The "redshift" is exactly what the circuitry in the radar gun measures.

The confusion of terminology—redshift versus phase shift—may arise when speaking of comparing the "phase" of the transmitted wave and the received wave. If the remote object moves relative to the radar gun, the phase difference of the signals will change. The rate of phase change is commonly called "frequency." Even a few of the National Weather Service's Doppler Radar Web pages provide a somewhat confusing explanation by using "phase" where "rate of change of phase" or "frequency" would be more appropriate.

The Wikipedia article on [Doppler radar](#) has a clear and concise introduction to the topic. Also take a look at the explanation of the Doppler effect on this [Web site](#).

Frequency and wavelength are inversely related by the propagation speed in the medium. (In the case of microwaves emitted by radar guns, it is the speed of light.) Most engineers speak in terms of frequency when discussing signals and

Preparing for opening night, left to right: Jan van Eldik, Miguel Coelho from CERN CASTOR operations team, Gavin McCance from the FTS operations team. *Images courtesy of Jamie Shiers.*

## Rehearsal, rehearsal

During each run, the LHC Computing Grid receives data from four main LHC experiments simultaneously, at loads predicted for a fully operational machine. After a quick cache, the Tier-0 site at CERN sends data to Tier-1 sites, which send it to Tier-2 sites. Over one hundred auxiliary Tier-1 and Tier-2 sites around the world also aid in storage and processing.

The first full rehearsal was held in February; the final one will be in May. February's test yielded a middleware bug and a delay in storage configurations, but nothing was crippling, states Shiers.

[Read more](#)

-- Danielle Venton

## Announcements

### [Have a safe day!](#)

### Fermilab Singers to perform today

The Fermilab Singers will perform a concert at noon on Friday, May 16, in the Wilson Hall second-floor crossover. A short reception will follow in the lobby. Please join us. For more information, see the [Fermilab Singers Web site](#)

### National Instruments mobile exp today

From 9 to 11 a.m. Friday, May 16, in the Wilson Hall west parking lot you can see demonstrations of the latest technologies for automated test. The National Instruments Expo showcases a variety of example systems that tackle mechanical, DC, RF and mixed-signal test.

### Register to meet with APS on site

Fermilab has invited American Physical Society members to visit the laboratory May 20-21 to assess the work climate for women and minorities. Employees may sign up to attend more than a dozen discussion meetings. Employees also may sign up to meet individually with the site team. View the meeting schedule [here](#), under "What's New." Space is limited to facilitate discussion. Meeting slots will be filled in the order requests are received. The APS Team wishes to keep the focus group meetings to 20 people. To register, contact Dianne Engram at [engram@fnal.gov](mailto:engram@fnal.gov) with your name, position and which meeting you want to attend.

### Project X workshop June 5-6

Following the Users' Meeting June 5, Fermilab and the UEC will hold the third Workshop on Physics with a high-intensity proton source. The workshop begins with a town meeting in One West on the evening of Thursday, June 5, and continues the next day. A preliminary program and registration are [here](#).

### New Perspectives Conference set for June 3

circuitry but change to wavelength when physical size is a consideration such as in discussing antennas or other wave propagation related topics.

A very well written and somewhat more mathematical Web resource is [here](#).

Regards,

Dave Peterson  
Microwave and RF Systems Engineer  
Engineering Group Leader  
Antiproton Source Department

#### In the News

### Fermilab Sends Energy Department Final Plan to Lay Off 7% of Staff

From *Science*, May 16, 2008

The uncertainty has been the worst part, says Rick Tesarek, a physicist here at Fermi National Accelerator Laboratory (Fermilab). He and his 1950 fellow employees have been wondering who among them will lose their jobs in layoffs forced by budget cuts late last year (*Science*, 11 January, p. 142). "This has been hanging over us for so long now that morale around the lab is starting to plummet," Tesarek says. "We've been waiting since December."

The wait is nearly over. On 25 April, officials at the particle physics lab submitted their final plans for the layoffs to the U.S. Department of Energy (DOE) for approval. About 140 scientists, engineers, technicians, and other staff will receive pink slips in a 3-day process that could begin as early as next week. Roughly 60 more employees have accepted retirement or left because their term positions were not renewed. "We have to do what we have to do to ensure the health of the institution," says Fermilab Director Piermaria Oddone. "I feel terrible about it. ... There is no choice."

[Read more](#)

#### In the News

### A New Captain Boldly Goes

From *MSNBC*, May 9, 2008

A theoretical physics institute must be a bit like a science-fiction starship, in that you actually have to take concepts like extradimensional wormholes and inflationary multiverses seriously. If that's the case, then give a "Star Trek" salute to the Perimeter Institute for Theoretical Physics' new captain: cosmologist Neil Turok.

The Canadian public-private research institute, founded with \$100 million from BlackBerry billionaire Mike Lazaridis, announced Turok's appointment as executive director today after a nearly yearlong search. Turok will take the helm at Perimeter on Oct. 1.

[Read more](#)

The 2008 Annual New Perspectives Conference will take place on June 3 in conjunction with the Users' Meeting. The one-day conference offers talks given by and geared towards undergraduate, graduate and post-doctoral physicists. The conference includes a poster session. Applications for the poster session still are being accepted. Please [click here](#) for more information.

### Fermi Research Alliance, LLC (FRA) retirement plan changes

The Summary Plan Description for the FRA Retirement Plan has been updated to reflect a major change to the plan: A terminated participant is not subject to the age and service requirement in order to be eligible for a cash withdrawal. You may elect a cash distribution from TIAA and CREF Retirement Annuities. Withdrawals from the TIAA Traditional Retirement Annuity accumulations are only possible using a Transfer Payout Annuity (TPA). If the accumulation is less than \$10,000, it would be provided in one lump sum. The Summary Plan Description for the Retirement Plan is posted on the [Benefits Web site](#) for your review.

### Kyuki-Do Martial Arts Class begins Monday

Kyuki-Do, a Korean martial art similar to Taekwondo, teaches the following: self confidence, balance, power and grace. Classes are held for six weeks on Mondays and Wednesdays from 5 - 6 p.m. at the Recreation Facility in the Village. The class costs \$45 per session. You must have a Recreation Facility membership register through the Recreation Office.

### New computer programming course offered

"Function Objects: Using Generalized Functions in Modern C++," the final course in the current series of "Selected Topics in Computer Programming," will take place Thursday, May 22. Aimed at programmers with C++ experience, it will deal in depth with generalized callable entities in modern C++ programs. Attendees will learn techniques of currying and other forms of parameter binding, and will be prepared for related new techniques that will become available in the next C++ standard. Participants of the free course will receive TRAIN credit. Register here.

### Classifieds

Find new [classified ads](#) on *Fermilab Today*.

### [Additional Activities](#)

