

## Calendar

### Monday, April 17

**11:00 a.m.** Academic Lecture Series -

Curia II

Speaker: B. Cabrera, Stanford University/  
Fermilab

Title: The Search for WIMP Dark Matter  
Around Our Galaxy, Course 7 (First  
Lecture)

**2:30 p.m.** Particle Astrophysics Seminar  
- Curia II

Speaker: M. Neyrinck, University of  
Hawaii

Title: The Cosmological Information  
Content of the Halo-Model Dark-Matter  
Power Spectrum

**3:30 p.m.** DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

THERE WILL BE NO ALL

EXPERIMENTERS' MEETING THIS

WEEK

### Tuesday, April 18

**3:30 p.m.** DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

**4:00 p.m.** Accelerator Physics and  
Technology Seminar - Curia II

Speaker: V. Ranjbar, Fermilab

Title: Chromaticity and Impedance Effect  
on the Transverse Motion of Longitudinal  
Bunch Slices in the Tevatron

## Weather



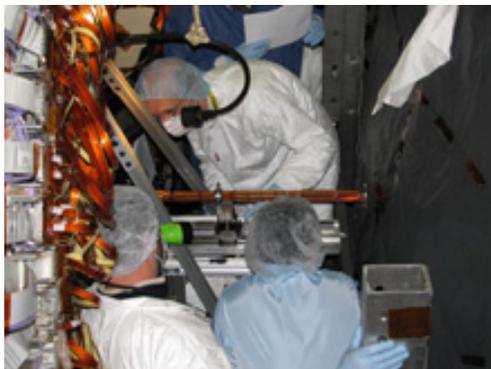
Mostly Sunny **61°/39°**

[Extended Forecast](#)

[Weather at Fermilab](#)

## Current Security Status

## Layer0: Finally, stuck between silicon and a hard place



DZero's new layer of silicon tracker, dubbed "Layer Zero," was installed last week.

According to Mechanical Installation Manager Bill Cooper, a number of DZero engineers, physicists and technicians devoted years--some skipping vacation days--to prepare for this moment. ([Click for larger version.](#))

Have you ever tried to thread a needle while blindfolded? If not, try to imagine it. Now imagine that if the thread doesn't have perfect clearance--if the inside of the needle's eye touches the thread at all, both the thread and the needle might be damaged. That sounds pretty hard, but it gets worse: this particular needle is worth about 10 million dollars and can't be replaced. Think you'd have a shaky hand?

DZero recently did something harder. They installed a brand new layer of silicon tracker into their detector. About 70 inches long and the width of a golf-ball, the new layer was inserted just inside the current detector layers that surround the beampipe--kind of like placing a fresh new layer on the inside of an onion. "There was only about 8/10 of

## Safety Tip of the Week

### Uneven surfaces



The passageway between the A0 Service Building and the Cross Gallery has a flaking concrete surface.

A Fermilab technician recently stepped into a shallow depression while walking along an Accelerator Division passageway. This caused the employee's right ankle to twist and fracture. The injury was managed with an air splint and work restrictions. Investigation revealed that the 7/8 inch depression was caused by the concrete flaking. The Building Manager was aware of the problem and was in the process of securing repairs. As an interim measure cones were used to mark the area. However, they were moved to facilitate equipment relocation and not replaced in a timely manner.

Several times a year, Fermilab workers get hurt from stepping onto something. While 60 percent are caused by trip-type hazards, 40 percent are associated with uneven surfaces. Based on a lifetime of experience, people have come to expect

[Secon Level 3](#)**Wilson Hall Cafe****Monday, April 17**

- Potato Au Gratin
- Monte Cristo
- Savory Roasted Chicken Quarters
- Lasagna Bolognaise
- Chicken Ranch Wrapper
- Assorted Pizza Slices
- Szechuan Style Pork Lo Mein

The Wilson Hall Cafe accepts Visa, Master Card, Discover and American Express.

[Wilson Hall Cafe Menu](#)**Chez Leon****Wednesday, April 19****Lunch**

- Tri-Colored Tortellini w/Gorgonzola Cream
- Sauteed Spinach
- Ginger Pear Crisp

**Thursday, April 20****Dinner**

- Coquille St.Jacques
- Pork Tenderloin w/Marsala Sauce
- Steamed Asparagus
- Roasted Yukon Gold Potatoes w/Onion
- Rhubarb Apple Turnovers
- Pear & Almond Strudel

[Chez Leon Menu](#)

Call x4512 to make your reservation.

**Search****Search the Fermilab Today Archive****Info**

a millimeter of radial clearance for the new layer," said Mechanical Installation Manager Bill Cooper. "If it moved to one side by less than a millimeter during insertion, it could have been damaged. And if it moved any further, it could have damaged the detector itself." In addition to these challenges, DZero was not able to see what they were doing during the insertion, because other parts of the giant detector blocked their view. "As Layer Zero was slowly and carefully rolled into place, we could only imagine its path," said Cooper. "Everything had to be aligned almost perfectly in advance."

For years, DZero physicists and engineers have been designing and testing tools to help control this installation, starting with an optical survey in 2004 to make sure they knew what kind of clearance they'd be dealing with. "The mechanical design was the most challenging part," said Ron Lipton, Layer Zero project co-manager. "It's really a tribute to the team, led by Bill Cooper, who fabricated and designed this thing that fits in a very small space and is virtually massless."

The new layer will give DZero better precision. With a layer of tracking detector closer to the collision point, they'll have a better idea which particle tracks came directly from the proton-antiproton collision, and which are the result of particle decay. "This new layer of silicon detector will allow us to have a better picture of B decays and therefore [B mixing](#)," said Vivian O'Dell, Project Manager for DZero's Run IIb Upgrade. "And those interactions are of great interest, especially [now](#)."

--Siri Steiner

that the floor within a given space will have consistent characteristics. That is, it will have the same irregularities, friction and softness throughout. When these unexpectedly change, mis-steps are likely to occur. Here are some suggestions for dealing with uneven surfaces.

- Be observant and make mental notes of surface hazards.
- Eliminate unevenness in work surfaces. If that cannot be done, use color changes to mark transition areas.
- Cover, barricade, and post holes. Don't forget to replace barriers that have been temporarily moved.
- Keep work areas free of clutter.

[Safety Tip of the Week Archive](#)**Photo of the Day**

The new babies are growing fast; come down to the pasture and check them out before it's too late! (Click on image for larger version.)

**Announcements**

Fermilab Today is online at: <http://www.fnal.gov/today/>

Send comments and suggestions to [today@fnal.gov](mailto:today@fnal.gov)

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## In the News

### From *The Beacon News* (opinion section), April 14, 2006:

#### New challenge for Fermilab: future viability

The issue: The future at Batavia's Fermilab is uncertain. With a new, more advanced collider set to open in Switzerland next year, the viability of the current facility is in question.

We say: Congress should support construction of a new underground research facility on site. A proposed 20-mile-long underground tunnel should be built to enable Fermilab to continue its scientific exploration for another generation.

Eighteen years ago, Fermilab in Batavia was in the running to build what was called the Superconducting Super Collider — a high-energy particle accelerator.

Ultimately, instead of Fermilab, more clout-heavy legislators and officials from Texas got the project approved for that state and construction began near Waxahachie, south of Dallas. The SSC, as it was known, was always controversial because of its cost — last estimated at some \$8.25 billion. After some 14 miles of tunnel had been dug and some \$2 billion had been spent, Congress killed the unfinished project in 1993.

[Read More](#)

## P5 Meeting this week

HEPAP's "Particle Physics Project Prioritization Panel" (P5) will meet at Fermilab with the goal of learning more about some of the proposed projects for neutrino physics and for dark matter detection. The meeting will take place at Fermilab on April 18 and 19. You can find more information [here](#).

## Spring Fling Book Fair, April 26, 27

Check out the fair on April 26 from 10 a. m. - 6 p.m. and April 27 from 7 a.m. - 3 p. m. in the Atrium. Proceeds from the book fair go toward subsidizing some of our recreation programs.

## Calling all bridge fans

Are you interested in forming a Fermilab Bridge Club? Either serious (duplicate?), just social (e.g. a monthly evening in people's homes?) or just want to learn? Please contact Mike Albrow ([albrow@fnal.gov](mailto:albrow@fnal.gov)) or Rajendran Raja ([draj@fnal.gov](mailto:draj@fnal.gov))

## May Murder Mystery Dinner Theater: "Death in the Family"

With Mother's Day coming up, you certainly don't want to discover that there's been a "Death in the Family" but, unfortunately you do, and Lucky Lasagna has been killed! You'll have to question Rocco Ravioli, Mike Mostacolli, Carmen Cannolli, Guido Mozzarella, Petey Parmesan and the rest of the mob, er, I mean family that is. So bring your "Mudder" to this special show (or yous guys might be wearin' a pair of cement shoes!) This is the last Murder Mystery Dinner Event of the season! The show is May 6th at 7:00 p.m. at the Milk Pail Restaurant, 14N630 Route 25, East Dundee (1/2 mile North of I-90). Discounted price is \$50.00 per person, a

savings of \$10.00. Price includes dinner, show, tax and gratuity. Deadline to order tickets is 12:00 p.m., May 4. Ticket order forms can be found in the Recreation Office or [the web page](#).

### **Professional Development**

New classes are always being added to the professional development schedule. For the most up-to-date course offerings, go to [the web page](#).

### **[Upcoming Activities](#)**