

## Calendar

### Friday, August 12

**12:00 p.m.** Public Lecture Preview -

1 West

Speaker: Young-Kee Kim

Title:  $E=mc^2$ : Opening Windows on the World

**12:30 p.m.** Theoretical Physics

Seminar - 1 North

Speaker: M. Awramik, DESY Zeuthen

Title: Two Loop Electroweak Corrections to Standard Model Observables

**3:30 p.m.** Director's Coffee Break -

2nd Flr X-Over

**4:00 p.m.** Joint Experimental Theoretical

Physics Seminar - 1 West

Speaker: U. Nierste, Fermilab

Title: CKM Matrix and CP Violation

### Monday, August 15

**3:30 p.m.** Director's Coffee Break -

2nd Flr X-Over

**4:00 p.m.** All Experimenters' Meeting -

Curia II

**Note:** Particle Astrophysics Seminars will resume in the Fall

## Weather



Thunderstorms Likely **86°/69°**

[Extended Forecast](#)

[Weather at Fermilab](#)

## Current Security Status

[Secou Level 3](#)

## Wilson Hall Cafe

## Doubling-Time for Run II: The Future of Luminosity



Pier Oddone (right) looks on as CDF co-spokespersons Young-Kee Kim\* (left) and Rob Roser address the crowd at June's one inverse femtobarn celebration. (Click on image for larger version.)

Earlier this summer, Fermilab users from all areas of the lab gathered in the Atrium to celebrate a major milestone. The achievement of one inverse femtobarn of integrated luminosity in the Tevatron started a new chapter in Fermilab science, and prompted considerable discussion about when two inverse femtobarns would be achieved. "Staying on the design curve becomes ever more difficult as the slope grows increasingly steep," said Head of the Accelerator Division Roger Dixon. "Up to now all of the upgrades we have implemented have worked at planned, but the changes are becoming more complex as we work our way through the upgrade plan."

Luminosity is a measure of the brightness or intensity of the particle beams in an accelerator and determines the number of collisions that occur when the beams intersect. Peak luminosity is defined as the number of collisions that occur during the first few minutes after the protons and antiprotons are injected for a store, and

## Roads and Grounds Thanks Dedicated Summer Students



Roads and Grounds thanked their hard-working summer students with a picnic on Wednesday, August 10. (Click on image for larger version.)

The Fermilab Roads and Grounds Section held their annual picnic in the Village on Wednesday, August 10. The department organizes the event at the end of each summer to thank its summer students, who perform tasks ranging from watering trees to mowing fields to general maintenance of the lab.

"Summer is a busy time for us," said Mike Becker, the Roads and Grounds supervisor. "The students are a big part of our summer workforce, and we're grateful for all the work they do."

The Roads and Grounds summer program hires high school and college students to supplement the department's regular staff. "The quality of students that we get is just remarkable," Becker said. "There are seven students working with Roads and Grounds this year, as well as two others working with the FESS Engineering Group."

This summer's severe drought presented a particular challenge to Roads and

## Friday, August 12

New England Clam Chowder  
Western BBQ Burger \$4.85  
Baked Fish w/Roasted Leeks and Peppers \$3.75  
Meatballs Teriyaki over Rice \$3.75  
Bistro Chicken & Provolone Panini \$4.75  
Assorted Personal Pizzas \$3.50  
Carved Top Round of Beef \$4.85

The Wilson Hall Cafe now accepts Visa, Master Card, Discover and American Express at Cash Register #1.

[Wilson Hall Cafe Menu](#)

## Chez Leon

### Wednesday, August 17

#### Lunch

Cajun Shrimp Salad w/Tomatoes & Avocados  
Pineapple Rum Cake

### Thursday, August 18

#### Dinner

Tomatoes & Mozzarella Salad  
Sea Bass w/Lemon Shallot Butter  
Sautéed Corn, Peppers, & Bacon  
Peach Cobbler w/Cream Chantilly

[Chez Leon Menu](#)

Call x4512 to make your reservation.

## Search

Search the Fermilab Today Archive

## Info

integrated luminosity is calculated by adding together the total number of collisions that occur over time. Individual stores last until the luminosity drops to a level where it is no longer useful for the experiments, or until it is lost due to a problem in the Tevatron. Ideally a store begins with a high peak luminosity followed by a long, slow decrease in luminosity until collisions are occurring at a rate that is no longer useful to the detectors.

Although luck has something to do with how well a particular run goes, the design curve is determined by the calculated impact the various upgrades that are planned for the Collider will have on the luminosity curve. "It is a constant struggle to continue increasing the slope of the design curve," said Dixon. "Electron Cooling and an antiproton stacking upgrade are two of the major upgrades remaining. They are both risky, but if they work, they will keep us on the curve. The recent success with cooling antiprotons with an electron beam gives us a good indication that electron cooling is going to significantly increase the luminosity we can deliver." So far, Fermilab has stayed right on the design curve, and a total of two inverse femtobarns are expected in about one year. By that time, the rate of delivering luminosity should be approaching the rate necessary to achieve eight inverse femtobarns by 2009.

—*Amelia Greene*

*\*Kim invites the Fermilab community to preview and critique her upcoming Aspen public lecture on 21st-century particle physics this afternoon from noon until one p.m. in 1 West.*

Grounds. The students spent much of their time watering trees and other plants to maintain Fermilab's ecosystems. "They kept our trees alive," said Randy Ortigiesen of the FESS Infrastructure Management Group.

Gerry Garcia, an incoming freshman at the University of Illinois Urbana-Champaign, has had such a good experience with the Roads and Grounds summer program that he has returned for three years running. "My parents both work at Fermilab, and I like the environment here. It's a fun place to work," he said. Jake Whiteaker, who is entering his senior year at Somonauk High School, agreed, saying, "It's my first year in the program, but I'd probably come back."

—*Elizabeth Wade*

## Photo of the Day



With gas prices on the rise, many Fermilab employees and users ride their bikes to work every day. Seventy-five bicycle commuters are registered on a [website](#) maintained by Bob Florian of the Accelerator Controls Department to track the commuters' mileage, gallons of gas saved, calories burned, and other statistics. (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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## Fermi Intern Unites Two Fields, Advocates Science



Victoria Moeller is a summer intern in Wilson Hall, a place she visited as a child for Saturday Morning Physics. (Click on image for larger version.)

Victoria Moeller is having a great summer. Working with Peter Shanahan on the MINOS experiment, the third-year undergrad at Michigan State says she has to keep her mind focused on her work to stay immune to the "magic" of Fermilab: "Sometimes I'll be driving up to Wilson Hall and think, 'I can't believe I work here,'" she said. "Every place you go has its advantages, but this is like the Ivy League of internships."

Moeller came to the lab through the Internships for Physics Majors (IPM) program, and was placed in the Particle Physics Department analyzing data from MINOS. "I mentioned particle physics and neutrinos in my application essay," said Moeller. "Now I'm learning everything I could possibly absorb about neutrino beam physics." Her work involves extensive use of new technologies for analyzing data, and she greatly appreciates the opportunity to experience "all of the components of being able to see what's going on in the detector."

Her interests, however, extend well beyond the purely technical. Double

## Wilson Hall Interior Window Washing

The cleaning crew will wash the interior windows on the 1st, 2nd, and 3rd floors of Wilson Hall today. Please remove any papers that are taped to the windows in your office and move any papers or other items on your desk that are near the windows. Contact Enixe Castro (x2798) with questions.

## 2006 Recreation Facility Memberships

The 2006 Recreation Facility membership drive will start September 1. The prices are \$75.00 (regular) and \$45.00 (graduate student). New members that purchase their membership the beginning of September will receive 13 months for the price of 12. All 2005 memberships will expire October 3. Purchase can be made by credit card (Visa or MasterCard), check or cash in the Recreation Office, WH15W. Registration forms can be found on the [Recreation webpage](#) or in the Recreation Office.

## Power Outages

There will be no power at Site 50, 52 (Site 52 has a generator), PAB, and the Proton Pole Building on Saturday, August 13, from 7 a.m. to 12 p.m.

## Fermi Singers Perform in Batavia

Plan to attend the Batavia Fine Arts Festival on Sunday August 14 at 12 Noon! The Fermi Singers will be performing a carefully chosen repertoire for your listening pleasure. [More Information](#)

## 4th Annual GSA Triathlon

This 800 yard swim, 20 km bike ride and 5km run will take place at 8 a.m. on Saturday, August 20. Racers can participate individually or as a member of

majoring in Physics and Political Science/Public Policy, Moeller wants to promote science on a more public scale. "I hope to stay involved in science advocacy," she said. "If I decide I don't want to be a physicist, I'd like to be someone who actually understands the science working on funding and science education."

—*Amelia Greene*

### In the News

#### **From *Interactions News Wire*, August 10, 2005 New Director for CCLRC Particle Physics**

Dr. John Womersley will join the CCLRC as Director of Particle Physics. Dr. Womersley, who will start work on 1 October and is based at the Rutherford Appleton Laboratory, was previously working at Fermilab in the USA.

[Read More](#)

a 2-3 person team. To register, contact the [GSA officers](#). Registration is free.

[More Information](#)

#### **SciTech Holds Duck Race**

The SciTech Hands-on Museum in downtown Aurora is holding a duck race on the Fox River on Friday, August 19. Sponsor a duck to support SciTech and receive free family admission (up to six people) from 5:00 to 8:00 p.m. and chance to win with \$5 ticket. Event presented in connection with Aurora's "Downtown Alive: Beach Party." For details call SciTech at 630-859-3434.

[More Information](#)

#### **New Classifieds on Fermilab Today**

New [classified ads](#) have been posted on Fermilab Today.

[Upcoming Activities](#)