

## Calendar

### Tuesday, May 23

**3:30 p.m.** DIRECTOR'S COFFEE  
BREAK - 2nd Flr Crossover

**4:00 p.m.** Accelerator Physics and  
Technology Seminar - 1 West  
Speaker: K. Seiya, Fermilab  
Title: Status of Slip Stacking in the Main  
Injector and Future Plans

### Wednesday, May 24

**11:00 a.m.** Fermilab ILC R&D Meeting -  
1 West

Speaker: P. Bauer, Fermilab  
Title: ILC SRF Material Activities at  
Fermilab

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

**4:00 p.m.** Fermilab Colloquium - 1 West  
Speaker: N. Lane, Rice University  
Title: The Future of U.S. Science – to  
Follow or to Lead?

[Click here](#) for links to descriptions of  
each event.

## Weather



Partly Cloudy **70°/55°**

[Extended Forecast](#)

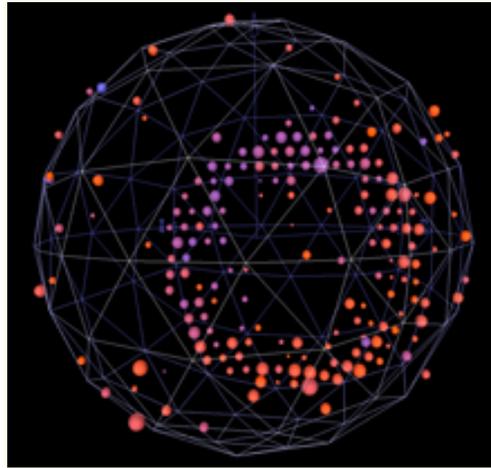
[Weather at Fermilab](#)

## Current Security Status

[Secou Level 3](#)

## Wilson Hall Cafe

## MiniBooNE, SciBooNE 'play well together'



The rings of light that the MiniBooNE photomultipliers see come from the debris particles produced when a neutrino smacks into an atomic nucleus in a tank full of oil. [\(Click image for larger version.\)](#)

This summer, MiniBooNE collaborators prepare to welcome a Japanese detector that will share their beamline. Together, MiniBooNE and SciBooNE will study the interactions of neutrinos--particles that interact so little with other matter that they could pass through a light-year of lead without stopping. "You need a lot of neutrinos and big detectors to see any events," said Morgan Wascko from Imperial College, London, SciBooNE co-spokesperson along with Kyoto University's Tsuyoshi Nakaya. The borrowed detector was once used in the K2K neutrino experiment in Japan.

The two detectors will complement one another, says MiniBooNE co-spokesperson Janet Conrad. MiniBooNE is by far the larger of the two, giving it a greater cross section for catching neutrinos. Its 250,000-gallon tank of mineral oil serves both as target and

## Director's Corner

### Nature of Science

Yesterday the Laboratory held its yearly Symposium on the Nature of Science, an event that attracted nearly six hundred teachers and students. The Symposium is advertised in Kane and DuPage



[Pier Oddone](#)

counties' high schools. While open to all students, it was scheduled right after the conclusion of AP course examinations when AP students can unbury their noses from their books and explore beyond their pages.

The event was sponsored by the Laboratory and the Friends of Science Education. It has an interesting history. It began as an event supported by the Illinois State Board of Education for teachers in the year 2000, the year in which Kansas outlawed the teaching of evolution in their public schools. It seemed then and is still true today that it is important for our society to understand the fundamental nature of science and the principles that apply throughout whether we do particle physics, mathematics, biology or any other discipline. Today the Symposium gathers together not only teachers but also a far larger number of high school students.

This year's Symposium had a number of outstanding speakers on a broad range of disciplines. Fermilab's Chris Quigg addressed the Nature of Science,

**Tuesday, May 23**

- Tomato Bisque
- Lemon Pepper Club
- Burgundy Beef Tips
- Baked Fish Creole over Rice
- Grilled Chicken Caesar Wrap
- Supreme Pizza
- Rio Grande Taco Salads

[Wilson Hall Cafe Menu](#)

**Chez Leon****Wednesday, May 24****Dessert Lunch**

- Cold Fruit Soup
- Assortment of Desserts
- Cold Lime Soufflé

**Thursday, May 25****Dinner**

CLOSED

[Chez Leon Menu](#)

Call x4598 to make your reservation.

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debris-detector for the collisions of a tiny fraction of these elusive particles, collecting the light from their interactions with the oil in the hundreds of phototubes lining the inside walls of the tank. SciBooNE, on the other hand, will use strips of scintillator--a plastic that gives off light when a particle cuts across it--to provide point-by-point tracking of the particles produced when neutrinos interact.

SciBooNE will bring more precision to the studies of neutrinos at lower energies, providing valuable input for current and next-generation neutrino experiments such as Fermilab's proposed NoVA experiment, and Japan's T2K, which will shoot an underground beam of neutrinos 295 kilometers across Japan. By teaching us more about neutrino oscillations, these investigations may point the way to a theory that explains the new-found mystery of neutrino mass. --Jennifer Lauren Lee

**Photo of the Day**

**Fire in the sky?** Fermilab physicist Tim Koeth took this picture of cloud-to-cloud lightning over the Main Injector during a recent thunder storm. According to Koeth, this type of lightning happens when electrons accumulate on one side of a cloud and positive charge accumulates on a neighboring cloud, creating an electric field in the air between them. The field is strong enough to "rip" electrons from nitrogen and oxygen in air. The freed electrons rush from

followed by University of Chicago Professor Sydney Nagel on the Physics of the Breakfast Table, Northwestern Professor Hilary Goodwin on Lead Poisoning: Advances and Challenges and Professor Stephen Pruett-Jones on Animal Mating Systems: What We See and What We Don't.

The audience was also outstanding. Vibrant and vocal, their enthusiasm was contagious. One of the speakers told me after the meeting that he would love always to have such an interactive audience; this one was more stimulating, inquisitive and exciting than the scientific audiences he normally encountered. Seeing all these students engaged in the lectures and asking important questions gives us great hope for our common future.

**Accelerator Update****May 19-22**

- Shutdown ends and startup begins
- Linac and Booster have beam
- NTF studies
- Ground faults
- Machine Reports

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

**Announcements****Batavia Road entrance closed to cars and bicycles**

The Batavia Road entrance is closed through Friday, May 26, while the City of Warrenville re-paves roadways and carries out other construction work along Batavia Road. Delays are expected to continue until early June, even after the entrance re-opens. Drivers and bicyclists should use Pine and Wilson Street

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the area near the negative cloud to the area near the positive cloud to even out the charge imbalance. As the air molecules regain electrons they emit the light seen above, which is similar to light from a flame or fluorescent lamp. Thunder results from the rapid heating of the surrounding air. (Click image for larger version.)

### In the News

#### ***Herald Tribune,* May 18, 2006:**

##### **Commitment to science**

The Tevatron collider at the Fermi National Accelerator Laboratory in Batavia, Illinois, looks from the sky like an enormous, moated ring. In the collider, subatomic particles are accelerated to extremely high speeds and crashed into each other within a detector chamber. The purpose is to capture a computerized image of the debris of each antiproton-proton collision. The particles that emerge - varieties of quarks and mesons, for instance - seem at first to have nothing to do with nature as we know it. Except, of course, that they have everything to do with how the universe was formed.

[Read More](#)

entrances until the work is completed. Pine Street entrance hours are 6:00 a.m. to 8:00 p.m. for the general public and 24 hours a day, 7 days a week for employees. The Wilson Road entrance hours are 6:00 a.m. to 6:00 p.m., Monday through Friday. For more information, contact Tom Prosapio at [prosapio@fnal.gov](mailto:prosapio@fnal.gov)

#### **2006 Users' Meeting at Fermilab, May 31- June 1**

The annual gathering of the Fermilab Users Organization will be held on May 31 and June 1, 2006. This meeting is an opportunity for discussion of new physics results from the laboratory's experimental program, future initiatives at the lab, and thoughtful presentations from leaders of the scientific policy community. For a complete schedule, [click here](#).

#### **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](#).

#### **C++ Course offered June 5**

On June 5, Fermilab will offer the first session of Accelerated C++, a short course in practical programming by example. You can register [here](#).

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