

## Calendar

### Monday, Aug. 18

PARTICLE ASTROPHYSICS SEMINARS WILL RESUME IN THE FALL

3:30 p.m.

DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over

4 p.m.

All Experimenters' Meeting - Curia II

### Tuesday, Aug. 19

3:30 p.m.

DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over  
THERE WILL BE NO ACCELERATOR PHYSICS AND TECHNOLOGY SEMINAR TODAY

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

## Weather



Sunny  
86°/62°

## Extended Forecast

## Weather at Fermilab

## Current Security Status

## Secon Level 3

## Wilson Hall Cafe

### Monday, Aug. 18

- Minestrone
- Parmesan quesadilla
- Baked chicken enchiladas
- Herbed pot roast
- Chicken melt
- Assorted slice pizza
- Szechwan green bean w/ chicken

## Wilson Hall Cafe Menu

## Feature

### SciBooNE wraps up data-taking

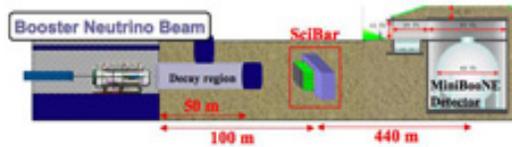


Diagram of the SciBooNE beamline. [Click on image for a larger version.](#)

SciBooNE's 14 months of data-taking provided quantities of data that will lead to never-before-recorded measurements of neutrinos and antineutrinos at low energies. These data will increase the efficiency of other neutrino research, including the next-generation experiment T2K in Japan.

The collaboration will stop taking data and start decommissioning its detector today.

SciBooNE released [preliminary results](#) (download slides) this month at the ICHEP conference and expects to publish results by the end of the year. The experiment was designed for  $2.0 \times 10^{20}$  protons on target and exceeded the goal, collecting  $2.5 \times 10^{20}$ .

SciBooNE's location as a near detector in the MiniBooNE beam path allowed it to study neutrinos before they oscillate, yet it sits far enough away from the neutrino source to avoid background particles from the initial beam.

The experiment recorded 30,000 neutrino events with good reconstructed tracks spanning all three subdetectors. The collaboration has yet to finalize the totals of antineutrino events and those contained solely in the SciBar subdetector. By next summer, all neutrino interactions should be analyzed for a presentation at a conference in Spain.

By using SciBooNE's data, experimenters on other neutrino projects can predict the probability of the type and number of particle interactions in the 1 GeV energy range. That

## Safety Tip of the Week

### Going dark to go green



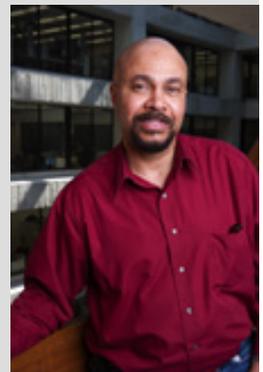
Wilson Hall's new energy-saving lighting plan will allow all non-essential lights to automatically switch off sometime between 5 p.m. and 7:30 p.m.

**Editor's Note:** This column was written by FESS's Rod Walton. Tim Miller's columns will resume Aug. 25.

There are a host of reasons, as individuals and as a laboratory, to do our best to conserve energy. Last March, Fermilab joined in Earth Hour 2008 by turning off all non-essential lights in Wilson Hall for one hour to demonstrate the energy saved by even minimal conservation measures.

Since then, John Kent, Wilson Hall building manager, has put into place new controls that significantly curtail energy use for lighting in Wilson Hall.

"In the old system, most lights in Wilson Hall were automatically shut off at around 11:30 p.m.," Kent said. That means that the roughly 6,000 fluorescent fixtures in the building burned from the time occupants left for the day until late at night.



**Chez Leon**

reduces the chance of misidentifying particles and should, for example, help T2K accurately predict the background of misidentified photons in its search for electron neutrino appearance.

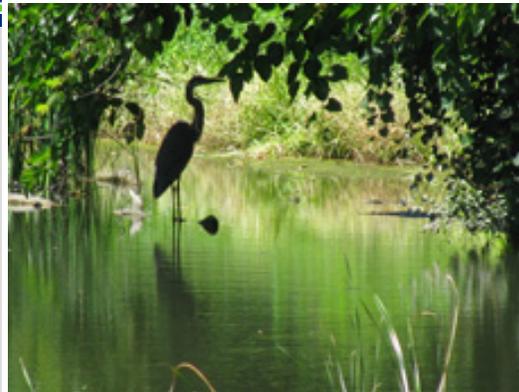
"It should improve the interpretation of T2K data, especially early on," said co-spokesperson Morgan Wascko, Imperial College London.

Data on muon neutrinos will add strength to MiniBooNE's results for neutrino disappearance. Also SciBooNE data showing the probability of seeing electron events should constrain the uncertainties in predicting electron neutrino appearance backgrounds.

Many of the 65 collaboration members serve on several neutrino experiments and also plan to work on the next generation of experiments.

"I think SciBooNE helped in many more ways than just with data," Wascko said. "It strengthened our network of collaborators from Japan and Europe."

-- Tona Kunz

**Photo of the Day****Heron seeks summer shade**

FESS's Sue Quarto submitted this photo of a great blue heron cooling off in the shade in a pond near site 38.

**In the News**

A floor-by-floor analysis [John Kent](#) conducted by Michael Irvin, a FESS summer student, led to a new system of lighting controls. The plan optimizes lighting on each floor to fulfill occupant lighting needs, while conserving energy whenever possible. Now, lights on most floors are automatically switched off sometime between 5 and 7:30 p. m. Kent and Irvin introduced the new plan to many building users when they assessed floor lighting needs.

"The new system keeps the lights off on average 3.26 more hours per day, resulting in an average savings of over 850 kilowatts per day," Kent said.

That translates to a savings of \$42 every day.

In the past Wilson Hall's bright lights were a visible symbol of the laboratory seen for miles around. Now, the relatively dark building now sends a message that subtle adjustments in our routines can result in significant savings of energy and money.

**Accelerator Update****August 13-15**

- Three stores provided ~ 43 hours and 45 minutes of luminosity
- Transformer failure on the Pbar lens
- Ground fault on MT5E magnet string

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

**Announcements****Have a safe day!****Fermilab's Mr. Freeze on TV tonight**

Jerry Zimmerman, Fermilab's Mr. Freeze, will be featured in a program called "City Science" tonight at 7:30 p.m. on Channel 20, WYCC.

**Megafoods lecture Sept. 12**

Megafoods are the largest known freshwater floods with flows comparable in scale to ocean currents. They are capable of inducing global changes in climate. Fermilab Lecture Series will present a lecture on these floods by Dr. Victor Baker from the University of Arizona on Friday, Sept. 12, at 8 p.m. Tickets are \$5. [More information.](#)

**Wednesday, Aug. 20  
Lunch**

- Shrimp & pasta salad
- Cherry turnovers

**Thursday, Aug. 21  
Dinner**

- Fresh tomato, mozzarella cheese with a basil dressing
- Grilled lamb chops
- Mushroom risotto
- Lemon sorbet with summer fruits

[Chez Leon Menu](#)

Call x4598 to make your reservation.

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Send comments and suggestions to:

[today@fnal.gov](mailto:today@fnal.gov)

## Quantum Physics Gets "Spooky"

From *ScienceNow Daily News*, Aug. 13, 2008

This might be a rare case about which Einstein was wrong. More than 60 years ago, the great physicist scoffed at the idea that anything could travel faster than light, even though quantum mechanics had suggested such a condition. Now four Swiss researchers have brought the possibility closer to reality. Testing a concept called "spooky action at a distance"--a phrase used by Einstein in criticizing the phenomenon--they have shown that two subatomic particles can communicate nearly instantaneously, even if they are separated by cosmic distances.

Alice's Wonderland had nothing on quantum physics, which describes a bizarre state of matter and energy. Not only can the same atom exist in two locations at once, but merely attempting to observe a particle will alter its properties. Perhaps least intuitive is the characteristic called entanglement. As described by quantum mechanics, it means that two entangled particles can keep tabs on each other no matter how far apart they are. Physicists have been trying for decades to determine whether this property is real and what might cause it. In the process, they've uncovered evidence for it but not much about its properties.

[Read more](#)

## Change in retiree medical plan premium

Effective Oct. 1 the cost of the Fermilab retiree medical plan will change. All retirees and employees will receive a letter with the details of the changes. The information is also available online as a [pdf file](#). The Benefits Office will hold two meetings to answer questions regarding the changes: Tuesday, Aug. 19, at 2 p.m. in Curia II, and Thursday, Sept. 11, at 2 p.m. in One West.

## AutoCAD classes offered in fall

The Office for Professional and Organization Development will offer AutoCAD classes this fall. AutoCAD Fundamentals will take place either Sept. 9-11 or Sept. 22-24. [Learn more and enroll](#). AutoCAD Intermediate will take place on Sept. 25-26. [Learn more and enroll](#).

## Aug. 21 deadline for The University of Chicago Tuition Remission Program

The deadline to apply for the tuition remission program at The University of Chicago for the Fall 2008 quarter is Aug. 21. For more information and enrollment forms, contact Nicole Gee at x3697 or visit the [Web site](#).

## Take Fermilab's Diversity Survey

Give input on what employee clubs you belong to, what clubs you want formed and how the laboratory should celebrate its diversity through a [survey](#), due Aug. 25. The results will help the Planning Group for Multicultural Events, a subcommittee of the Diversity Council formed last July, select celebration activities such as lectures, displays and performances for an event on Oct. 17. [Read more](#).

## [Additional Activities](#)