

Calendar

[Have a safe day!](#)

Monday, August 17
PARTICLE ASTROPHYSICS
SEMINARS WILL RESUME IN
THE FALL

3:30 p.m.
DIRECTOR'S COFFEE
BREAK - 2nd Flr X-Over
THERE WILL BE NO ALL
EXPERIMENTERS' MEETING
THIS WEEK

Tuesday, August 18
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.

Campaigns

[Take Five](#)

[Tune IT Up](#)

Weather



Scattered
thunderstorms
86°/66°

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

Current Security Status

[Secou Level 3](#)

Wilson Hall Cafe

Feature

Back to school with cutting-edge science



Jeremy Smith (left), a physics teacher at Hereford High School in Maryland, worked with Fermilab physicist Juan Estrada during his first summer in the DOE ACTS program. Here, Smith and Estrada test components they plan to install in a dark matter detector.

Next fall, students at Hereford High School in Baltimore County, Maryland, will get a peek at cosmic rays streaming into their classrooms from sources light-years away. They'll hear firsthand tales of working with some of the world's smartest scientists. If they're lucky, they'll get to try out a device designed to detect dark matter, one of the universe's most mysterious substances.

And that's just the beginning of what teacher Jeremy Smith hopes to bring back for students from eight weeks of research at Fermilab.

Smith is one of 11 teachers working at the laboratory through the Department of Energy's Academies Creating Teacher Scientists program. The three-year ACTS program brings middle and high school teachers to national laboratories across the country, where they spend one to two months each summer immersed in pioneering research. High school teachers such as Smith take part in a different area of Fermilab research each year, while middle school teachers focus on research in the first year and education issues in the second and third years.

"We help teachers build the skills needed for scientific investigation, and we show them ways to translate that into classroom practice," said Spencer Pasero, education program

ES&H Tips of the Week - Safety

Safety monitors need their own monitoring



A personal oxygen monitor and a pocket dosimeter tossed into a drawer. Will you remember where they are? Will they work?

Portable ES&H monitoring instruments provide users with information about potentially hazardous conditions, but only if you know where to find them and how best to use them.

At Fermilab, the most common monitors measure ionizing radiation and oxygen deficiency. In order for them to be useful, these instruments must be calibrated as well as available to the people who need them. Unfortunately, smaller devices tend to get squirreled away, forgotten about and fall out of calibration. The number of instruments lost has been steadily increasing during each of the past five years, according to the ES&H Section's Instrument Calibration Team Manager, Butch Hartman.

Currently, unaccounted for are 181 personal oxygen monitors and hundreds of ionization chamber pocket dosimeters, Hartman said.

While keeping track of your monitoring equipment is important, you also need to keep it in working order. Here are two ways to properly manage your equipment so that it provides the information you need to work safely.

- Don't use instruments that are beyond their "due calibration" dates. These devices can only be expected to provide accurate readings up to these dates.
- Turn in unused instruments. If you are aware of your organization's procedures for

Monday, August 17

- French Quarter gumbo
- French Dip w/horseradish cream sauce
- Santa Fe pork stew
- Country baked chicken
- *Spicy hot Greek wrap
- Assorted sliced pizza
- Sweet n' sour chicken w/egg roll

*Carb restricted alternative

[Wilson Hall Cafe Menu](#)

Chez Leon

Wednesday, August 19
Lunch

- Cumin and chipotle glazed pork loin w/ apple salsa
- Roasted sweet potatoes
- Pear tart

Thursday, August 20
Dinner

- Fresh mozzarella & tomato salad
- Garlic shrimp w/ red peppers & wild mushrooms
- Lemongrass rice
- Sautéed spinach w/ garlic & lemon
- Brandy flan

[Chez Leon Menu](#)

Call x3524 to make your reservation.

Archives

[Fermilab Today](#)

[Result of the Week](#)

[Safety Tip of the Week](#)

[User University Profiles](#)

[ILC NewsLine](#)

Info

leader at Fermilab. "We also give them tools to make a broader impact at their home school," he added, noting that the middle school teachers are currently devising a professional development program for fellow teachers at their home schools.

Before this summer, Smith said he knew only the basics about dark matter and dark energy. Now, he's working with Fermilab astrophysicist Juan Estrada to develop a detector for possible dark matter particles.

"I'm trying to get Jeremy involved in all parts of the process," Estrada explained. "First, I had him looking at data we collected in the past. Then he worked on the calibration of our detector, and now he is learning about how detectors function at the level of the hardware itself."

Smith can't wait to take the lessons—and, pending a small grant, some surplus particle detectors—back to school.

"Kids get very excited about astrophysics," he said. "To have this experience, working on the real research projects, is very valuable."

-- *Rachel Carr*

Photo of the Day

Office of Science director, deputy director get behind-the-scenes Fermilab tour

On Thursday, Department of Energy Office of Science Director William Brinkman visited Fermilab with Office of Science Deputy Director for Science Programs Pat Dehmer and Associate Director of Science for High Energy Physics Dennis Kovar. After listening to a briefing given by Fermilab Director Pier Oddone about the future of the laboratory and discussing the scientific opportunities with Fermilab theorists, the group received a tour of the CDF experiment, NuMI tunnel and the MINOS detector.

turning in instruments, then you should follow them. Otherwise, you can take monitors to the ES&H Section's Radiation Physics Calibration Facility (RPCF) located at the east side of Site 38. Contact Butch Hartman at X5514 or at bhartman@fnal.gov.

--*Tim Miller, ES&H associate head*

[Safety Tip of the Week Archive](#)

Tune IT Up

Tune IT Up Q&A

Q: I cannot complete the [IT assessment](#) because the system does not recognize the property tag # SI-xxxxx. What should I do?

A: Property tags that begin with the letters SI are no longer in use. If your computer has another tag, such as a blue CD-system tag starting with the letter 'S' or a yellow property tag with just a number on it, use that instead.

Q: I have a computer that is not currently in use or even powered. Do I need to enter information about it in the Tune IT Up assessment?

A: If you do not expect to use the computer again, please take it to the Prep counter at the Feynman Computing Center, just beyond the main doors on the East side. If you would like to keep the information on your hard drive, you can store it on an external device or call your system administrator for help.

If you keep the computer, please fill out the assessment for it. We recommend keeping computers on the network and powering them up at least once every few weeks so that the operating system can be upgraded, patches installed, and antivirus signatures kept reasonably current.

Learn more on the [Tune IT Up Web site](#).

Shutdown Update

Fermilab Today

is online at:

www.fnal.gov/today/

Send comments and

suggestions to:

today@fnal.gov

Visit the Fermilab

[home page](#)



CDF's Britney Rutherford of Fermilab (far left) and DZero's Dale Johnston of the University of Nebraska (far right) give William Brinkman, Pat Dehmer and Dennis Kovar (center, left to right) a tour of the CDF detector.



Fermilab Director Pier Oddone explains the MINOS experiment to DOE Office of Science Director William Brinkman (right) as they walk through the NuMI tunnel, 350 feet underground.

In the News

August 7 - 14

- Linac: H- operational
- Booster: GMPS work 95 percent complete
- Pbar: Kicker upgrade 95 percent complete
- MI: On schedule for beam on Aug. 31
- Recycler: should be able to close up the Pelletron by Aug. 19
- TEV: 10 of the 12 bad stands have been replaced
- Safety: Two back strains in the past week

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Announcements

Time and Labor Announcement

[Argentine Tango through Sept. 9](#)

[Bowlers wanted](#)

[English country dancing, with potluck](#)

- Aug. 16

[Thai Village restaurant discount](#)

[The University of Chicago Tuition](#)

[Remission Program Aug. 17 deadline](#)

[Argentine Tango through Sept. 9](#)

[Fermilab Blood Drive Aug. 25 and 26](#)

[What's New in NI LabVIEW 2009?](#)

[Aug. 27](#)

[URA Visiting Scholars Program now accepting applications](#)

[Bristol Renaissance Faire discount tickets](#)

[Six Flags Great America discount tickets](#)

[Raging Waves Waterpark online discount ticket program](#)

[Mosaico Hispanico - celebrating Hispanic music and dance - Sept. 19](#)

[Sign up for fall Science Adventures classes](#)

[Muscle Toning Class - Aug. 4 - Sept. 28](#)

Running at half-energy keeps LHC in race for discoveries

From *Science*, Aug. 14, 2009

The world's largest atom smasher will finally start blasting particles together this winter, but at only half of its maximum energy, officials at the European particle physics laboratory, CERN, near Geneva, Switzerland, decided last week. Officials say that energy is low enough to ensure that the 27-kilometer-long, \$5.5 billion Large Hadron Collider (LHC) will not wreck itself the way it did last fall, just 9 days after circulating its first beams (*Science*, 26 September 2008, p. 1753). But the energy is also high enough, physicists say, to give the LHC a shot next year at surpassing its rival, the aging Tevatron collider at the Fermi National Accelerator Laboratory in Batavia, Illinois, which holds the record for the highest-energy collisions.

CERN officials have dialed down the energy to keep from overloading faulty electrical connections between the thousands of superconducting magnets that guide protons around the LHC (*Science*, 31 July, p. 522). Current doesn't normally flow through the questionable connections, but they need to be able to carry thousands of amps should the superconducting wire in the magnets warm up and lose its ability to carry electricity without resistance. Running at half-energy, "we have a safety margin of 2 or 2.5," says Stephen Myers, director of accelerators and technology at CERN. "It's a very conservative approach."

[Read more](#)

[Yoga class - Aug.11 - Sept. 29](#)

[Office 2007 New Features class offered in September](#)

[Buttered Rum performs at Fermilab Arts Series Oct. 24](#)

[Fred Garbo Inflatable Theatre at Fermilab Arts Series - Nov. 7](#)

[Process piping \(ASME B31.3\) class offered in October and November](#)

["The Night Before Christmas Carol" - holiday fun at Fermilab Arts Series - Dec. 5](#)

[Additional Activities](#)

[Submit an announcement](#)