

## Calendar

### [Have a safe day!](#)

Friday, March 5

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

4 p.m.

Joint Experimental-Theoretical

Physics Seminar - One West

Speaker: Mike Albrow,

Fermilab

Title: Central Exclusive

Production: from Glueballs to

Higgs Bosons

Monday, March 8

2:30 p.m.

[Particle Astrophysics Seminar](#)

- Curia II

Speaker: Rodger Thompson,

University of Arizona

Title: Observational

Determinations of the Proton to

Electron Mass Ratio in the

Early Universe

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

4 p.m.

All Experimenters' Meeting -

Curia II

Special Topics: COUPP 4 kg

Detector Run; E-906/SeaQuest

Installation

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

## [Upcoming conferences](#)

### Campaigns

## [Take Five](#)

## [Tune IT Up](#)

### H1N1 Flu

## Milestones

### Deaths

Steve Gordon, a CDF cryogenics engineer and 30-year employee, died on Feb. 27.

Memorial visitation will be held 3-5 p.m. on Saturday, March 6, at Moss Family Funeral Home, 209 S. Batavia Ave. (Rte. 31) in Batavia. A memorial service will follow the visitation at 5 p.m. You can read Steve Gordon's obituary [here](#). An In Memoriam will appear next week in *Fermilab Today*.

### Birthdays

Victor Yarba, Technical Division associate head, turned 75 on Feb. 1. Read more about his life in the most recent issue of the [CERN Courier](#).

Submit your [milestones](#) to *Fermilab Today*.

## Feature

### Teens master particle physics from afar



[Fermilab's Ionis Katsanos and Jake Anderson parse CERN results with high school physics students via video conference.](#)

Last Friday morning, Fermilab's One East conference room looked rather empty—just four men parked in front of laptops. However, thanks to the magic of video conferencing, more than 50 high school students from around the country and as far away as Austria joined the men for a particle physics master class.

QuarkNet, a federally funded particle physics education program, partners with Fermilab and CERN to conduct the annual series of classes, where students learn to analyze

## Recovery Act Feature

### NOvA detector to sit under uniquely protective roof



[New Riverside Ochre company separates barite of different qualities at its barite processing mill.](#)

The NOvA facility under construction in Ash River, Minn., will shield a large, sensitive neutrino detector from distracting subatomic particles such as cosmic rays that rain on the Earth from space.

The NOvA collaboration found one important piece of its armor in the red clay of Georgia. In October 2009, the laboratory used about \$400,000 in American Recovery and Reinvestment Act funds to purchase and transport about 1,200 tons of barite, a dense type of rock, from New Riverside Ochre Company Inc. in Cartersville, Ga.


The collaboration will install a six-inch layer of barite, which is 60 percent heavier than a six-inch layer of common granite, on the roof of the detector building. This unique set of shingles “will do the same job as about 4 feet of concrete,” said geologist Stan Bearden, vice president of operations for New Riverside Ochre Company.

Barite is most commonly used in a muddy type of drilling fluid that miners pump into boreholes to prevent the sudden release of pressure while drilling for oil or gas. It is also used in products as varied as brake pads, glass, tennis balls and refrigerator magnets.

But Fermilab is most interested in its ability to interact with cosmic rays. If a cosmic ray were to penetrate unseen into the NOvA detector and bump into a particle in the liquid scintillator inside, it could result in a shower of particles, which could be mistaken for an

For information about H1N1, visit Fermilab's flu information [site](#).

## Weather

 Mostly sunny  
42°/24°

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

## Current Security Status

### Secon Level 3

## Wilson Hall Cafe

Friday, March 5

- Breakfast: Chorizo burrito
- Old-fashioned ham & bean soup
- Cajun fish sandwich
- Chicken pot pie
- Baked fish over rice
- Roasted veggie & provolone panini
- Assorted sliced pizza
- Baked potatoes

[Wilson Hall Cafe menu](#)

## Chez Leon

Wednesday, March 10  
Lunch

- Vegetarian meal
- Tex-Mex peppers
- Latin fried rice
- Vanilla flan w/ mango sauce

Thursday, March 11  
Dinner

- Closed

[Chez Leon menu](#)

Call x3524 to make your reservation.

## Archives

actual data from particle detectors. Hour-long video conferences wrap up more than eight hours of education and activities. This marks the fourth year Fermilab has hosted the video conferences; more than 400 students at more than 18 U.S. institutions took part.

QuarkNet staff member Kenneth Cecire said that this year, students were getting an extra treat. In addition to data from CERN's defunct LEP electron-positron collider, students had the chance to dissect a particle event display from the Large Hadron Collider's December run.

"This is not simulated," Cecire said. "This is hot off the accelerator."

Under Cecire's practiced eye, Fermilab CMS research associate Jake Anderson and University of Nebraska researcher Ioannis Katsanos moderated as students from Ohio, Indiana and Vienna presented their analyses of Z boson decays from the LEP. There was lively discussion of muon trails, and general agreement that taus were difficult to pinpoint. All three groups came to very similar conclusions.

The LHC results proved far more perplexing. Katsanos explained why. "The LEP is like colliding a bunch of cherries together," he said. "For the LHC, it's as if you're colliding two cherry pies together. It gets very messy."

As Cecire prepared for the next video conference, scheduled for that afternoon, he seemed pleased with the morning's proceedings.

"I'd say it was a success," Cecire said. "The kids spoke up, they had something to say, and they were engaged with the data."

-- *Andrea Mustain*



interaction caused by a neutrino. If the cosmic rays interact with the barite on the roof instead, the resulting particles will shower at the edge of the NOVA detector and will be easier to classify as the result of a cosmic ray, not a neutrino.

New Riverside Ochre Company is family-owned; current owner Jim Dellinger's grandfather, William Satterfield, founded it in 1905. It now has 31 employees and is the leading producer of high-grade barite and natural iron-oxide pigments in the United States.

The company managed to complete the order in about one month. Now the rock is waiting in storage in Virginia, Minn., to take its protective place next fall.

-- *Kathryn Grim*

## Announcements

### Latest Announcements

[Fermilab blood drive had a \\$100 gas card winner](#)

[Yoga class begins March 9](#)

[Calling all softball players](#)

[Argentine Tango through March 31, student discount](#)

[Barnstormers Delta Dart Night - March 10](#)

[On-site housing for summer 2010 - March 8 deadline](#)

[Employee discount offered at Batavia Rosati's](#)

[Harlem Globetrotters special ticket price - April 15](#)

[Qi Gong, Mindfulness and Tai Chi Easy for Stress Reduction](#)

[International Folk Dancing, Thursday evenings at Kuhn Barn](#)

[Hiring summer students for 2010](#)

[Deadline for The University of Chicago Tuition Remission Program - March 5](#)

[Fermilab Today](#)[Result of the Week](#)[Safety Tip of the Week](#)[User University Profiles](#)[ILC NewsLine](#)[Info](#)

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is online at:

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[home page](#)

Fermilab's Ioannis Katsanos and Jake Anderson parse results with three high school classes via video conference.

[In the News](#)**Hogan's noise**

From **Science News**, posted Feb. 26, 2010

*A cosmologist suggests a novel way to uncover the nature of spacetime on the smallest scales*

Oh, the noise!

Oh, the noise! Noise! Noise! Noise!

That's the one thing he hated!

The NOISE! NOISE! NOISE! NOISE!

— Dr. Seuss, How the Grinch Stole Christmas

The Grinch detested the noise created by the tiny residents of Whoville. Cosmologist Craig Hogan, in contrast, has become enamored of a noise he claims is generated by something even tinier — a minuscule graininess in the otherwise smooth structure of spacetime.”

Call it Hogan's noise. Many physicists are skeptical, but if his hunch about the existence of this subatomic clatter proves correct, it could have a mind-boggling implication: that the entire universe is nothing more than a giant hologram.

[Read more](#)

[English country dancing - March 7](#)

[New Bible discussion starting March 9](#)

[DreamWeaver CS3: Intro offered March 9 or March 16](#)

[Interpersonal Communication Skills offered March 16](#)

[Word 2007 Advanced class - March 16](#)

[Facilitating Meetings That Work course offered March 17](#)

[Adaptive Leadership: Coaching for Individual Differences class - March 9](#)

[Art Gallery Talk - Virginia Broersma - March 10](#)

[Excel Power User / Macros class - March 11](#)

[Influence and Motivation: The Empowering Leader course - March 24](#)

[PowerPoint 2007 Advanced course - March 25](#)

[Excel Programming with VBA class - March 30 and April 1](#)

[FRA Scholarship 2010](#)

[Conflict Management and Negotiation Skills - March 10](#)

[Introduction to Argentine Tango series of classes - FREE](#)

[Submit an announcement](#)

Classifieds

Find new [classified ads](#) on *Fermilab Today*.