

## Calendar

### Thursday, December 15

**11:00 a.m.** Academic Lecture Series - 1 West

Speaker: P. Langacker, Fermilab/ University of Pennsylvania

Title: Tests of the Electroweak Theory – Lecture 6

**2:30 p.m.** Theoretical Physics Seminar - Curia II

Speaker: R. Dermisek, Princeton University

Title: Higgs Where It Should Be

**3:30 p.m.** Director's Coffee Break - 2nd Flr X-Over

**4:00 p.m.** Accelerator Physics and Technology Seminar - 1 West

Speaker: V. Dudnikov, Brookhaven Technology Group, Inc.

Title: E-Cloud Effect

### Friday, December 16

**3:30 p.m.** Director's Coffee Break - 2nd Flr X-Over

**4:00 p.m.** Joint Experimental Theoretical Physics Seminar - 1 West

Speaker: M. Demarteau, Fermilab

Title: The SiD Detector Design Study and Detector R&D at Fermilab for the ILC

## Weather



Snow 20°/7°

[Extended Forecast](#)

[Weather at Fermilab](#)

## Current Security Status

[Secou Level 3](#)

## Bush Nominates Orbach for Under Secretary for Science

President Bush plans to nominate

Raymond L. Orbach, Director of the Office of Science at the Department of Energy, to be Under Secretary for Science at the Department of Energy.



Ray Orbach

The announcement was made yesterday, December 13, 2005.

[Read More](#)

## "Perfect" Curator Speaks to Students in Fermilab Gallery

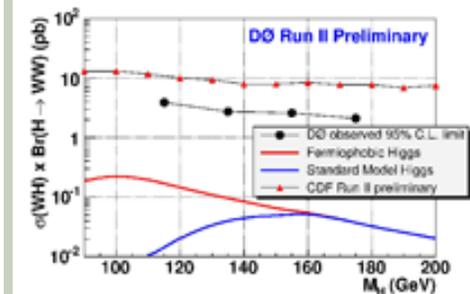


Marci McDade (right), artist and curator of the "Perfect" exhibit, and Georgia Schwender, Fermilab Gallery curator, stand in front of McDade's needlepoint piece titled "Fathom." (Click on image for larger version.)

Marci McDade, the curator of the exhibit "Perfect" on display in the Fermilab Art Gallery, spoke to a group of juniors and seniors from East St. Charles High School yesterday in Wilson Hall's second floor crossover. In her talk, McDade emphasized the importance of flexibility in art. "Try different approaches," she told the group. "Be open to new creative outlets; defining yourself as one kind of artist can limit your potential." McDade started her training as a filmmaker at

## Fermilab Result of the Week

### Wrangling W's in Search of Higgs



Preliminary exclusion limits on the Higgs production cross section in the WH-> WWW channel obtained by CDF and D0. (Click on image for larger version.)

The Higgs boson (H), a mysterious particle thought to be at the origin of the mass of all elementary particles, remains the last undiscovered piece of the Standard Model. If the Higgs mass is relatively large (above 140 GeV), it predominantly decays into a pair of W bosons. This is also true for lower H masses if, as predicted in some models, the Higgs boson couples only to the Ws.

At the Tevatron, the majority of Higgs bosons would be produced without any other particles. However, the observation of the H->WW process is experimentally challenging due to the large number of events containing two W's that did not involve the Higgs. Sometimes the Higgs boson is produced in association with a W boson. If the Higgs itself then decays to two W bosons one is left with a very unique event--an event containing three W bosons. These events, which are labeled WH->WWW, occur at a much lower rate but are much less likely to be confused with other types of events. When the W bosons subsequently decay

**Wilson Hall Cafe****Thursday, December 15**

- Minnesota Wild Rice w/Chicken
- Tuna Melt on Nine Grain
- BBQ Ribs
- Chicken Casserole
- Buffalo Chicken Wrap
- Mexican Pizza
- Chicken Pecan Salad

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

[Wilson Hall Cafe Menu](#)

**Chez Leon****Thursday, December 15****Christmas Dinner**

- Chestnut Soup w/Cognac Cream
- Lobster Medallions w/Champagne Sauce
- Sauteed Pea Pods
- Spaghetti Squash w/Green Onions
- Spinach & Pomegranate Salad
- Raspberry Parfaits w/Christmas Cookies

**Wednesday, December 21****Lunch**

Closed [Chez Leon Menu](#)

Call x4512 to make your reservation.

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**Info**

Columbia College of Chicago but she currently works with embroidery.

The students in attendance were part of a studio art class taught by St. Charles resident Becky Blaine, who says that this trip was important for the students who are currently developing their artistic portfolios. "I think they were mesmerized," she said. "Hearing Marci speak brought a richness to the work." Blaine says that the other parts of the field trip include a viewing of artwork by other students at a nearby high school, and a trip to an art studio in Aurora. "Just seeing work done by artists and reading about it is not enough," she said. "The students needed to see the process and hear from the artists themselves."

—*Siri Steiner*

**Science Grid This Week****Distributed Classes For Distributed Computing**

Sites participating in the Fall 2005 Grid Computing course. Image Courtesy Barry Wilkinson. (Click image for larger version.)

Grid computing is all about bringing together distributed resources, data and people, so it's fitting that one of the first undergraduate courses in grid computing would also be distributed. Since fall semester 2004, 75 students across North Carolina have learned about grid computing with the help of faculty from several institutions and the North Carolina Research and Education Network.

"This course brings state of the art computing into the undergraduate

to electrons or muons, one is left with about the cleanest signature one can at the Tevatron and the only significant physical background being WZ production with subsequent leptonic decays.

DZero has conducted an analysis looking for the production of Higgs bosons with this event signature. No evidence for the Higgs has been found using this approach but the resulting limit does not yet rule out its existence. The sensitivity will improve as Run II continues. If nature is kind to us, this approach combined with searches in other channels will give us the opportunity to discover the elusive Higgs particle.



Alexandre Khanov of Oklahoma State University has worked on this analysis. (Click image for larger version.)



Ursula Bassler, LPNHE, Paris has made important contributions to reconstructing information from the DZero calorimeter which has played an important role in many analyses, including this one. (Click image for larger version.)

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curriculum," said Barry Wilkinson from the University of North Carolina at Charlotte. "In this class the NCREN wasn't just used to transmit lectures; it was also used to create a grid infrastructure for the students."

[Read More](#)

### In the News

#### From *Chicago-Sun Times*, December 10, 2005:

##### Fermilab: Leak not harmful

Staff members from Fermilab trudged through the falling snow Thursday, delivering letters to every home in the Savannah subdivision on Aurora's northeast side, alerting residents to the presence of radioactive materials in Indian Creek.

But Fermilab scientists said residents should not be alarmed.

Small amounts of tritium, a radioactive isotope of hydrogen, were discovered in the creek by lab staff performing routine environmental tests, said Fermilab spokeswoman Judy Jackson. Indian Creek starts on Fermilab property and runs southwest into a pond at the center of the Savannah subdivision, at the corner of Kirk and Butterfield roads.

"Never in 30 years of testing the creek have we seen any sign of tritium," Jackson said. "We immediately retested to confirm what we were seeing."

[Read More](#)

### [Result of the Week Archive](#)

### Accelerator Update

#### December 12 - 14

- Two stores provided five hours and 14 minutes of luminosity
- TeV F0 ground fault found and corrected
- TeV suffers 3 quenches
- Booster LCW leak found and repaired
- TeV F17 collimator problem

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

### Correction

Yesterday's story about Fermilab APS Fellows mentioned only three recipients, but there are actually four. Klaus Honscheid of Ohio State University has been named an American Physical Society Fellow "for contributions to our understanding of hadronic B meson decays and the development of advanced data acquisition systems." Honscheid, who was nominated by the Division of Particles and Fields for his work on BTeV, was inadvertently omitted. We regret the error.

### Announcements

#### Fermilab Folk Club Barn Dance

The barn dance will be Sunday, December 18 at 2 p.m. with music by the Dust Devils and calling by Tony Scarimbolo. [More information.](#)

#### Recreation Adult Group Outing Dinner & Theater at Pheasant Run

Pheasant Run Resort & Spa presents "Accomplice" by Rupert Holmes, Saturday, March 4. The price is \$35.00 per person, which includes dinner buffet and theater, taxes and gratuity. Call or

stop by the Recreation Office x5427, x2548 to pick up a brochure and registration form. The deadline is February 17. More information can also be found on the [recreation Web page.](#)

[Upcoming Activities](#)