

## Calendar

[Have a safe day!](#)

Wednesday, Nov. 4  
3:30 p.m.

DIRECTOR'S COFFEE  
BREAK - 2nd Flr X-Over  
THERE WILL BE NO  
FERMILAB COLLOQUIUM  
THIS WEEK

Thursday, Nov. 5  
1:30 p.m.

[Special Particle Astrophysics](#)

[Seminar](#) - One West

Speaker: Daniel Grin,  
California Institute of  
Technology

Title: Cosmological Hydrogen  
Recombination: The Effect of  
High-n States and Forbidden  
Transitions

2:30 p.m.

[Theoretical Physics Seminar](#) -

Curia II

Speaker: Peter Graham,  
Stanford University

Title: A Domino Theory of  
Flavor

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](#)

[H1N1 Flu](#)

## Recovery Act Feature

### NOvA gets full construction approval



Construction workers prepare to pour concrete for the loading dock at the future site of the NOvA detector on Oct. 20 in Ash River, Minn.

NOvA experiment collaborators have more to celebrate this holiday season.

The neutrino experiment recently received Critical Decision-3b approval from the Department of Energy. The decision signifies approval for the start of full construction. DOE had approved long-lead procurements and limited construction activities for the NOvA experiment when they granted CD-3a approval in October 2008. Fermilab now can continue construction of buildings on the Fermilab site and in Ash River, Minn., as well as complete the Fermilab accelerator upgrades and start neutrino detector fabrication.

"This is a big deal," said NOvA project manager John Cooper. "This means we can move forward on the full project scope within the constraints of approved funding by Congress."

Scientists will use the NOvA experiment to analyze the mysterious behavior of neutrinos and look for muon neutrinos oscillating to electron neutrinos. Ultimately, scientists hope to understand whether neutrinos contributed to the imbalance between matter and antimatter that enables our matter-dominated universe (including ourselves) to exist.

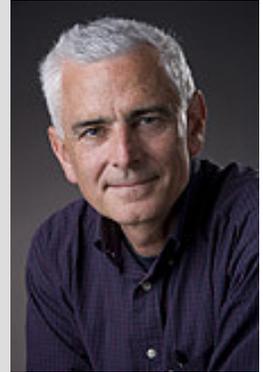
The experiment involves 180 scientists from some 28 institutions who have worked hard to get the experiment ready for full

## From Center for Particle Astrophysics

### JDEM: Je t'aime, je ne t'aime pas

*Craig Hogan, the head of the Center for Particle Astrophysics, wrote this week's column.*

In recent years, Fermilab's long-term strategic vision has included a leading role in JDEM, the proposed Joint Dark Energy Mission satellite. Scientists thought the space-based mission, funded jointly by NASA and the Department of Energy, was the best option to explore dark energy, the mysterious force that drives the universe apart.



Craig Hogan

Now it looks like JDEM might not have the field to itself. A [report](#) of HEPAP's Particle Astrophysics Science Assessment Group, [presented](#) at the HEPAP meeting last month, cautions that even in the most optimistic budget scenarios, future dark energy studies need to be "executed through the most cost-effective combination of ground and space approaches."

What's going on here? Only two years ago, a high-profile National Research Council study on NASA's Beyond Einstein program gave JDEM its blessing: "A JDEM mission selected in 2009 could proceed smoothly to a timely and successful launch." That hasn't happened.

The reason for PASAG's caution is simple. The last two years of mission studies have shown that a wide-field, detailed cosmic survey with a large, space-based telescope, multiple modalities, gigabyte detectors and petabytes of data is very expensive. It seems that we can get many answers more quickly with a balanced program that includes cost-effective ground-based programs such as the Large Synoptic Survey Telescope or BigBOSS, a large spectroscopic survey. These projects are like souped-up versions of the Sloan Digital Sky Survey and the Dark Energy Survey that Fermilab is working on now, and they seem to offer faster and cheaper ways to find out why the universe is

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

## Weather

 Chance of showers  
47°/33°

[Extended Forecast](#)

[Weather at Fermilab](#)

## Current Security Status

[Secon Level 3](#)

## Wilson Hall Cafe

Wednesday, Nov. 4

- English muffin sandwich
- Portobello harvest grain
- Santa Fe chicken quesadilla
- Hoisin chicken
- Parmesan fish
- Cuban panini
- Assorted slices of pizza
- Pesto shrimp linguini with leeks and tomatoes

[Wilson Hall Cafe Menu](#)

## Chez Leon

Wednesday, Nov. 4

- Lunch
- Pork braciolo
  - Latin fried rice
  - Pineapple flan

Thursday, Nov. 5

- Dinner
- Red pepper soufflé with julienne of zucchini
  - Lobster tail with drawn butter
  - Spaghetti squash with scallions
  - Steamed green beans with dill
  - Crème brûlée

[Chez Leon Menu](#)

Call x3524 to make your reservation.

## Archives

construction.

"So many people have worked so long and hard to reach this point within the NOvA collaboration and the project management — it is a great feeling to have this level of support and approval from DOE," said Pepin Carolan, DOE NOvA project director. "The team is very highly motivated to move full steam ahead to get the work done safely, on schedule and within budget, and then to get on with the science."

Carolan also pointed out that the project's success was made possible by the partnership between Fermilab and the University of Minnesota. A cooperative research agreement between the U.S. Department of Energy and the University of Minnesota supports the construction of a NOvA facility.

The American Recovery and Reinvestment Act provided a total of \$55 million (to Fermilab and the University of Minnesota) toward completion of the NOvA project. This includes funding supporting purchase of key high-tech components and commodities for the detector from U.S. companies, allowing these firms to retain and hire workers. It also includes the funding for the University of Minnesota's contract to construct the detector hall in Ash River, Minn., awarded in May 2009.

Read [articles](#) about work for NOvA funded by the ARRA.

— *Rhianna Wisniewski*

## November moon



A construction worker placing concrete forms for the NOvA service facility.

accelerating.

Last month, NASA put out a call for scientists to work on plans for a smaller, cheaper JDEM, and Fermilab astrophysicists have applied. Although it likely won't be the comprehensive survey mission many dreamed of, JDEM still could make some critical measurements from space that are impossible from the ground.

The science goals for dark energy research remain compelling. We'll know more about the shape of the future program after Astro2010, the ongoing Decadal Survey in Astronomy and Astrophysics by the National Research Council, delivers its verdict on priorities for many large projects next summer.

## Safety Update

## ES&H weekly report

This week's safety report, compiled by the Fermilab ES&H section, includes no injuries. We have now worked 12 days since the last recordable injury. Find the full report [here](#).

[Safety report archive](#)

## Announcements

### Latest Announcements

[International folk dancing begins Thursday night at Kuhn Village barn](#)

[Volunteer opportunity meeting - Nov. 6](#)

[On-site prescription eyewear technician absent today](#)

[Facilitating Meetings That Work class today](#)

[Badminton open house today](#)

[Fermilab's NALWO History of Wool Brown Bag Lunch - Nov. 10](#)

[Argentine Tango at Fermilab begins today](#)

[Fermi Martial Arts classes now in session](#)

[Coed indoor volleyball starts in November](#)

[Fermilab Today](#)

AD's Greg Vogel took this photograph of the moon on Nov. 1 from his balcony. The next full moon is Dec. 2.

[Result of the Week](#)[In the News](#)[Safety Tip of the Week](#)**Fermi Telescope finds more new pulsars**[CMS Result of the Month](#)

From *symmetry breaking*, Nov. 2, 2009

[User University Profiles](#)

Today at the 2009 Fermi Symposium in Washington DC, postdoctoral researcher Lucas Guillemot of the Max Planck Institute reported that the Fermi Gamma-ray Space Telescope has detected eight more pulsars that had not been seen in other wavelengths of light, bringing the total of these gamma-ray-only objects to 24. It also bagged one new gamma ray millisecond pulsar. However, Guillemot said these results are preliminary and have not been submitted for publication yet.

[ILC NewsLine](#)[Info](#)[Fermilab Today](#)

is online at:

[www.fnal.gov/today/](http://www.fnal.gov/today/)

Send comments and

suggestions to:

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

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Pulsars are the remnants of supernovas - stars that run out of fuel, expand and then collapse into masses heavier than the sun but with an average radius of only 10 km. Pulsars emit powerful jets of radiation, and as they rotate the radiation sweeps across the cosmos like the beam from a light house. From Earth, it looks as though the neutron star's light is pulsing on and off.

[Read more](#)

[Travelers must complete profile for TSA](#)

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

[PowerPoint Tips and Tricks - Nov. 11](#)

[Access 2007: Intermediate - Nov. 18](#)

[Process Piping \(ASME B31.3\) class begins Nov. 11](#)

[HTML Intro: Intro to Web Publishing class - Dec. 1](#)

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

[Discount movie tickets available](#)

[Chicago Bulls discount tickets](#)

[Chicago Blackhawks discount tickets](#)

[Thai Village restaurant discount](#)

[Additional activities](#)

[Submit an announcement](#)