

Calendar

Tuesday, Jan. 27
3:30 p.m.
 DIRECTOR'S COFFEE
 BREAK - 2nd Flr X-Over
 THERE WILL BE NO
 ACCELERATOR PHYSICS
 AND TECHNOLOGY
 SEMINAR TODAY

Wednesday, Jan. 28
3:30 p.m.
 DIRECTOR'S COFFEE
 BREAK - 2nd Flr X-Over
4:00 p.m.

[Fermilab Colloquium](#) - One West
 Speaker: Nina Hinrichs, University of Chicago
 Title: Modeling Molecular Dynamics from Simulations

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

Weather

 **Snow shower**
16°/4°

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

Current Security Status

[Secon Level 3](#)

Wilson Hall Cafe

Tuesday, Jan. 27
 - Chicken & rice soup
 - Smart cusine: *Low carb burger
 - Smart cusine: Beef stroganoff
 - Smart cusine: Chicken lemon
 - Peppered beef
 - Assorted sliced pizza
 - Chicken tostada

**Denotes carb-restricted alternative*

[Wilson Hall Cafe Menu](#)

Chez Leon

Feature

NOvA experimenters busy in 2009



A stack of 53-foot- long plastic extrusions ready to be loaded onto a semi-trailer.

NOvA experimenters will converge on the MINOS surface building at Fermilab this year as physicists use it as a testing ground for the design of their 15,000 ton detector before taking it underground in Minnesota.

This next-generation neutrino project will send a beam of subatomic particles from Fermilab 450 miles underground to a detector in Minnesota. NOvA will test some of the most fundamental questions in particle physics: How did matter survive after the Big Bang, allowing for the formation of a matter-dominated universe?

In essence, NOvA will delve into how the universe evolved by studying how neutrinos can toggle among different neutrino types during the subterranean trip from Fermilab to the Northern detector. NOvA also will study how the masses of those types are ordered in a hierarchy.

NOvA is the only long-baseline, near-future experiment to study mass hierarchy. The results could give weight to a specific theory of unification – how the four fundamental forces of nature meld together at high energies, such as just after the Big Bang. Homing in on a specific unification theory would narrow the area physicists should search to look for physics beyond the Standard Model, the current understanding of particles and forces.

But before researchers can test unification theories, they need to test quality, using three full-size prototypes of small sections of the mammoth detector. The work follows an approved long-term procurement and construction timeline.

At the same time, Fermilab will upgrade the

Director's Corner

IQA

Here is a new acronym to learn: IQA, for Integrated Quality Assurance. It parallels the name Integrated Safety Management, the systematic approach we use in managing safety. Now we want to take the same approach to QA: to integrate it into the way that we carry out our work, systematically building it from the beginning into all our activities. Like ISM, IQA is a line management responsibility at all levels of the organization. Of course, we already know we do great, high quality work. So why do we need a new approach?



Pier Oddone

Many examples illustrate where a systematic approach to QA activities could have helped us deliver a better product or avoid problems. We do not have to look far to find spectacular examples of problems that arose from failures of QA in design or fabrication. Think of our own LHC triplets or CERN's faulty bus-bar splice that will cause nine months' delay in the turn-on of the machine. Furthermore, a systematic approach to QA is a foundation of trying to continuously improve our processes.

A DOE audit two years ago highlighted problems with our approach to QA. We do a lot of QA activities. We could not run the Tevatron or publish outstanding physics results without some form of QA. But we do not do QA under a systematic framework across the laboratory, and we do not properly document what we do. Reviews and audits do not recognize or give us credit for what we do. To improve this situation, we have worked with our industrial partners EG&G to produce [a plan that received a favorable response from DOE](#). The implementation of this plan will start with an investigation of the way laboratory staff currently perform quality assurance activities. In this "As-Is review," we will document the baseline quality controls that we already have in place, identify areas in need of additional quality controls, create corrective action plans and then implement the necessary changes as appropriate for each area.

Wednesday, Jan. 28

Lunch

- Sausage, roasted red pepper & 3 cheese calzone
- Caesar salad
- Hazelnut cake w/bittersweet chocolate sauce

Thursday, Jan. 29

Dinner

- Corn chowder
- Halibut w/ spicy red pepper sauce
- Island rice
- Brussels sprouts
- Lemon Napoleon

[Chez Leon Menu](#)

Call x3524 to make your reservation.

Archives

[Fermilab Today](#)

[Result of the Week](#)

[Safety Tip of the Week](#)

[ILC NewsLine](#)

Info

[Fermilab Today](#)

is online at:

www.fnal.gov/today/

Send comments and suggestions to:

today@fnal.gov

accelerator system for the new beam, and other collaborators from Fermilab and in Minnesota will ready the detector hall in Ash River, Minn., on the Canadian border.

[Read more](#)

--Tona Kunz

In the News

A Fearlessly Creative Workforce

From *symmetry magazine*, December 2008

Theoretical physicist Jorge Lopez was looking forward to working with the world's largest atom smasher—the Superconducting Super Collider, then under construction in Texas—when Congress pulled the plug on the project in 1993. With the biggest opportunity in his field gone, he decided to give industry a look.

At his first job interview, he found himself explaining his work on string theory—a theory that attempts to unify all the fundamental forces but requires at least 11 dimensions, rather than the four currently observed—to a Shell Oil representative.

To his surprise, this esoteric chat didn't sabotage the interview.

"I got a job offer that day," Lopez says. "I guess I impressed them as someone who could address different problems and solve them. I've met a lot of people who have similar stories to mine, and some even work on my team."

Unbeknownst to many, high-energy physics serves as a training pipeline for industries such as medicine, security, and finance that touch everyday lives.

Rather than mourn this migration of physicists, engineers, and computer analysts into the broader society, the field sees it as added value—a way to give back to taxpayers and the community.

"People may be your most important product," Michael Holland, who reviews science projects for the US Office of Management and Budget, told employees and users at Fermilab in June. "They create an important element of the national innovation system."

[Read more](#)

These activities should place us in a good position for the audit of our program that the DOE will carry out next September. To help with the implementation of our plan, each division has appointed [Quality Assurance Representatives](#) (QARs), and we have in addition three new Quality Assurance Engineers (QAEs) from EG&G. So please – I urge you to work with the QARs and the QAEs to implement the IQA ASAP.

Announcements

Latest Announcements

[C2ST presents Bioterrorism, Pandemics, & Vaccines Jan. 27](#)

[Second Annual Mentor Round Up](#)

[English Country Dancing, Feb. 1](#)

[Have a safe day!](#)

[Intermediate / Advanced Python Programming - Jan. 27 - 29](#)

[NALWO Brown Bag Lunch Jan. 27 - "Women as Classic: From BC to AD"](#)

[ACU bill pay demonstration Jan. 29](#)

[Recreation Office Meeting Jan. 30](#)

[English Country Dancing, Feb. 1](#)

[Outlook 2007 New Features classes scheduled Feb. 3 and 26](#)

[Conflict Management & Negotiation Skills class offered Feb.3](#)

[PowerPoint 2007: New Features class offered Feb. 3](#)

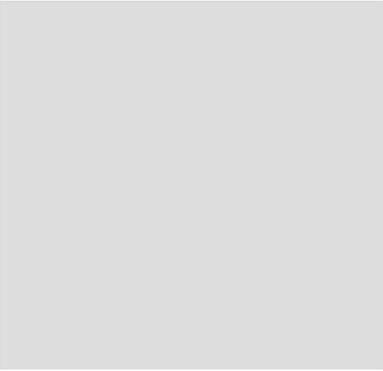
[Facilitating Meetings That Work class offered Feb. 4](#)

[Word 2007: New Features class offered Feb. 4](#)

[Excel 2007: New Features class offered Feb. 4](#)

[Interpersonal Communication Skills class being offered Feb. 5](#)

[Bulgarian Dance Workshop, Feb. 12](#)



[Changes to the Family and Medical Leave Act Jan. 16](#)

[Changes in U.S. admission procedure](#)

[Additional Activities](#)

[Submit an announcement](#)