

Calendar

[Have a safe day!](#)

Friday, Jan. 29

3:30 p.m.

DIRECTOR'S COFFEE
BREAK - 2nd Flr X-Over
4 p.m.

[Joint Experimental-Theoretical Physics Seminar](#) - One West

Speaker: William Molzon,
University of California, Irvine
Title: Status Report and First
Results on MEG Search for μ
 $\rightarrow e \nu$

Monday, Feb. 1

2:30 p.m.

Particle Astrophysics Seminar
- One West

Speaker: Jennifer Siegal-
Gaskins, Ohio State University
Title: Using Anisotropies to
Identify Dark Matter and
Astrophysical Gamma-Ray
Sources with Fermi

3:30 p.m.

DIRECTOR'S COFFEE
BREAK - 2nd Flr X-Over
4 p.m.

All Experimenters' Meeting -
Curia II

Special Topics: Proton Source
Repairs; HINS RFQ
Accelerates Beam in MDB;
CMS/LHC Report

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

[Upcoming conferences](#)

Campaigns

[Take Five](#)

[Tune IT Up](#)

H1N1 Flu

Feature

IQA training required for all employees



Starting this week, all Fermilab employees are required to complete a one-time training on Integrated Quality Assurance. The online course, about 30 minutes long and developed by the Fermilab Office of Quality and Best Practices, is the next step in Fermilab's goal of improving quality and quality assurance for all work done at the laboratory. All employees need to take the course and complete an online test after viewing the course. The requirement to take the course and completion of the course will become part of the ITNA record of every employee.

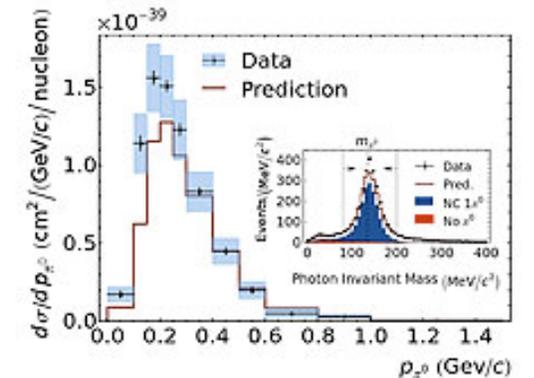
In September, Director Pier Oddone devoted a large part of his [all-hands meeting](#) to [Integrated Quality Assurance](#). The Department of Energy conducted an audit on the implementation of IQA at Fermilab that month. The DOE audit team commended the laboratory for its QA assessments and corrective action plans and the work done by the quality assurance representatives of each division and section. Now is the time to make sure that every employee has a basic understanding of IQA.

The course covers the basic definition of what quality is, provides an overview of what quality assurance is supposed to do, and explains how we at Fermilab can integrate quality assurance in our daily work by taking a moment to think about the requirements of the work at hand.

To take the training, go to the TRAIN class [schedule page](#). Enter your employee ID, select the training category "General" and click "Submit." Next, click on the course "Introduction to Integrated Quality Assurance."

Special Result of the Week

MiniBooNE serves up a slice of π



The measured cross section for neutrino-induced neutral current π^0 production as a function of π^0 momentum. The inset shows the distribution of the two-photon invariant mass where a peak around the π^0 mass is obvious. The visible discrepancy between the data and this commonly used model further motivates the need for improved experimental measurements of this production channel.

Imagine you toss a football to your friend, but when it gets there, it's a baseball. Bizarre, right? Well, every time a neutrino of a particular flavor (electron, muon or tau) flies through space, there is a chance that it won't be the same flavor at the end of its journey. Studying this phenomenon, known as neutrino oscillation, yields new insight into the nature of nature.

In particular, measuring the probability that a muon neutrino will transition to an electron neutrino may help resolve the long-standing question of why there is far more matter than antimatter in the universe. This probability is measured by sending a beam of muon neutrinos to a detector and counting how many electron neutrinos appear. When electron neutrinos interact in the detector they typically produce a single electron, which starts an electromagnetic shower of photons, electrons and positrons. This shower is the smoking gun that indicates the presence of an electron neutrino.

However, one has to watch out for other particle interactions that can fake this signal. MiniBooNE is the first experiment to carefully determine the kinematics of one of the major background processes, π^0 production. This

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

Weather

 Cloudy
13°/5°

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

Current Security Status

[Secou Level 3](#)

Wilson Hall Cafe

Friday, Jan. 29

- Breakfast: chorizo burrito
- New England clam chowder
- Black & blue cheeseburger
- Tuna casserole
- Dijon meatballs over noodles
- Bistro chicken & provolone panini
- Assorted sliced pizza
- *Carved top round of beef

*Carb restricted alternative

[Wilson Hall Cafe menu](#)

Chez Leon

Wednesday, Feb. 3

- Lunch
- Broiled tilapia w/Thai coconut curry sauce
 - Tri-colored peppers
 - Pineapple upside down cake

Thursday, Feb. 4

- Dinner
- Shrimp cocktail
 - Glazed filet mignon w/ bourbon-roquefort sauce
 - Two potato cake
 - Steamed green beans
 - Poached pears w/chocolate pear sauce

[Chez Leon menu](#)

Call x3524 to make your reservation.

Archives

Click on the button "Go to Online Test" and hit "Request Test." This will generate an e-mail message with a link to both the online course and the online test. Once you have viewed the course, take the test to complete your ITNA requirement. If you have further questions about IQA, please contact your [quality assurance representative](#).

Photo of the Day

New employees - Jan. 19



Row one from left: Bradly Verdant, AD; Lori Haseltine, WDRS; Murial Cease, WDRS; Maureen Boyer, WDRS; Mandy Rominsky, PPD; Andrea Mustain, Dir; Toni Mueller, WDRS.

In the News

Physicists investigate possibility of an 'Unhiggs'

From [PhysOrg.com](#), Jan. 28, 2010

One of the biggest goals of the LHC is to discover the Higgs boson, the only particle in the Standard Model that has not yet been observed. In general, physicists are pretty confident that the Higgs does in fact exist, although they have spent a lot of effort searching for the particle in less powerful accelerators without success. While patiently waiting for the LHC to reach its full energy and a Higgs particle to leave a signature in a detector, some physicists are investigating alternative scenarios. One of the most recent proposals is that the Higgs is not a particle, but an unparticle called the Unhiggs.

The Unhiggs idea was first suggested in a paper published in November 2009 by physicists David Stancato and John Terning of the University of California, Davis. The Unhiggs is not all that different from the Higgs, except that it demonstrates unparticle behavior and, subsequently, does not fit in with the Standard Model. While a particle has discrete parameters, the Unhiggs' parameters are continuous. In this sense, the Unhiggs is itself a continuum, and can be thought of as a

measurement utilized the world's largest sample of neutrino-induced π^0 events ever recorded.

Neutrinos of any flavor can interact in the MiniBooNE detector and produce a π^0 through neutral current interactions. The π^0 decays very quickly to two photons, which each produce electromagnetic showers, much like the electron. If one of the photons goes undetected, the event is indistinguishable from an electron-neutrino signature, creating a rather pernicious background.

The task of counting electron neutrinos, as Colin Anderson, a graduate student at Yale University and lead on the π^0 analysis puts it, "becomes akin to being color blind and having to count the number of red jelly beans in a jar full of all colors."

[Read more](#)

Announcements

[PII training required for all employees](#)

[ACU's presents "How much will I need to retire?" Feb. 9](#)

[Weight Watchers at Work begins new session](#)

[Fermilab blood drive Feb. 15 and 16](#)

[Chicago Bulls discount tickets available online](#)

[Argentine Tango classes through Feb. 24](#)

[Intoduction to Argentine Tango classes - FREE](#)

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

[Elder Care: Where do I begin? Interactive seminar](#)

[Muntu African Dance Theatre - Feb. 6](#)

[English country dancing Feb. 7, with live music](#)

[Fermilab Management Practices seminar beginning Feb. 11](#)

[Applications accepted for awards in URA Visiting Scholars program](#)

[Fermilab Today](#)

collection of many Higgs bosons, each carrying a fraction of the Unhigg's total value.

[Read more](#)

[Result of the Week](#)

[Safety Tip of the Week](#)

[User University Profiles](#)

[ILC NewsLine](#)

Info

Fermilab Today

is online at:

www.fnal.gov/today/

Send comments and suggestions to:

today@fnal.gov

Visit the Fermilab

[home page](#)

[BLAST! The Movie: intro, film and Q&A - Feb. 19](#)

[Fermilab Family Open House - Feb. 21](#)

[Python Programming class Feb. 24-26](#)

[FRA Scholarship 2010](#)

[2010 standard mileage reimbursement rate](#)

[International folk dancing Thursdays at Kuhn Barn](#)

[Additional Activities](#)

[Submit an announcement](#)

Classifieds

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