

Calendar

[Have a safe day!](#)

Thursday, Sept. 10
2 p.m.

[Computer Techniques Seminar](#)

- FCC2A/2B

Speaker: Stefan Lueders,
CERN

Title: Control System Cyber-Security

2:30 p.m.

[Theoretical Physics Seminar - Curia II](#)

Speaker: Markus Schulze,
Johns Hopkins University

Title: Generalized Unitarity and Top Quark Physics

3:30 p.m.

[DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over](#)

4 p.m.

[Accelerator Physics and Technology Seminar - One West](#)

Speaker: Alexander Mikhailichenko, Cornell University

Title: Advanced Concept for High-Energy Accelerator

Friday, Sept. 11

3:30 p.m.

[DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over](#)[THERE WILL BE NO JOINT EXPERIMENTAL-](#)[THEORETICAL PHYSICS SEMINAR THIS WEEK](#)

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

Campaigns

[Take Five](#)[Tune IT Up](#)

Feature

Fermilab's future needs quality and safety now

Fermilab Director Pier Oddone discusses the laboratory's current and proposed facilities and experiments at an all-hands meeting on Wednesday, Sept. 9. Watch the meeting via [streaming video](#).

The future of Fermilab is a full plate of projects on the three research frontiers. But to make that ambitious scientific program work, the laboratory needs a strong operational base, said Director Pier Oddone.

In an all-hands meeting Wednesday, he touched on three initiatives that will strengthen Fermilab's reputation and prepare it to handle the rigors of being a leader on the energy, intensity and cosmic frontiers during the next decade.

An [Integrated Quality Assurance program](#) underway analyses work processes at every level and details programs to maximize efficiency, quality and consistency. While the laboratory already does this in many areas, IQA will create a systematic approach lab wide. Quality Assurance engineers and a representative from each division will help employees meet these goals and express quality metrics in terms familiar to QA auditors. Employees should think of IQA management as the responsibility of individuals as well as groups, Oddone said.

A new engineering manual is one step toward this standardization of quality. The 33-page manual, which will launch online shortly, defines the roles, responsibilities and risk-management reviews for engineers in all divisions. This will standardize practices and make working across divisions more efficient.

Fermilab Result of the Week

CDF soups up its Higgs analysis machine

Several members of the CDF Higgs team pose in front of a race car. *Race car courtesy of [www.allenracing12a.com](#).*

How do you add horsepower to a machine already at the top of its game?

You never give up on trying out new technologies.

The CDF and DZero experiments are pulling out all of the stops in the race for the Higgs boson. CDF recently upgraded its Higgs analysis efforts, like fine tuning a machine, and produced even stronger results for the recent Lepton-Photon conference held in Hamburg, Germany.

The Higgs boson would confirm the explanation of how particles acquire mass. If it exists, it is only produced by the Tevatron. However, scientists don't think that the Higgs boson is copiously produced, and there are a number of other Standard Model processes that can mimic its signature. Though no one has caught up with the Higgs boson yet, CDF continues to develop better techniques for working toward that goal.

Tevatron data is the fuel that powers the CDF Higgs machine, but it will take more than fuel to catch up to the Higgs.

To increase the horsepower that it obtains from the same amount of fuel, CDF has brought some key upgrades to the race. One improvement was the addition of a new method for selecting the electrons produced in Higgs boson decays, a method that simultaneously integrates multiple detector measurements into electron selection as

Weather

Chance of showers
80°/56°

Extended Forecast
Weather at Fermilab**Current Security Status****Secon Level 3****Wilson Hall Cafe**

Thursday, Sept. 10
 - Southwestern chicken tortilla
 - Philly style cheese steak
 - *Garlic herb roasted pork
 - Mardi Gras jambalaya
 - *Southwestern turkey wrap
 - Assorted sliced pizza
 - *Marinated grilled chicken
 Caesar salads

*Carb restricted alternative

Wilson Hall Cafe Menu**Chez Leon**

Thursday, Sept. 10

Dinner
- Closed

Wednesday, Sept. 16
Lunch

- Northern Italian lasagna
 - Mixed green salad
 - Almond orange cake

Chez Leon Menu

Call x3524 to make your reservation.

Archives

Another step is to reduce [injury rates](#), a focus of ES&H. The number of recordable cases and injuries requiring days away from work has doubled since last year. This erases the improvements of last year and returns the laboratory to an injury pattern it has held since 2003.

To learn more about these initiatives and the science programs they support, watch Oddone's all-hands presentation [here](#).

-- Tona Kunz

Special Announcement**New Quality Assurance site features links and Q&As**

IQA

Employees can submit their questions about Integrated Quality Assurance through a new Fermilab Web site.

Fermilab is implementing an Integrated Quality Assurance program. Between Sept. 14-18, DOE teams will meet with employees to assess the implementation phase. A new [Web site](#) provides a tool box with information on quality assurance and features a page with [questions and answers](#) about quality assurance at our laboratory.

In Brief**Project X collaboration meeting**
Friday, Saturday

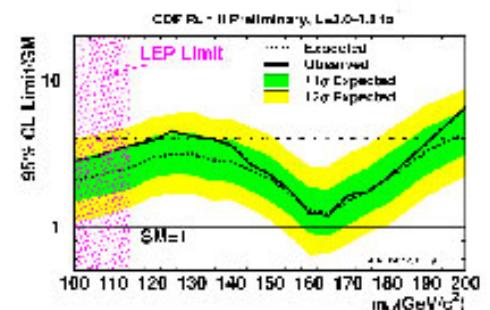
The most recent conceptual design for Project X proposes a 2-GeV continuous-wave linear accelerator (straight red line). Most of the 2-GeV

opposed to the more standard approach of using a sequential set of requirements based on individual measurements. Another improvement was a method for more precisely measuring the energies associated with sprays of particles called jets produced in the Higgs boson decays. The new approach uses precision measurements of the properties associated with charged tracks in jets to determine a more precise estimate for the mass of a potential Higgs boson.

When the checkered flag dropped at Hamburg, the Tevatron had neither observed nor excluded a Higgs boson, but it was getting ever closer to doing so, with CDF alone setting an upper limit of 1.2 times the Standard Model cross section for a Higgs boson with a mass of 160 GeV/c².

For the next milestone event -- the Moriond winter conferences held in La Thuile, Italy-- CDF plans to incorporate more innovations resulting in an even more souped up analysis. And with both the DZero and CDF drafting alongside one another, the Tevatron team is sure to come ever closer to catching the Higgs boson prior to crossing the final finish line.

-- edited by Craig Group



The CDF limits on the Higgs boson relative to the Standard Model expectation. For a Higgs boson with a mass of 160 GeV, the CDF analysis is only a factor of 1.2 away from being sensitive to the Standard Model prediction.

Accelerator Update

[Fermilab Today](#)**[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

protons would be used for various experiments with kaons and muons (green lines), and the rest would be accelerated by a Rapid Cycling Synchrotron to 8 GeV (red ring). The 8-GeV protons could be stored in the existing Recycler storage ring and delivered to experiments (light blue line), or they could be transferred to the Main Injector accelerator for acceleration to 120 GeV and the production of a high-intensity neutrino beam (dark blue).

A meeting this week at Fermilab may help decide the initial configuration of Project X, a proposed high-intensity proton accelerator complex that could provide beam for a variety of physics projects.

Roughly 85 people from 10 laboratories and institutions have registered for the [workshop](#), which will take place in One West on Friday, Sept. 11, and Saturday, Sept. 12.

Steve Holmes, Fermilab's associate director for accelerators, will give an introduction to the project and an overview of the proposed project's strategic plan during the opening plenary session from 8:30-10:30 a.m. Friday. [Registration](#) for the workshop via the Web site is encouraged, but not required. Both staff and users are welcome to attend. The meeting will conclude with working group report sessions on Saturday morning.

During the meeting, collaborators will re-examine the first potential design plan for Project X, which includes an 8-GeV pulsed linear accelerator. They will also look at a second design plan, which proposes a continuous 2-GeV linac and rapidly cycling synchrotron. This plan could provide greater flexibility in the establishment of a varied physics program at lower energies.

"We want to get the collaboration engaged and help them understand the second configuration as a potentially viable option," Holmes said.

Hopefully, collaborators will offer critiques on the design alternatives during the meeting, Holmes said, so that they can move forward on a preferred design in 2010. The meeting will also allow collaborators to form an FY2010 work plan that outlines and assigns tasks.

The collaboration will look to the Accelerator Advisory Committee, which convenes mid-November, for technical advice on the proposed project's second design plan. Collaborators hope the project will receive CD-0 in 2010.

Sept. 7-9

- Pbar bake completed
- MI bake extended to Tuesday
- TeV cool down continues
- Neutron Therapy Facility treating patients
- MI bake equipment will be pulled out on Wednesday

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Announcements

[URA Visiting Scholars Program now accepting applications](#)

[Argentine Tango through Sept. 30](#)

[Fermilab Toastmasters can help you find your voice - Sept. 17](#)

[Chicago Field Office of Intelligence and Counterintelligence to offer counterintelligence cyber awareness seminar - Sept. 15](#)

[Bowlers wanted Wednesday nights](#)

[Thai Village restaurant discount](#)

[Robotics for Fermilab employees' children](#)

[Scrapbooking Open House - Sept. 14](#)

[New Lo Cardio class - Sept. 14 - Nov. 16](#)

[New Tai Chi For Health class - Sept. 14 - Nov. 16](#)

[Six Flags Great America discount tickets](#)

[S&T Policy: A View from Washington, D.C. - Sept. 18](#)

[Mosaico Hispanico - celebrating Hispanic music and dance - Sept. 19](#)

[English Country Dancing - Sept. 20](#)

[MathWorks and Avnet demonstration Sept. 23](#)

[Sign up for fall Science Adventures classes](#)

For more information on Project X, visit the proposed project's [Web site](#).

-- *Rhianna Wisniewski*

[Office 2007 New Features class offered in September](#)

[Buttered Rum performs on Fermilab Arts Series Oct. 24](#)

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

[Process piping \(ASME B31.3\) class offered in October and November](#)

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

[Additional Activities](#)

[Submit an announcement](#)