

Calendar

[Have a safe day!](#)

**Thursday, August 6
11 a.m.**

Particle Astrophysics Seminar
- One North (NOTE DATE,
TIME, LOCATION)

Speaker: Pierre Sikivie,
University of Florida

Title: Bose-Einstein
Condensation of Dark Matter
Axions

11:30 a.m.

Medical Health Seminar - One
West

Speaker: Virgene Galloway,
Provena Mercy Medical Center
Title: Osteoarthritis

2 p.m.

[Computing Techniques](#)

[Seminar](#) - FCC1

Speaker: Prathap Basappa,
Norfolk State University
Title: Measurement,
Quantification and Analyses of
Partial Discharges in Insulation
Systems

2:30 p.m.

[Theoretical Physics Seminar](#) -

Curia II

Speaker: Gabriela Barenboim,
Valencia University and IFIC

Title: A Tale of Two Right
Handed Neutrinos

3:30 p.m.

DIRECTOR'S COFFEE
BREAK - 2nd Flr X-Over
THERE WILL BE NO
ACCELERATOR PHYSICS
AND TECHNOLOGY
SEMINAR TODAY

Friday, August 7

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.

CERN Press Release

Editor's note: Today's issue of Fermilab Today is late to your inbox this morning because we wanted to include the following breaking news.

LHC to run at 3.5 TeV for early part of 2009-2010 run rising to 4-5-5.0 TeV later

CERN's Large Hadron Collider will initially run at an energy of 3.5 TeV per beam when it starts up in November this year. This news comes after all tests on the machine's high-current splices were completed last week, indicating that no further repairs are necessary for safe running up to around 5.0 TeV.

"The decision to run at 3.5 TeV per beam is based on consensus, optimising the needs of the experiments with those of the accelerator," said CERN's Director General, Rolf Heuer, "and it's a decision based on pragmatism, balancing the need for caution with the desire to get to new physics as rapidly as possible. We've selected 3.5 TeV to start because it allows the LHC operators to gain experience of running the machine while opening up a new discovery region for the experiments."

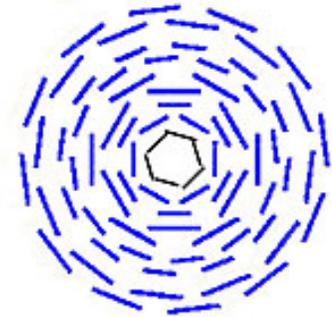
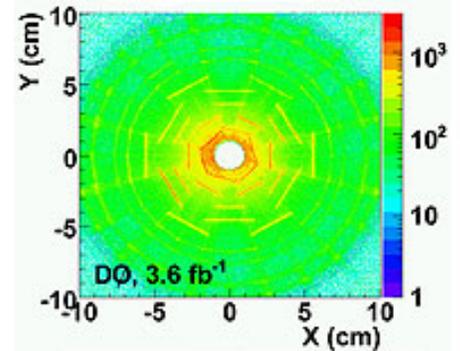
Following the incident of 19 September 2008 that brought the LHC to a standstill, testing has focused on the 10,000 high-current superconducting electrical connections like the one that led to the fault. These consist of two parts: the superconductor itself, and a copper stabilizer that carries the current in case the superconductor warms up and stops superconducting, a so-called quench. In their normal superconducting state, there is negligible electrical resistance across these splices, but in a small number of cases abnormally high resistances have been found in the superconductor. These have been repaired. However, there remain a number of cases where the resistance in the copper stabilizer splices is higher than it should be for running at full energy.

[Read more](#)

[Recovery Act Photo](#)

Fermilab Result of the Week

Crazy enough?



Scientists searching for these kinds of particles looked for particles that originated many inches from the beam. The top plot shows where scientists observed particles' origins, while the bottom shows the geometry of DZero's inner detector. As DZero scientists expected, they found that particles often originated in the detector's material. These false signals were removed from the analysis.

We all agree that your theory is crazy. But is it crazy enough? --Niels Bohr

I'd like to share a little secret with the Fermilab Today readership. For all that has been written about the Higgs boson, we don't know very much about it. We don't know its mass. We don't know how it decays. Indeed, we don't know if it even exists at all.

Given these facts, what do we know about the Higgs boson, and why is such a big fuss made about it? We know scientists can show that two fundamental forces - the electromagnetic force, which holds atoms together; and the weak force, which causes some kinds of radioactivity - are different sides of the same coin. The Standard Model has a possible explanation for why these two things are the same, and this explanation is called the Higgs mechanism. An outcome of this mechanism is that it predicts the Higgs boson.

Campaigns

[Take Five](#)

[Tune IT Up](#)

Weather



Chance of storms
79°/59°

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

Current Security Status

[Secon Level 3](#)

Wilson Hall Cafe

Thursday, August 6
- Tomato Florentine
- *Pork BBQ sandwich
- Kielbasa & sauerkraut
- Chicken Marsala
- Smoked turkey melt
- Assorted sliced pizza
- SW chicken salad w/roasted corn salsa

[Wilson Hall Cafe Menu](#)

Chez Leon

Thursday, August 6
Dinner
- Grilled portobello and red pepper salad
- Filet mignon w/horseradish sauce
- Baked potato w/butter & sour cream
- Broccoli
- Cappuccino soufflé

Wednesday, August 12
Lunch
- Chicken enchiladas
- Mexican rice
- Confetti salad
- Pineapple flan

[Chez Leon Menu](#)
Call x3524 to make your reservation.

Congressman Foster addresses ARRA funding



Congressman Bill Foster (left) speaks to Fermilab Technical Division employees and members of the media at a press conference on Wednesday, August 5, as Fermilab Director Pier Oddone and Deputy director of the Department of Energy's Fermi Site Office Mark Bollinger look on.

See a breakdown of ARRA spending [here](#).

For more information see Fermilab's Recovery Act [Web page](#) and the DOE [Recovery and Reinvestment Web site](#).

Read more articles about the press conference and Fermilab's Recovery Act funding:

[Beacon News](#)

[Daily Herald](#)

[Kane County Chronicle](#)

University Profile

University of Cambridge



Cambridge University physicists at the Cavendish Laboratory. From left: postdocs John Chapman and John Marshall, student Ruth Toner, Professor Mark Thomson, student Jess Mitchell, postdoc Andy Blake and Cambridge undergraduate Rob Raine.

NAME:
[University of Cambridge](#)

HOME TOWN:

However, there remains the very real possibility that something else explains the unification of the weak and the electromagnetic forces. For instance, models incorporating the principle of supersymmetry predict not one, but many Higgs bosons, with different spins, electric charge and many other properties.

Physical Review Letters has recently accepted a [DZero paper](#) that investigated a non-traditional Higgs boson. In this analysis, scientists compared data to a theory in which a Standard-Model-like Higgs boson decays in a very unconventional way. A recent series of models (called hidden valley models) predict a class of so-far-undiscovered particles into which a Higgs boson can decay. These models go on to further predict that these hypothetical particles live a long time. If particles live a long time, they travel a relatively long distance. So scientists looked for particles decaying many inches away from where they were created. Scientists found no evidence to support this specific model and have partially ruled it out. Once again, scientists using Tevatron data have tested a crazy idea. Could it be that it just wasn't crazy enough?

And the saga of the search for the Higgs boson continues...

-- Don Lincoln



Gustaaf Brooijmans Thomas Gadfort



Andy Haas Chad Johnson

These analyzers were responsible for this measurement. All of them are from Columbia University.

Archives

Cambridge, England

MASCOT:

In physics: the Cavendish Laboratory crocodile



SCHOOL COLORS:

Cambridge blue

PARTICLE PHYSICS COLLABORATIONS:

ATLAS, LHCb, MINOS and a future linear collider

EXPERIMENTS AT FERMILAB:

MINOS

SCIENTISTS AND STUDENTS AT FERMILAB:

Currently one professor, one postdoc and two graduate students

COLLABORATING AT FERMILAB SINCE:

2000

MAJOR CONTRIBUTIONS TO FERMILAB EXPERIMENTS:

Many contributions to the MINOS experiment, including: DAQ run control software, detector commissioning, data monitoring and validation; high-and-low level reconstruction and calibration software and analysis of neutrino oscillations, with a leading role in the study of atmospheric neutrinos.

PARTICLE PHYSICS RESEARCH FOCUS:

We have a broad range of interests in the experiments we work on: searching for new physics and performing precision tests of the Standard Model at ATLAS; studying rare B decays and CP violation at LHCb; constraining neutrino oscillations at MINOS. We are also interested in a range of theoretical problems with a phenomenological emphasis, and the development of detectors for a future linear collider.

WHAT SETS PARTICLE PHYSICS AT CAMBRIDGE APART?

The Cavendish Laboratory at Cambridge has a rich history of research and discovery in the field of particle physics. For example, the discovery of the electron by J.J. Thomson at Cambridge helped to usher in the era of modern physics. Today we are gearing up for the new discoveries we hope will emerge in the coming decade.

FUNDING AGENCY:

UK Science and Technology Facilities Council (STFC)

FAVORITE NATIONAL LABORATORY:

[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](#)



Successful long term operation of the silicon microstrip tracking detector requires the participation of a large team of experts. Many of the physicists currently contributing to this effort are shown in this photo from the DZero control room. From left to right: Zhenyu Ye, Ron Lipton, Peter Svoisky, Lynn Bagby, Marvin Johnson, Satish Desai, Mike Utes, Nirmalya Parua, Bill Cooper and Masato Aoki.

Announcements

Latest Announcements

[Newcomers Brown Bag Lunch](#)

[Need help giving a speech? Fermilab Toastmasters Club is the solution](#)

[International folk dancing resumes today](#)

[Yoga Class - August 11 through Sept. 29](#)

[Muscle Toning Class - today through Sept. 28](#)

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

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

[Services account password needed for Fermilab Time & Labor reporting](#)

[Bristol Renaissance Faire discount tickets](#)

[Six Flags Great America discount tickets](#)

[Pool memberships available in the Recreation Department](#)

[Raging Waves Waterpark online discount ticket program](#)

[Osteoarthritis \(degenerative arthritis\) seminar](#)

Fermilab, for its current leading role in experimental particle physics.



View all [University profiles](#)

[Accelerated C++ Short Course begins August 6](#)

[Health after 50 seminar](#)

[The University of Chicago Tuition Remission Program August 17 deadline](#)

[What's New in NI LabVIEW 2009? offered August 27](#)

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

[Additional Activities](#)

[Submit an announcement](#)