

Calendar

Thursday, September 21

1:00 p.m. ALCPG ILC Physics & Detector R&D Seminar - West Wing (WH-10NW) Speaker: M. Gastal, CERN
Title: Draft ILC Construction Schedule

2:30 p.m. Theoretical Physics Seminar - Curia II
Speaker: J. Harvey, University of Chicago
Title: NJL and QCD from String Theory

3:30 p.m. DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over
Speaker: V. Lebedev, Fermilab
Title: Run II Status and Future

4:00 p.m. Accelerator Physics and Technology Seminar - 1 West
Speaker: J. Harvey, University of Chicago
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Development: Can We Achieve 8 fb⁻¹?

Friday, September 22

3:30 p.m. DIRECTOR'S COFFEE BREAK - 2nd Flr X-over

4:00 p.m. Joint Experimental Theoretical Physics Seminar - 1 West
Title: "Observation of B_s mixing at CDF"
Speaker: C. Paus, MIT

Development: Can We Achieve 8 fb⁻¹?

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

Weather



Fog 75°/51°

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

[Secou Level 3](#)

Wilson Hall Cafe

Small building, big goals for SciBooNE construction



From left: Rick Tesarek, Jim Strait, Morgan Wascko, Hugh Montgomery, Steve Holmes, Young-Kee Kim and Pier Oddone broke ground Wednesday.

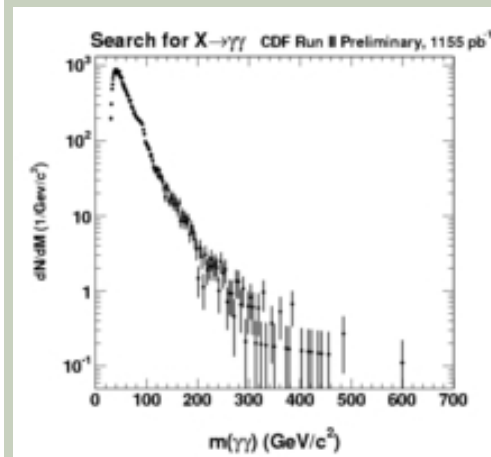
Fermilab's newest experiment, SciBar Booster Neutrino Experiment, broke ground Wednesday morning, beginning construction on what will become one of Fermilab's smallest buildings. The structure's basement will house the project's three-part detector, including the SciBar detector from Japan, to measure neutrino cross sections using the Booster neutrino beam.

SciBar will sit in the beam's direct path, 100 meters from the MiniBooNE target hall. Here it will be near enough to measure neutrinos before they oscillate, and distant enough to avoid other particles.

At the groundbreaking ceremony, Fermilab Director Pier Oddone said, "I'm delighted that we could break ground on a new experiment; it's a rare event these days. It's also, for us, the start of what we hope will be a world-coordinated program in neutrino physics." Steve Webster, of the DOE Fermi Site Office, later added, "The DOE supports totally this type of

Fermilab Result of the Week

Photons shed light on higher dimensions



The invariant mass spectrum of two high-energy photons at CDF. The small excess around 90 GeV is misidentified Z bosons. ([Click for larger version.](#))

Is our 3-dimensional world embedded in some higher-dimensional space? It sounds like science fiction but it is actually a possible theory to explain why the force of gravity is so much weaker than the other forces (electromagnetic, weak and strong). In 1999, theorists Lisa Randall and Raman Sundrum proposed a new scenario for an extra-dimensional universe, an offshoot of string theory that makes predictions that can be tested at the Tevatron. If true, we might observe the production of gravitons, which mediate gravitational interactions, through their decay to two high-energy photons.

CDF physicists tested this theory using Tevatron collision data to look for a narrow peak in the diphoton mass distribution, which might be evidence for a graviton. Since the two daughter photons would be very energetic and isolated from other energy in the event,

Thursday, September 21

- Minnesota Wild Rice with Chicken
- Tuna Melt on Nine Grain
- BBQ Ribs
- Chicken Casserole
- Buffalo Chicken Wrap
- Assorted Slice Pizza
- Toasted Pecan Chicken Salad

[Wilson Hall Cafe Menu](#)

Chez Leon**Thursday, September 21****Dinner**

- Caponata
- Grilled Rack of Lamb
- Puree of Potatoes and Celery Root
- French Green Beans
- Amaretto Soufflé

Wednesday, September 27**Lunch**

- Crepes w/Black Forest Ham and Gruyere
- Arugula and Sweet Red Pepper Salad
- Chocolate Mousse w/Butter Cookies

[Chez Leon Menu](#)

Call x4598 to make your reservation.

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international collaboration. It's important for high-energy physics."

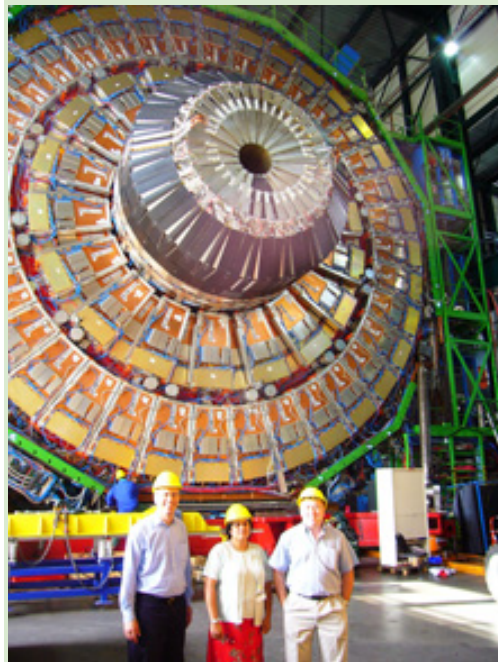
The completed building will be a diminutive 23 x 16 feet. "It practically will be shrink-wrapped around the detector and electronic equipment," said SciBooNE project head Richard Tesarek. The detector is small but mighty; once online, SciBooNE will measure the world's most precise cross sections of neutrino interactions at these energy levels.

SciBooNE co-spokesperson Morgan Wascko, of Imperial College London, expects the keys for the building will be handed over in December, with the detector installed in January. "We expect to be collecting real physics data by March '07," said Wascko.

--D.A. Venton

Readers Write**Notes from the field: Saying goodbye to an old friend**

Fermilab's Boaz Klima wrote from CERN to update us on the progress of the CMS detector for the Large Hadron Collider.



they would be straightforward to detect. Of course, the standard model produces events that are background to this search, including photons radiating from charged particles and quark decays that are misidentified as photons.

So far the mass distribution shows only random fluctuations, with no sign of a narrow peak from a graviton. Therefore, stringent lower limits on the mass of the graviton are set. When this result is combined with CDF's e^+e^- search for gravitons, the limits are the world's best!



The authors: Tracey Berry (Liverpool), Sara-Madge Wynne (Liverpool) and Ray Culbertson (Fermilab).

[Result of the Week Archive](#)

Accelerator Update**September 18 - 20**

- One store, along with an existing store provided 43 hours and 30 minutes of luminosity.

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

In the News**Newsweek****September 25 issue: Science and the Gender Gap**

A generation ago, women physicists and chemists were rare in the lab, but their number is increasing every year.

But climb up to the third floor and you'll see a different display. There, among the photos of current faculty members and students, are portraits of the current chair of the department, Marjorie Shapiro, and

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Dear FT:

We are at a CMS Week, which is a quarterly week-long collaboration meeting with hundreds of people from all over the world (literally!) discussing progress made recently and the plans for all aspects of the experiment. While at CERN, a few of us drove to SX5, the interaction point for CMS, which is about a 20-minute drive into France.

The reason? The detector, which has been assembled at a ground level, is soon going to be lowered down to the collision hall about one hundred meters below ground level. The current plan calls for the two Forward Hadronic Calorimeters (HF) to be lowered at the beginning of October, and then the much larger pieces, dubbed YBx (where $x=-2,-1,0,1,2$), will be lowered starting around mid-November. So, we went over there to say bye...

A picture of three of us (Greg Landsberg, Meenakshi Narain, and I) was taken in front of one of the large pieces.

*Best regards from Geneva, Switzerland,
Boaz*

four other women whose research covers everything from the mechanics of the universe to the smallest particles of matter. A sixth woman was hired just two weeks ago. Although they're still only about 10 percent of the physics faculty, women are clearly a presence here.

[Read More](#)

Announcements

After-hours noise in Wilson Hall

If you plan to work late in Wilson Hall tonight, you may hear loud noises coming from the first floor. "We will be saw cutting and air hammering for LHC@FNAL construction," said construction coordinator Tom Prosapio. "We'll start around 7:00 p.m. and go until about 4:00 a.m."

EAP Orientation

There will be an Employee Assistance Program orientation on September 27 and October 4 at 11:30 a.m., 12:30 a.m. and 4:30 p.m. in Curia II. The presentations will take only 15-20 minutes and will cover an introduction to [VMC EAP](#), counseling, web-based services, and allow time for questions about EAP services.

[Upcoming Activities](#)