

## Calendar

### Thursday, October 19

**9:30 a.m.** [Presentations to the Physics Advisory Committee](#) - Curia II

**11:00 a.m.** Academic Lecture Series

- 1 West  
Speaker: K. Ellis, Fermilab

Title: Course 1 – Introduction to QCD at Colliders: Shower Monte Carlo

**1:00 p.m.** ALCPG ILC Physics & Detector R&D Seminar - Hornets Nest ( WH-8XO)

Speakers: T. Sanami, A. Fasso, L. Keller – Stanford Linear Accelerator Center  
Title: IR Hall Dose Rate Estimates for a "Self-Shielding" Detector

**2:30 p.m.** Theoretical Physics Seminar - WH-3NW

Speaker: E. Poppitz, University of Toronto  
Title: Old and New in the Lattice Definition of Chiral Gauge Theories

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

**4:00 p.m.** Accelerator Physics and Technology Seminar - 1 West

Speaker: L. Prost, Fermilab

Title: Electron Cooling at the Recycler: Update and Cooling Force Characterization

**Friday, October 20**

**9:00 a.m.** [Presentations to the Physics Advisory Committee](#) - Curia II

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

**4:00 p.m.** Joint Experimental Theoretical Physics Seminar - 1 West

Speaker: P. Maksimovic, Johns Hopkins University  
Title: Observation of New Heavy Baryons

## Linear Collider Forum of America tours Fermilab



LCFOA members inspect a horizontal test cryostat at an ILC test area.

During the third meeting of the Linear Collider Forum of America Tuesday, industry members got a look at Fermilab's ILC facilities. Visitors toured ILC research and development areas that included the Meson Detector Building's ILC Test Area, Cryomodule Assembly Facility and Industrial Building Center. Groups saw superconducting cavities, horizontal test cryostats, clean rooms and cavity preparation areas. The LCFOA is a not-for-profit industrial forum that provides a formal network for its U.S. industry members to interact with U.S. government funded R&D efforts during the design and siting of the ILC.

Before the tour, a series of talks brought LCFOA members up to date on Fermilab's ILC activities, including a report from the Global Design Effort, perspectives from the Department of Energy and cost estimating methods. LCFOA member companies presented papers on cost estimating techniques, innovative technologies and financing options. "The meeting was a real success," said Ken Olsen, President of

## Fermilab Result of the Week

...will return next week.

## Science Grid This Week

### Building better bridges



*Image Credit BVM-Epelem Ltd.*

A team from Hungary is using grid computing to streamline the construction of concrete beams for highway bridges. Working with industry, the team has augmented a process that was traditionally done based on engineering intuition and experience—the pre-stressing of concrete beams—with a totally new tool developed specifically for the Grid.

"Most engineering algorithms have been developed as turbocharged versions of old hand-calculation methods," says Gabor Domokos from the Budapest University of Technology and Economics' Innovation and Knowledge Centre of Information Technology. "We thought, now that we have these enormous computational resources, why don't we think in a different way?"

Pre-stressed reinforced concrete beams, used primarily as the main building structure in highway bridges, can be over 30 meters long and weigh many tons. The reinforcing comes from the insertion

$\Sigma_b$  and  $\Sigma_b^*$  at CDF

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

## Weather



Mostly Cloudy 49°/31°

[Extended Forecast](#)

[Weather at Fermilab](#)

## Current Security Status

[Secou Level 3](#)

## Wilson Hall Cafe

### Thursday, October 19

- Bavarian Cheese
- Bratwurst with Sauerkraut Warm Potato Salad
- Roasted Pork with Potato Pancake
- Sauerbraten with Red Cabbage
- Buffalo Chicken Wrap
- Assorted Slice Pizza
- Chicken Breast on Field Greens with Caesar Dressing

[Wilson Hall Cafe Menu](#)

## Chez Leon

### Thursday, October 19

#### Dinner

- Curried Pumpkin Soup
- Grilled Duck Breast with Fig Sauce
- Wild Rice with Pecans
- Brussels Sprouts with Lemon & Bacon
- Apple Walnut Strudel

### Wednesday, October 25

#### Lunch

- Seafood Crepes with Sherry Sauce
- Field Greens with Raspberry Vinaigrette
- Lemon Yogurt Cake

the LCFOA. "We got into a detailed discussion about some of the program's issues." He explained that the ILC project needs to take advantage of industrial ingenuity. "We need to work together," Olsen said. "It's an evolution. I see it happening, and it needs to continue."

The LCFOA plans to meet next in Washington D.C. in March 2007. Talks from this week's Argonne/Fermilab meeting will be available [online](#).

--Elizabeth Clements and D.A. Venton

## In the News

### **Science Daily, October 17, 2006: Space-based Instruments To Test Cornerstone Of Einstein's General Relativity**

At the core of ESA's LISA Pathfinder mission sit two small hearts. Each is a cube, just 5 centimeters across. Together they will allow LISA Pathfinder to lay the foundations for future space-based measurements that investigate the very core of Einstein's General Relativity.

A cornerstone of relativity is the concept of a frame of reference. This is a set of bodies relative to which any motion can be measured. Without a reference frame, no motion through space can be detected. Scientists call a frame of reference 'inertial' if unperturbed objects appear in that frame, either at rest or moving at a constant velocity. For a reference frame to be perfectly inertial, the bodies that are used to mark it must be completely free of any force.

Einstein's General Relativity predicts that the gravity from celestial bodies warps our measurement of distances in such a

of a steel bar inside the concrete, and it is this bar that placed under high tension, or pre-stressed, during construction.

[Read More](#)

## Accelerator Update

### October 16 - 18

- Leak checking in the Tev continues
- NuMI and MiniBooNE take beam

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

## Announcements

### NALWO Fall Luncheon

There will be a NALWO fall luncheon Monday, October 23, from 11:30 a.m. to 1:30 p.m. at Chez Leon in the Users' Center. Join lab women (guests, visitors, users and employees) and help plan interesting activities for the coming season. Please bring a dish to share: casserole, salad, side dish, dessert, or whatever you choose. For additional information, contact the Housing Office at 630/840-3777 or [housing@fnal.gov](mailto:housing@fnal.gov); or call Rose Moore at 630/208-9309.

### GSA Halloween Party

GSA will have its annual Halloween party in the Kuhn Barn on Friday, Oct 27 at 7:30 p.m. Come, hang out and enjoy snacks and beverages and candy. You can wear your favorite Halloween costume for a shot at a prize and join in the pumpkin carving contest! RSVP to [kendallm@phys.columbia.edu](mailto:kendallm@phys.columbia.edu).

### Village Power Outage

Maintenance has scheduled a Village power outage for Saturday, October 21, from 7:00 a.m. to about 4:30 p.m. The outage will affect all Village labs and housing. Please plan accordingly.

[Chez Leon Menu](#)

Call x4598 to make your reservation.

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frame. Once scientists can build an exact inertial frame of reference, they will be able to measure this warping. LISA Pathfinder will test a technique designed to measure a frame of reference much more precisely than ever before. "This will provide the foundation stone for any future mission in General Relativity, if not also in gravitation and navigation at large" says Stefano Vitale, the mission's Principal Investigator

[Read More](#)

**Monthly Leave Sheets Due**

Monthly Leave Sheets are due in Payroll by 10 a.m. on Friday, October 20.

[Upcoming Activities](#)