

## Calendar

### Tuesday, February 22

**12:00 p.m.** E-Week Activity - One West

Speaker: Marge Bardeen

Title: Education and Outreach: Attracting the Next Generation of Engineers

**1:15 or 2:00 p.m.** E-Week Activity - Tech

Division Tour - [Registration required](#)

**2:30 p.m.** Theoretical Physics Seminar

(NOTE DATE) - Curia II

Speaker: K. Agashe, Johns Hopkins University

Title: Warped Compactifications: Flavor, Unification and Dark Matter

**3:30 p.m.** DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

THERE WILL BE NO ACCELERATOR

PHYSICS AND TECHNOLOGY

SEMINAR TODAY

### Wednesday, February 23

**9:30 a.m. or 1:30 p.m.** DZero Operations

Tour - Mechanical Engineer

[Registration required](#)

**10:30 a.m. or 3:00 p.m.** DZero

Operations Tour - Electrical Engineer

[Registration required](#)

**11:00 a.m.** Particle Astrophysics Seminar

- Curia II (NOTE DATE & TIME)

Speaker: R. Trotta, Geneva University

Title: Bayesian Evidence for Model Selection

**11:00 a.m.** Fermilab ILC R&D Meeting -

One West

Speaker: J. Jackson, Fermilab

Title: ILC Communication Update

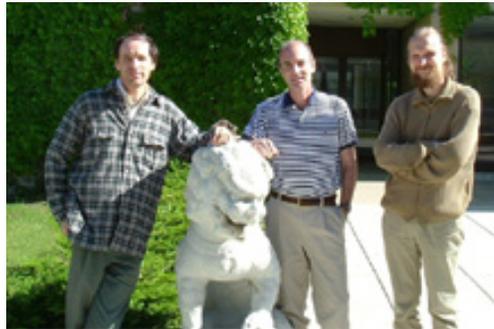
Speaker: V. Kuchler, Fermilab

Title: ILC Conventional Facilities Update

**12:00 p.m.** E-Week Activity - One West

Speaker: Ed Crumpley

## KTeV Measurement Named Fermilab Result of the Year



KTeV scientists (left to right) Rick Kessler, Ed Blucher, and Sasha Glazov of the University of Chicago submitted papers to Physical Review Letters and Physical Review D on June 1, 2004. Their analysis was picked as the Fermilab Result of the Year 2004. ([Click on image for larger version.](#))

In 2004, Fermilab Today published 50 *Results of the Week*. But is it possible to pick the most outstanding one, proclaiming the *Result of the Year*? Could a group of scientists actually agree on a single result? Who would be qualified and could make an unbiased decision?

In January, the ten postdocs of the Fermilab Theory Group agreed to the difficult task of selecting the best of the best. To avoid any bias, the postdocs proceeded to select the most outstanding *experimental* result. Separately, the group of ten reviewed the [list of candidates](#).

Then they met at the Users' Center to discuss the merits of all contenders. The group hadn't even finished the first round of drinks when they all agreed on the winner: the [measurement of the quantity  \$V\_{us}\$  by the KTeV experiment](#).

"At the beginning of our meeting, we had a discussion whether one could single out

## Director's Corner

### Good Morning!

I recently received a memo from Greg Bock, the NuMI Project Manager, with the subject line "NuMI Project Transition to Operation." It starts out, "I am delighted to report to you that the NuMI Project construction, installation, testing, and commissioning are complete and the facility is now ready to be turned over to the Laboratory for operation."



Mike Witherell

After six years building a very difficult and important project, the NuMI team is winding things up. And I couldn't be more pleased for them, and for the MINOS collaboration. Fermilab has a brand new neutrino facility, the longest-baseline neutrino beam in the world, that will operate for many years to come. Immediately it will provide beam to the MINOS experiment. But in the future we will get much more science from it by adding new experiments and by injecting more intense proton beams into the Main Injector.

On March 4 we will dedicate the NuMI facility. But the MINOS experimenters don't have to wait, they are tuning up their experiment and getting ready to start physics. The era of long-baseline neutrino physics at Fermilab is beginning.

Congratulations to everybody who made the NuMI project a success.

Title: Architecture & Science: Fermilab's Architectural Heritage  
THERE WILL BE NO PROTON DRIVER GENERAL MEETING THIS WEEK  
**3:30 p.m.** DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over  
**4:00 p.m.** Fermilab Colloquium - One West  
Speaker: E. Okal, Northwestern University  
Title: Tsunamis: Warning, Detecting, Simulating, Chasing

#### Weather



Chance Flurries **35°/18°**

[Extended Forecast](#)

[Weather at Fermilab](#)

#### Current Security Status

[Secou Level 3](#)

#### Wilson Hall Cafe

##### Tuesday, February 22

Chicken and Rice Soup

Mushroom Swiss Burger \$4.75

Baked Meatloaf with a Roasted Tomato Demi-Glace \$3.75

Smart Cuisine - Parmesan Baked Fish \$3.75

Southwestern Turkey Wrap \$4.75

Ham and Pastrami Calzone \$3.25

South of the Border Burritos with Chips and Queso \$4.75

The Wilson Hall Cafe now accepts Visa, Master Card, Discover and American Express at Cash Register #1.

[Wilson Hall Cafe Menu](#)

[Chez Leon](#) will be closed through January and February

one result," said Zack Sullivan, the senior postdoc of the group. "We thought that all results were impressive. But when we began to compare our individual notes, the KTeV result was number one on everyone's list."

The quantity  $V_{US}$  describes the coupling of  $s$  quarks to  $u$  quarks. Before the KTeV measurement, the value of  $V_{US}$  was based on averages of dozens of experiments done over a 40-year period. According to the report of the theory postdocs, "the new measurement of  $V_{US}$  by the KTeV collaboration solved a mini-unitarity crisis in the CKM matrix. The KTeV collaboration was able to significantly reduce the overall uncertainty, and found a  $V_{US}$  that agrees within one sigma of the prediction of unitarity."

Encouraged by their quick decision -- and with some beer left in the pitcher -- the postdocs went ahead to determine a runner-up.

"At some level, we discussed all 2004 *Results of the Week*," said Sullivan. "But the second place again was pretty clear: the measurement of  $B_c$  is the first clear test of lattice QCD."

Both [DZero](#) and [CDF](#) reported  $B_c$  results in December 2004, which were announced in *Fermilab Today* within a day of each other.

The competition for third place was fierce. Ultimately, the observation of a Z boson decaying to two tau leptons won out. The next two places were awarded to the first measurement of the Z plus  $b$  jet cross section at a hadron collider, and the

## E-Week Today: Education Presentation and DZero Tour



Dave Nevin, head of Fermilab Engineering Services (left) and Vic Kuchler, Chairman of the Engineering Policy Committee, talk at the E-Week Kick-off yesterday. (Click on image for larger version.)

Today's E-week featured presentation is "Education and Outreach -- Attracting the next generation of engineers," by Marge Bardeen, head of the Education Office, in One West.

National Engineers Week was established to raise public awareness about the importance and excitement of engineering and promote recognition among parents, teachers and students of the importance of a technical education. Come to the presentation to find out about Fermilab's K-12 education programs and how you can be a part of them. The Education Office counts on volunteers from the technical staff. Your colleagues will share some of their experiences to help bring the excitement of Fermilab science to students and teachers in our area and around the world.

Tours of the Technical Division magnet production and testing facilities will be held at 1:15 p.m. and 2:00 p.m. today. Tours will start at the main entrance to the Industrial Center Building. The tours will

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<http://www.fnal.gov/today/>

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measurement of the angular correlation of dijets. Details are given in the *Result of the Year* [summary report](#) provided by Zack Sullivan.

The members of the *2004 Result of the Year committee* are: Ayres Freitas, Ulrich Haisch, Jack Laiho, Olga Mena, Masataka Okamoto, Jose Santiago, Peter Skands, Zack Sullivan, and Giulia Zanderighi.

## Accelerator Update

### February 18 - February 21

- During this 72 hour period Operations established three stores that combined with an existing store provided approximately 29 hours and 23 minutes of luminosity to the experiments
- Tevatron suffers three quenches
- Recycler losses stash
- NuMI begins taking beam

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

## In the News

### From Scotsman.com, February 20, 2005

#### Cosmic Rays to Solve Ancient Mexican Mystery

by John von Radowitz

Sub-atomic particles created by cosmic rays from space are to be used to probe a giant Mexican pyramid and solve one of the world's greatest archaeological mysteries.

Investigators are to install detectors beneath the Pyramid of the Sun that look for muons – charged particles generated when cosmic rays hit the atmosphere which continuously shower the Earth.

show conventional and superconducting magnet construction and testing facilities, including the magnets currently being built for the LHC. The tour will be given by a TD engineer or physicist.

Don't forget to [make your reservation](#) for the Finale luncheon that will be held at 11:30 p.m. on Friday on the 2nd floor crossover (reservations and \$5 payment required by Feb. 23).

## Announcements

### Budker Seminar Series

The next Budker Seminar will be today at 6:00 p.m. in the Users' Center Music Room. Xiaobiao Huang will present "Fitting the Fully-Coupled ORM for the Booster." Beverages & pizza will be served.

### Unix Users Meeting

There will be a Unix Users Meeting tomorrow in Curia II from 1:00-3:00 p.m.

Agenda:

- Linux World Trip Report
- LTS/SL 3.0.4 release
- SL 4 beta release

### February PC Manager Meeting

There will be a PC Manager Meeting tomorrow in WH8X from 9:00-10:00 a.m.

Agenda:

- Updates/Announcements
- Lessons Learned: Building the Symantec Patch, Andy Romero
- Windows Policy Committee Website Changes, Jack Schmidt
- Calendar Futures: New Meeting Maker Products, John Bellendir

### URA Scholarship Applications Now Available

Applications are [available online](#) through

They hope the rate at which muons pass through the pyramid will reveal any hidden burial chambers inside.

[read more](#)

March 1. Scholarships will be awarded in early April and are based on the SAT scores of children of regular, full-time Fermilab employees. Questions about the program may be directed to Jeannelle Smith of Human Resources, x4367.

### **Tai Chi Classes**

Tai Chi classes will be held at the Recreation Facility on Friday mornings during March 4 through April 22 from 6:30-7:15 a.m. The deadline to register is February 28. You must be a current Recreation Facility member to participate, and you can register [online](#), at the Recreation Office or by phone using a credit card.

[Upcoming Activities](#)