

Calendar

Thursday, February 9

11:00 a.m. Academic Lecture Series - Curia II

Speaker: B. Kayser, Fermilab

Title: The New World of Neutrino Physics - Part I (2nd Lecture)

2:30 p.m. Theoretical Physics Seminar - Curia II

Speaker: L. Everett, University of Florida

Title: Viewing Lepton Mixing through the Cabibbo Haze

3:30 p.m.

Director's Coffee Break - 2nd Flr X-Over

4:00 p.m.

Accelerator Physics and Technology Seminar - 1 West

Speaker: R. Johnson, Muons, Inc.

Title: The Low Emittance Muon Collider Workshop

Friday, February 10

3:30 p.m. Director's Coffee Break - 2nd Flr X-Over

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

Speaker: R. Raja, Fermilab

Title: Goodness of Fit in Likelihood Fits

Weather



Partly Cloudy **35°/20°**

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

[Secou Level 3](#)

Lootens Passes Torch After 12-year Term at ELM



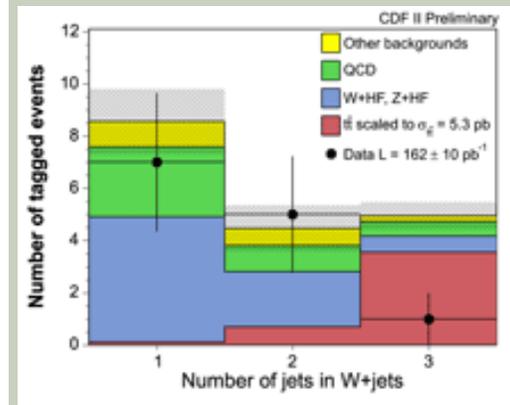
Bob Lootens (left) is stepping down after four full terms as ELM chair. Tom Peterson (right) will assume Lootens' position. (Click on image for larger version.)

After 12 years of service, Roads and Grounds' Bob Lootens is stepping down from his position as chair of the [Ecological Land Management committee](#). Lootens, who celebrated his 35th anniversary at Fermilab on January 12, will still play an active role in ELM as a committee member. After serving four full three-year terms, Lootens says he looks forward to working "behind the scenes."

Lootens joined the ELM committee a few years after it was founded in 1975 by Midwest prairie expert Dr. Betz, of Northeastern Illinois University. Betz was the first person to suggest restoring the agricultural land back to prairie. "At first, we all thought the idea was crazy," said Lootens. "Soon, though, it was easy to see the value. It's amazing to think that we are re-creating what the settlers saw when they came here, and passing that legacy to future generations." Lootens grew up on part of the land that is now Fermilab; his family lived on a dairy farm near Kirk and Wilson Roads. "As children

Fermilab Result of the Week

A Tale of Two Tags



The black points show the number of W+jet events observed in which a jet has both a secondary vertex and a soft muon tag, for events with 1, 2 or 3 jets accompanying the W boson. The colored histogram shows the expected contribution from Standard Model sources and the "hatched" area is the uncertainty on that expectation. (Click on image for larger version.)

Heavy flavor (bottom and charm) quarks are known to decay to muons only about 10 percent of the time. In Run I, CDF observed events with W bosons plus jets from heavy flavor quarks, where the heavy-flavor jets are "tagged," or identified, by the observation that they contain a secondary vertex, displaced from the proton-antiproton collision point. The number of jets which contained muons in these events appeared inconsistent with the 10 percent probability for a heavy flavor quark to decay to a muon. Several possibilities were floated, from the mundane--a rare statistical fluctuation--to the profound--a new type of particle produced in association with W bosons that decayed all the time to muons.

W bosons produced along with jets from heavy flavor quarks are a background to

Wilson Hall Cafe**Thursday, February 9**

- Minnesota Wild Rice w/Chicken
- Tuna Melt on Nine Grain
- BBQ Ribs
- Chicken Casserole
- Buffalo Chicken Wrap
- Mexican Pizza
- Mandarin Chicken Salad

[Wilson Hall Cafe Menu](#)

Chez Leon**Thursday, February 9****BOOKED****Wednesday, February 15****Lunch**

- Catfish w/Course Mustard
- Roasted Corn & Red Pepper
- Spicy Tomato Rice
- Pecan Pie

[Chez Leon Menu](#)

Call x4512 to make your reservation.

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we loved to play in these woods," he said. "But there were always cows grazing beside the forest stands, so I didn't really understand the value of the prairie until Betz came along." Prairie restoration is still a major goal of ELM--from prairie burns to seed harvests--but the project has expanded to include marshland, savannah and forest stands.

Lootens' successor at ELM is cryogenics engineer and butterfly expert Tom Peterson, a committee member since 1999. Peterson says that he feels honored to hold such an important position, if not intimidated by Lootens' years of experience. "Bob has a unique connection to this land," said Peterson. "His knowledge of the plants and animals here is unsurpassed." Peterson and Lootens say they look forward to working together closely in the coming years, and Peterson is excited about his new role. "Fermilab is a 6,800-acre island of nature surrounded by developed land," said Peterson. "Our neighbors appreciate the open space; our stewardship of this land is one of Fermilab's contributions to the Chicago area. I'm honored to have a role in that."

— *Siri Steiner*

many rare signals such as top quark production and the putative Higgs boson. Understanding the production of W bosons plus heavy flavor quarks is then a key to extracting these signals. CDF uses two techniques to separate light quark jets (up and down) from those jets containing heavy flavor: secondary vertex tagging and soft muon tagging. In the former, the decay of a particle containing a bottom or charm quark is identified with very precise tracking that can separate the decay vertex from the proton-antiproton interaction vertex. In the latter, the decay of a heavy flavor quark to a muon is found by identifying a muon inside a jet.

With the onset of Run II, physicists at CDF were quite keen to repeat the analysis using the new data to see which of the explanations of the Run I result was supported, the profound or the mundane. The new analysis from CDF includes 50 percent more data than the anomalous Run I result. Alas, in Run II the number of jets in W+jet events with both a secondary vertex tag and a soft muon tag agrees with the expectations without the need for any exotic mechanisms. The Standard Model wins again.

Science Grid This Week**MGRID's Evolution**

[Linear Collider News archive](#)

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The University of Michigan's campus grid and cyberinfrastructure project, MGRID, was founded in 2002 by a collaboration of researchers from bioinformatics, physics and high-performance computing. Over the next three years, the project set up a campus grid and cycle-sharing service and convened a group of programmers to solve core grid infrastructure problems. Since the formal end of the project in 2005, MGRID has served as a jumping-off point for university-wide collaborations in advanced networking and communications.

"MGRID was founded to research what it would take to pull a campus cyber-infrastructure together," said Tom Finholt, MGRID's director. "MGRID is now branching out into other forms. We're exploring the best ways to use advanced network technology and our 10-gigabit optical links to Chicago, such as high-definition videoconferencing."

[Read More](#)

In the News

From *Nature*, February 9, 2006: Physics fights back

The physical sciences are strongly favoured in President Bush's 2007 budget request — but researchers can't count their chickens yet.

President George W. Bush's State of the Union address on 31 January has been widely reviewed as an uninspiring compendium of small things. But for those directly involved, some of these small things are highly meaningful. For US physicists, the president's public

This analysis was done by (left to right) Tony Liss (UIUC), Lucio Cerrito (Oxford), and Anyes Taffard (UIUC).

[Result of the Week Archive](#)

Accelerator Update

February 6 - February 8

- Two stores provided 39 hours and 14 minutes of luminosity.
- The Antiproton Source made a stacking record with 17.4 mA/hr.
- Pelletron problem resolved.

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Announcements

Found

A wedding ring was found in the Wilson Hall cafeteria. The owner or people with information regarding the ring should call x3111.

International Folk Dancing

International Folk Dancing will meet Thursday, February 9, at Kuhn Barn on the Fermilab site. Dancing begins at 7:30 p.m. with teaching and children's dances earlier in the evening and request dancing later on. Newcomers are welcome and you do not need to come with a partner. Info at 630-584-0825 or 630-840-8194 or folkdance@fnal.gov.

Family Open House

This year's Education Office Family Open House will take place on Sunday, February 19, from noon to 5:00 p.m. Call Nancy Lanning at 630-840-5588 or go to the [Fermilab Family Open House Web page](#) to register.

Deadline Reminder

The Property Office is currently

embrace of their work, and his pledge to double funding for it over the next decade, is arguably the best news in the 13 years since the discipline reeled from the cancellation of the Superconducting Supercollider in Texas in 1993.

Bush's unexpected embrace of physics was confirmed in the budget request that he sent to Congress earlier this week. The Department of Energy's Office of Science, which supports the bulk of physics research in the United States, will receive an overall budget increase of 14%, should Congress accept Bush's proposal. Its high-energy physics programme will grow by 8% and its nuclear-physics programme (which funds basic research into atomic nuclei) expands by a spectacular 24%. The National Science Foundation, which supports most non-biomedical research at US universities, also obtains a healthy 8% increase.

[Read More](#)

conducting their Equipment and Sensitive Inventory Campaigns. They mailed custodians listings a couple of weeks ago and the due date to return them to the Property Office is tomorrow, Friday, Feb. 10.

Folk Club Barn Dance

The Fermilab Folk Club is hosting a Barn Dance at the Warrenville Community Building on Sunday, Feb. 12 at 6:30 p.m. with music by the Common Taters and calling by Paul Ford. More info is on the [Fermilab Folk Club Web page](#).

[Upcoming Activities](#)