

Calendar

Wed., March 21

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

4:00 p.m. Fermilab Colloquium - 1 West

Speaker: M. Nieto, Los Alamos National Laboratory

Title: The Quest to Understand the Pioneer Anomaly
THERE WILL BE NO FERMILAB ILC R&D MEETING THIS WEEK

Thurs., March 22

1:00 p.m. ALCPG ILC Physics and Detector Seminar - Hornets' Nest (WH-8XO)
Speaker: T. Raubenheimer, Stanford Linear Accelerator Center

Title: Current ILC Machine Design and EDR Planning

1:00 p.m. Particle Astrophysics Seminar - 1 West (NOTE DATE, TIME, LOCATION)

Speaker: R. Trotta, University of Oxford

Title: Constraining Dark Energy – Observational Status and Prospects

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

Speaker: K. Zurek, University of Wisconsin

Title: Constraining Neutrino Properties with the Cosmic Microwave Background

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

THERE WILL BE NO ACCELERATOR PHYSICS AND TECHNOLOGY SEMINAR TODAY

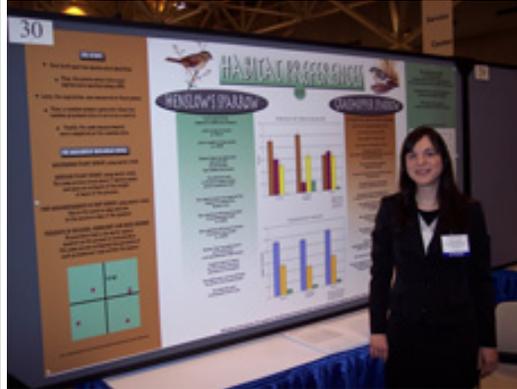
[Click here](#) for NALCAL, a weekly calendar with links to additional information.

Weather

Feature

Former eco-intern publishes article on sparrow research

This is the final article in a four-part Fermilab Today series on lab ecology.



[Kristen Maier presented her poster on sparrow ecology at Fermilab at the AAAS student poster session in February 2006.](#)

After graduating from the University of Illinois-Chicago in 2005, Kristen Maier participated in a 10-week Pre-Service Teacher internship at Fermilab focusing on ecology and environmental studies. She worked with ecologist Rod Walton of FESS, and with physicist and bird expert Peter Kasper, to examine the preferred habitats of the Henslow's Sparrows and Grasshopper Sparrows that have made their home at the lab. The paper she wrote with Walton and Kasper, documenting her research, has been published in the U.S. Department of Energy's Journal of Undergraduate Research ("Analysis of the Habitat of Henslow's Sparrows and Grasshopper Sparrows Compared to Random Grassland Areas").

Maier now teaches at Chicago's John Barry Elementary School. Out of approximately 600 abstracts submitted to the Journal of Undergraduate Research, only 16 papers were chosen for publication. Maier's achievement, however, is no surprise to her colleagues. "Kristen was a real standout in the program, mostly because she didn't just accept things. She was real skeptical of her own data," said Walton, who is also the coordinator for the DOE National Environmental Research Park at Fermilab. "She questioned everything -- exactly what you should expect from a researcher."

From the Computing Division

Grid Computing Center

Today's column is written by Vicky White, head of the Computing Division.



Vicky White

On March 14th, Computing Room B of the Grid Computing Center was finished.

FESS did a great job of completing the project safely and on time. Room A and a Robotic Storage room were finished in 2006. Room

A is now filled: 77 racks of 40 dual processors are packed into 2500 sq. ft. of space arranged in aisles which alternate between hot air from the computers and cold air blown in from the nine huge air conditioning units that engulf the room.

The computers (when in full computational swing) and the A/C (keeping them cool enough to operate) together consume one megawatt. If the power were to trip, we would have only a few minutes to shut down (using UPS for backup) before the temperature in the room would soar. So each system must demonstrate emergency shutoff procedures before we grant Authority to Operate.

The Robot room has two SL8500 10,000-slot robots, capable of holding 7.6 petabytes of data with the newest 400-Gbytes-per-cartridge LTO-3 technology. In a couple of years, the capacity will at least double, as technology inevitably marches forward.

Why do we need all this power and cooling and tape storage? For example, to get physics results from CDF and DZero, scientists must reconstruct and then analyze up to 2 fb^{-1} of Tevatron data. At the Tevatron's current record luminosities, each experiment records, and must reconstruct, about 25 million events each week. Several hundred physicists sift through the reconstructed data, which also takes a comparable computational power, not to mention a lot of disk space. The disks are in the Feynman Computing Center while the computational horsepower is down the road in the Grid Computing Center, connected

**Showers, Chance of****Thunderstorms 61°/47°**[Extended Forecast](#)[Weather at Fermilab](#)**Current Security Status**[Secou Level 3](#)**Wilson Hall Cafe****Wednesday, March 21**

- Portabello Harvest Grain
- Santa Fe Chicken Quesadilla
- Teriyaki Chicken w/Vegetables
- Beef Stroganoff
- Triple Decker Club
- Assorted slice pizza
- Pesto Shrimp Linguini w/ Leeks & Tomatoes

[Wilson Hall Cafe Menu](#)**Chez Leon****Wednesday, March 21 Lunch**

- Saucisson en croute w/ madeira sauce
- Salad of field greens w/ mustard vinaigrette
- Amaretto chocolate cheesecake

Thursday, March 22 Dinner

- Vichyssoise
- Monkfish w/cognac sauce
- Herbed rice pilaf
- Steamed asparagus
- Apple galettes

[Chez Leon Menu](#)

Call x4598 to make your reservation.

Archives[Fermilab Today](#)[Result of the Week](#)[Safety Tip of the Week](#)[ILC NewsLine](#)

Though the numbers of Henslow's Sparrows on site have been increasing since their arrival in 2000, they are considered an endangered species. Grasshopper Sparrows, which are rare prairie birds, have made Fermilab their home for about 20 years. Their population on site and elsewhere has declined due to the lack of a suitable habitat. Through her study, Maier hoped to determine the sparrows' ideal habitat, and then suggest adaptations for the Fermilab ecosystem that would encourage an increase in the birds' population. Maier's study was an important initial step in characterizing the sparrows' habitats, and encouraging future research and conservation efforts for these distinctive birds.

To see Kristen's paper, visit [the DOE Website](#).--*Andrea Varry, Education***Special Announcement****Golf with the Fermilab league**

Golf season is in full swing, and the Fermilab Golf League is looking for new members. The golf league consists of individual 4-person teams that play on local courses during different nights of the week. All told, we have about 100 golfers in the league, and we'd like a few more.

Our handicapped matches ensure that golfers of widely varying ability are able to compete fairly. Teams play at Arrowhead Golf Course in Wheaton, Bliss Creek Golf Course in Sugar Grove and the Fox Valley Golf Course in Aurora.

Membership is open to all Fermilab employees (both present and past), their families and contractors doing business with the lab. If you don't feel that you can commit to playing every week, all of leagues offer positions for substitutes who play on an as-needed basis.

You can join as a full team, individual player or as a substitute. If you would like more information about the Fermilab Golf League, or about team-play at a specific course, contact any of the league representatives listed below.

Tuesday at Arrowhead: [Patrick Liston](#) or [Mike Matulik](#). Tuesday at Bliss Creek: [Don Arnold](#).

Tuesday at Fox Valley: [Mark Kujawa](#).

seamlessly by 200 fiber strands as if they were a few feet apart, instead of one mile.

CMS is also churning away on Monte Carlo data generated all over the world, reconstructed at CERN, shipped to Fermilab, then sent to Tier 2 centers in the U.S. and worldwide. The real LHC data is coming soon, and the computation and data movement will be immense. By the middle of 2008, Room B will be completely full. If you want to see just how much power and cooling are required for modern computing appetites, check out what [Google](#) is doing. Our facilities are splendid, and working efficiently to support our program. Google's are stupendous and mega-watt-arific.

Announcements**Free Osteoporosis Screening, April 4**

Fermilab will offer a free heel-scan osteoporosis screening on April 4, from 7:30 a.m. to 10:45 a.m. on the 15th Floor of Wilson Hall in the NW Conference Room. The heel scan is open to both men and women, and results are immediate. If you have had fractures or surgery on both feet, or if you took advantage of the last Fermilab screening, you will not be able to participate in this screening. You can find instructions and more information [on the ES&H homepage](#).

String Theory: Brian Greene and Lawrence Krauss Debate

Is all of nature really made up of tiny bits of vibrating strands of energy? The controversial string theory could bridge the gap between classical and quantum physics, and could explain some of the universe's biggest questions, such as the origin of space and time. Critics, however, say the theory has no empirical foundation. The DOE Office of Science and the Smithsonian Institution will co-sponsor a debate between string theory proponent Brian Greene and skeptic Lawrence Krauss on Wednesday, March 28 at 7:00 p.m. at the National Museum of Natural History in Washington, D.C. The debate will be moderated by University of Chicago cosmologist Michael Turner. Tickets are \$25 general admission. Call 202-357-3030 or visit the [website](#) for details.

Memo to Managers and Supervisors

Are you an experienced manager or supervisor? Would you like to refresh your management skills and add some new approaches to building an effective, motivated staff? You can explore the interaction skills

Info

Fermilab Today is online at:
www.fnal.gov/today/

Send comments and suggestions to:
today@fnal.gov

Wednesday at Fox Valley: [Paul Czarapata](#) or [Alan Jonckheere](#).

In the News

The New York Times, **March 20, 2007:**

The Scientific Promise of Perfect Symmetry

It is one of the most symmetrical mathematical structures in the universe. It may underlie the Theory of Everything that physicists seek to describe the universe.

Eighteen mathematicians spent four years and 77 hours of supercomputer computation to describe this structure, with the results unveiled Monday at a talk at the Massachusetts Institute of Technology.

But it still is not easy to describe the description, at least not in words.

"It's pretty abstract," conceded Jeffrey D. Adams, a professor of mathematics at the University of Maryland who led the project.

[Read More](#)

needed for creating a more productive work environment and achieving critical goals through the Interaction Management course offered by the Professional Development Office. Interaction Management is scheduled for April 19, 26, and May 10. There is no fee for this class and you can enroll [online](#).

The Next Fermi Kyuki-Do Martial Arts Class begins on April 9

Kyuki-Do classes will start on April 9. This martial art combines the strikes of Taekwon-Do, the throwing and grappling techniques of Judo and Jujitsu, the joint locks of Hapki-Do, and the practice of Kobudo (traditional weapons). Classes are held on Monday and Wednesday from 5 - 6 p.m. at the Recreation Facility in the Village. Teacher Bruce Worthel will focus on a practical self-defense that can be used by women or men. You will learn kicks, blocks, hand techniques, throws, pins, self-defense, and forms that will teach you balance, power, and grace. Register through the Recreation Office; classes cost \$45 per 6-week session. You must be a member of the recreation facility to join.

[Upcoming Activities](#)