

Calendar

Thursday, October 5

12:00 p.m. Special Particle Astrophysics
Brown Bag Seminar

(NOTE LOCATION) The Dark Side (WH-6NW)

Speaker: G. Calcagni, University of Sussex

Title: Tachyon Dark Energy Models: Dynamics and Constraints

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

Speaker: T. Raubenheimer, Stanford Linear Accelerator Center

Title: Tradeoffs Between ILC Cost and Luminosity

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

Speaker: C. Kao, University of Oklahoma
Title: $B_s \rightarrow \mu\mu$ vs. Direct Higgs Searches at Hadron Colliders

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

THERE WILL BE NO ACCELERATOR PHYSICS AND TECHNOLOGY SEMINAR TODAY

Friday, October 6

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

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

Speaker: A. Gupta, University of Chicago
Title: W Mass and Width from LEP

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

Weather

Afternoon playgroup fun for kids and for parents, too



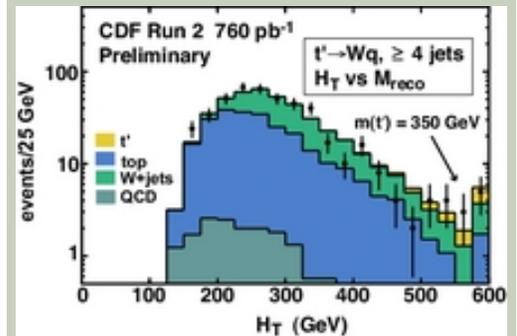
Jennifer Jansson and her family came to Batavia four years ago from Sweden, when her husband took a job at Fermilab. A playgroup at Fermilab was just what she needed. "It was a necessity for me when I was new," Jansson said. "Since I don't have any old friends and family around, most of my friends are in the playgroup."

Jansson now organizes the Fermilab playgroup, sponsored by NALWO, which meets Mondays and Wednesdays, 4-5:30 p.m., in the music room at the Village Users' Center. Interested families can show up. An average session will find 8-to-10 children, ranging from six months to six years, engaging in free play, doing arts and crafts and singing songs.

Most of the parents are expatriates. "Sometimes it's more important for the moms," said Jansson. "If you're new, we at the playgroup know what it is like for a new person. We know their needs. We

Fermilab Result of the Week

What tops top?



Distribution of total transverse energy in the event (H_T) for a combination of top,

backgrounds, and a hypothetical 350 GeV t' normalized to its measured upper limit (95 percent confidence level).

Physicists always want to know more. Quarks appear to come in three "generations," with the heaviest quark, the top, being a member of the third generation. But can there be a fourth generation? Or perhaps another heavy particle that can mimic the top as suggested by some extensions of the Standard Model?

Physicists in the CDF experiment set out to look for a heavier version of the top quark, dubbed the t' ("tee prime"), using a similar technique they use to measure the production rate of pairs of top quarks. To measure top, physicists make use of its heaviness to distinguish it from the less-heavy backgrounds in the data sample. The signal for a new t' quark would be events with an even larger apparent mass or total energy. Using a large sample of Tevatron data collected up to 2006, CDF physicists calculated simultaneously the total energy deposited in the event, and the apparent mass of the quark that might be decaying.

Sunny **59°/40°**[Extended Forecast](#)[Weather at Fermilab](#)**Current Security Status**[Secon Level 3](#)**Wilson Hall Cafe****Thursday, October 5**

- Portabello Harvest Grain
- Philly Style Cheese Steak
- Garlic Herb Roasted Pork
- Tomato Basil Chicken Parmesan
- Southwestern Turkey Wrap
- Assorted Slice Pizza
- Marinated Grilled Chicken Cesar Salads

[Wilson Hall Cafe Menu](#)**Chez Leon****Thursday, October 5****Dinner**

Booked

Wednesday, October 11**Lunch**

- Rouladen
- Buttered and Dill Egg Noodles
- Steamed Carrots w/Garlic & Thyme
- Apple Walnut Cake

[Chez Leon Menu](#)

Call x4598 to make your reservation.

Search**Search the Fermilab Today Archive****Info**

know where you can find things." Ana Rios, from Ecuador via Virginia, recently joined the playgroup with her daughter. "I didn't know anybody when I arrived," said Rios. "I'm getting advice on everything."

Jansson raises her children in Swedish; they hear English at the playgroup, school and Sunday school. "For some kids this is their only English-speaking experience in the week," she said. The playgroup also organizes seasonal parties and baby showers for expectant mothers. Jansson said the group is energizing for everyone. "We have new families and that's fun," she said.

--D.A. Venton

Seed from chaff: Fermilab gives tips to ecology team

The Chicago Wilderness Natural Resources Management Team came to Fermilab yesterday to learn more about prairie restoration projects at the lab. During the tour, Bob Lootens described how Roads and Grounds uses a seed-drying wagon (designed and built by Fermilab's Gary Konen) and a broadcast prairie-seed spreader for harvest and re-planting. He also described how to account for various conditions, such as high wind when spreading seed, and techniques for bringing back first-wave species, like trimming newer growth to let in sunlight.

The group also visited the seed

Alas, there is no large excess of events beyond that expected from the top and the expected Standard Model backgrounds.

Though absence of evidence is not evidence of absence, if there had been a t' with mass less than one and a half times the top quark mass, the researchers would have found it in this sample of data. With the record-setting luminosities enjoyed at the Tevatron these days, these physicists can continue the search for what might be lurking there, over the top.

[Click here for further reading](#)

The CDF team searching for massive top-like particles (from left): Andrew Ivanov, Robin Erbacher and John Conway of UC Davis. Not shown: Amit Lath (Rutgers); Rob Roser (FNAL); Kevin Lannon, Richard Hughes and Brian Winer (OSU).

[Result of the Week Archive](#)**Accelerator Update****October 2 - 4**

- Storms and lightning strikes responsible for no integrated luminosity during the last 2 days.

[Read the Current Accelerator Update](#)[Read the Early Bird Report](#)[View the Tevatron Luminosity Charts](#)**Announcements**

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processing building (shown above), where an old fanning mill separates the seed from the chaff for springtime planting. The room contained baby-food jars with cancer root, coffee cans with May apple, a shopping bag full of sweet black-eyed Susan, and more. "We're interested in learning the techniques Fermilab uses to develop prairies," said visitor Jerry Atteve, an ecological restoration intern with the Village of Glenview. "It can give us new ideas for how to maintain and improve our prairies."

--Siri Steiner

Fermilab's annual prairie seed harvest will take place this weekend. To learn more, visit Fermilab's [ecology website](#).

In the News

SLAC Today, October 4, 2006: Stanford Chemist Receives Nobel for Work Conducted in Part at SSRL

Congratulations to Stanford Professor Roger D. Kornberg, who has been awarded the Nobel Prize in Chemistry for resolving the machinery that gives voice to DNA. Kornberg carried out a significant part of the research contributing to this prize at the Stanford Synchrotron Radiation Laboratory (SSRL).

In order for our bodies to make use of the information stored in the genes, a copy must first be made and transferred to the outer parts of the cells. There it is used as an instruction for protein production—it is the proteins that in their turn actually construct the organism and its function. The copying process is called transcription. Roger Kornberg was the

Professional Development

New classes are always being added to the professional development schedule. For the most up-to-date course offerings, go to [the web page](#).

Argonne open house

Saturday, October 7

Science enthusiasts of all ages will enjoy the presentations at the [Argonne National Laboratory's open house](#) on Saturday, October 7. The DOE lab is celebrating its 60th anniversary with its first open house in seven years. The facility will open to the public from 9 a.m. to 4:30 p.m. at its site at 9700 S. Cass Ave., near Darien.

Fermilab volunteers needed

The Education Office is looking for more classroom presenters to visit local schools. The following equipment training times for new and experienced presenters will be held as brown bag sessions in WH-1N:

October 10 from 12:00 to 1:30 - Force and Motion - Anne Heavey

October 17 from 12:00 to 1:30 - Electricity and Magnetism - Sharon Lackey. You can read more about the program [here](#).

Fermilab celebrates Illinois

Arts Week, October 8-14

Fermilab has planned two events next week to honor Illinois arts:

On Wednesday, October 11 at 7:00 p.m., artist Sallie Wolf will present "Moon Music: How observing the moon led to the creation of a modern Gregorian chant." The performance will take place in the Fermilab Art Gallery on the 2nd floor of Wilson Hall.

first to create an actual picture of how transcription works at a molecular level in the important group of organisms called eukaryotes (organisms whose cells have a well-defined nucleus). Mammals like ourselves are included in this group, as is ordinary yeast.

[Read More](#)

On Friday, October 13 at 7:00 p.m., Jim Jenkins will present "The Ah-Ha Moment," a discussion and slide presentation about his work. The show will take place at Geneva City Hall, 22 South 1st Street, Geneva.

If you have questions, please contact Georgia Schwender at 630-840-6825 or georgia@fnal.gov.

[Upcoming Activities](#)