

## Feature

### Employee Commuting Survey results are in

*Katie Kosirog, ES&H environmental protection specialist, wrote this column.*

Thanks to all who completed Fermilab's employee commuting survey in November. More than 55 percent of employees, or 1150, completed the survey.

[Executive Order 13514](#)

and DOE's [Strategic Sustainability Performance](#)

[Plan](#) require Fermilab to

reduce greenhouse gas emissions related to employee commuting and business travel 12 percent by 2020. The survey asked questions related to public transportation, carpooling, alternative work schedules, and telecommuting because a combination of these approaches will help lower greenhouse gas emissions.



Katie Kosirog

Fermilab's ES&H environmental protection group used the results to calculate greenhouse gas emissions related to employee commuting for DOE's annual Pollution Prevention Tracking and Reporting System. DOE requires Fermilab to submit data into this database every fiscal year by Dec. 1. This year DOE asked us to gather more specific data and then use that data to estimate more accurate greenhouse gas emissions related to Fermilab employee commuting habits.

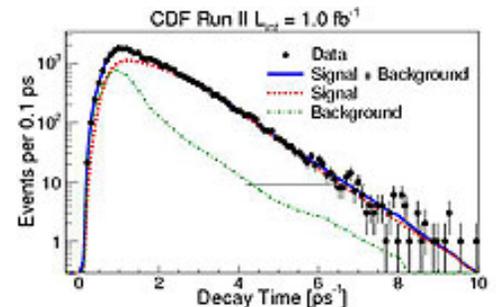
Here are some of the survey [results](#):

- 71 percent of responders drive passenger cars, 21.5 percent drive vans or SUVs, 2.1 percent carpool, 3.6 percent bike or walk to work, 0.5 percent take public transportation
- 30 percent would use public transportation more than driving if it was readily available
- 48 percent would carpool at least two days per week
- 38 percent would bike or walk more if it was more convenient
- 80 percent would work from home at least one day a week
- 78 percent would like to work an alternative schedule

We received a lot of great comments and

## Result of the Week

### Living flavorfully with biases



If the data sample were unbiased we would expect the red line to be a straight downwards sloping line.

Millions of particle collisions take place each second at the Tevatron. Some collisions produce B hadrons that live for approximately a millionth of a millionth of a second before decaying to other particles. Although so many B hadrons are produced, scientists are still working to accurately measure the short-lived particle's lifetime. CDF scientists have made such a measurement by employing new analytical techniques.

A precise measurement of the B hadron's average decay time is crucial to understanding the low energy interactions between the quarks that make up B hadrons. To collect events with B hadrons, physicists employ fast algorithms that retain events containing interesting signatures.

One signature of B hadrons is that some of them live long enough to travel a few millimeters from the collision point. So, an event is more likely to contain a B hadron if it has decay tracks that do not originate at the collision point.

However, if scientists were to look at the distribution of the B hadron's decay time it would look distorted since selection algorithms are more likely to choose particles that live longer and travel further in the detector. Performing a measurement using this sample would be biased, like concluding the average house price in a country by sampling only the affluent neighborhoods.

Particle physics research often relies on simulated data to estimate these biases.

## Calendar

[Have a safe day!](#)

Thursday, Dec. 9  
2 p.m.

[Computing Techniques](#)

[Seminar](#) - FCC1

Speaker: Steve Timm,  
Fermilab

Title: The FermiCloud Project:  
Pilot Service Deployment and  
Future Plans

2:30 p.m.

[Theoretical Physics Seminar](#) -

Curia II

Speaker: Leandro Almeida,  
CEA-Saclay

Title: Jet Hunting with  
Templates

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

THERE WILL BE NO  
ACCELERATOR PHYSICS  
AND TECHNOLOGY  
SEMINAR THIS WEEK

Friday, Dec. 10

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

4 p.m.

[Joint Experimental-Theoretical Physics Seminar](#) -One West

Speaker: Yvonne Peters,  
University of Manchester/  
Fermilab  
Title: A Top Quark Carol

Saturday, Dec. 11  
8 p.m.

Fermilab Arts Series -  
Auditorium

Title: [A Celtic Christmas](#) with  
Tomaseen Foley  
Tickets: \$28/\$14

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

[Upcoming conferences](#)[Campaigns](#)[Take Five](#)[Weather](#)

Chance of snow  
29°/26°

[Extended Forecast](#)[Weather at Fermilab](#)[Current Security Status](#)[Secou Level 3](#)[Wilson Hall Cafe](#)

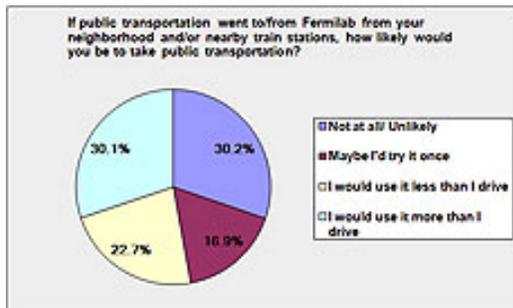
Thursday, Dec. 9

- Breakfast: Apple sticks
- Santa Fe black bean soup
- Steak tacos
- Chicken Wellington
- Chimichangas
- Baked ham & Swiss on a ciabatta roll
- Assorted sliced pizza
- Crispy fried chicken salad

[Wilson Hall Cafe Menu](#)[Chez Leon](#)

suggestions. The Environmental Protection Subcommittee will also analyze the survey results and will use those results and the comments and suggestions to form a recommendation to Fermilab management regarding possible solutions to meet the new DOE goal.

To continue to track commuting habits, the ES&H section will conduct similar surveys in the future. Your participation is greatly appreciated.



One result from the recent employee commuting survey.

[Milestone](#)[Retirement events](#)

Below is a listing of upcoming retirements events:

Bob Mau, AD. Cake in the Main Control Room at 2:30 p.m. on Dec. 14. Retirement party will take place at 11:30 a.m. on Friday, Jan. 14, 2011 at Lincoln Inn Banquets, Batavia. Contact Mary Kohler, x8225

Alan Jonckheere, PPD. Retirement event at 11:30 a.m. on Wednesday, Dec. 15, at Andres Restaurant, 5 Webster Street, Batavia. Contact Julie, x4591.

Brian Kramper, AD. Retirement luncheon will take place at 11:30 a.m. on Monday, Dec. 13, Riverview Banquets, 1117 N. Washington Ave., Batavia. Contact Rebecca, x5069, or Dennis, x 6410.

Ed Crumpley, FESS. Retirement event: Cake at 1:30 p.m. on Monday, Dec. 13, on WH5E.

Merle Olson, FESS. Retirement event: Cake at 1:30 p.m. on Monday, Dec. 13, on WH5E.

[Special Announcement](#)

However, there are differences between simulated and real data that lead to large uncertainties on the measurement.

To make a measurement of the B<sup>+</sup> lifetime at CDF, scientists [employed](#) a new analytical technique to calculate the biases using only information gathered from the data.

The result is a method that has a limiting precision better than 1 percent, which is more than a factor of two smaller than methods that rely on simulation.

We measure the mean decay time of B<sup>+</sup> as  $1.662 \pm 0.023$  (stat.)  $\pm 0.015$  (syst.) pico seconds. This method, developed at CDF, is available to other experiments such as LHCb at the LHC where it could be used to further understand the B hadrons.

[More information](#)

-- edited by Andy Beretvas



First row from left: Jonas Rademacker, Sneha Malde, Farrukh Azfar, Nicola Pounder, all Oxford. Second row from left: Louis Lyons, Oxford; Joe Boudreau and Aziz Rahman, Pittsburgh; and Todd Huffman, Oxford.

[Accelerator Update](#)

Dec. 6-8

- Three stores provided ~54.25 hours of luminosity
- Operators tuned the Pbar transfer line
- Operators tuned the Proton Source
- Operators tuned MI
- A kicker pre-fire caused a loss of antiprotons during transfer

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

[Announcements](#)

Thursday, Dec. 9

Dinner

- Spinach & strawberry salad
- Lobster tail w/drawn butter
- Spaghetti squash w/green onions
- Sautéed pea pods
- White chocolate-raspberry crème brule

Wednesday, Dec. 15

Christmas Lunch

12 p.m.

- Crab cakes w/red pepper mayo
- Lemon orzo
- Sautéed spinach w/ garlic
- Chocolate raspberry torte

[Chez Leon Menu](#)

Call x3524 to make your reservation.

[Archives](#)

[Fermilab Today](#)

[Director's Corner](#)

[Result of the Week](#)

[Safety Tip of the Week](#)

[CMS Result of the Month](#)

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[Info](#)

[Fermilab Today](#)

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Send comments and

suggestions to:

[today@fnal.gov](mailto:today@fnal.gov)

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## Education Office to hold annual holiday sale today



Fermilab Director Pier Oddone wears one of the Fermilab silk ties available at the Education Office.

Prepare for the winter holidays with Fermilab gear. From 10:30 a.m. to 2 p.m. today, stock up on winter clothing, science toys and more at the Education Office's Super Science Stocking Stuffer Sale. The Education Office is holding the sale next to One West. All major credit cards are accepted.

[Photo of the Day](#)

## Leaping coyote



Scott Seifrid caught one of the Fermilab coyotes in mid-flight. *Photo: Scott Seifrid*

[In the News](#)

## "Our generation's Sputnik moment is back": President Obama reiterates his support for R&D

From *The AIP Bulletin of Science Policy News*, Dec. 8, 2010

Research and development continue to play a prominent role in the national discussion about restoring America's economic prosperity. Following last week's release of the [report](#) by

The National Commission on Fiscal Responsibility and Reform recommending "expanding high-value research and development in energy and other critical areas," President Barack Obama discussed the value of R&D two separate times this week. The first was during a 40-minute address at a community college that was largely devoted to the importance of innovation that provides an expansive view of the President's position on R&D, the second in response to a question at yesterday's White House press briefing. Excerpts from both follow:

## Latest Announcements

[School's Out day camp](#)

[Weight Watchers introduces new PointsPlus program](#)

[Free 10-minute holiday wellness massages Dec.15-16](#)

[Card stampers - Dec. 14](#)

[Chez Leon lunch Friday, Dec. 17](#)

[FNPRT service upgrade today](#)

[Barn dance - Dec. 12](#)

[Indian Creek Road closed at MI-8 today](#)

[Guided practicas for Argentine Tango thru Dec. 29](#)

[Free webinar on navigating a changing tax environment - Dec. 14](#)

[Indian Creek Road will be closed at MI-8 today](#)

[Submit a topic suggestion for Disability Awareness Seminar](#)

[Wilson Hall super science stocking stuffer sale - Dec. 8-9](#)

[Fermilab Arts Series presents "A Celtic Christmas" - Dec. 11](#)

[Winter Holiday Party Special Dec. 10](#)

[Fermilab Art Gallery: Artist reception - Dec. 10 5-7 p.m., Painting demo - Dec. 15 11:30 a.m.](#)

[Fermilab Today holiday schedule](#)

[Open basketball at the gym](#)

[Folk dancing on Thursdays in Dec.](#)

[Free martial arts class - Dec. 15](#)

[Annual potluck party and skits Dec. 17](#)

[Symposium celebrates 25th anniversary of first collision at Tevatron Dec. 17](#)

White House Press Briefing, December 7, 2010

“But we’ve got to have a larger debate about how is this -- how is this country going to win the economic competition of the 21st century? How are we going to make sure that we’ve got the best-trained workers in the world? There was just a study that came out today showing how we’ve slipped even further when it comes to math education and science education.

[Read more](#)

[Fermilab Blood Drive - Dec. 20 & 21 \(Walk in only\)](#)

[Fermilab Arts and Lecture Series Box Office Winter schedule](#)

[Users Office holiday hours](#)

[Accelerate to a Healthy Lifestyle Program through Dec. 31](#)

[Disney On Ice presents "Toy Story 3" Feb. 2-13](#)

[Submit an announcement](#)