

Calendar

[Have a safe day!](#)

Thursday, Jan. 14

2:30 p.m.

[Theoretical Physics Seminar](#) -

Curia II

Speaker: Brooks Thomas,
University of Arizona

Title: Semper FI?:

Supercurrents, R-Symmetries,
and the Status of Fayet-

Iliopoulos Terms in

Supergravity

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

THERE WILL BE NO

ACCELERATOR PHYSICS

AND TECHNOLOGY

SEMINAR TODAY

Friday, Jan. 15

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

THERE WILL BE NO JOINT

EXPERIMENTAL-

THEORETICAL PHYSICS

SEMINAR THIS WEEK

Sunday, Jan. 17

2:30 p.m.

[Gallery Chamber Series](#) - 2nd

Flr Art Gallery

The Chicago Chamber

Musicians

Tickets: \$17

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

[Upcoming conferences](#)

[Campaigns](#)

[Take Five](#)

[Tune IT Up](#)

[H1N1 Flu](#)

From symmetry breaking

Ground-breaking neutrino R&D gets government boost



How the LBNE would fit into the Fermilab accelerator complex.

Work toward the world's most intense long-distance neutrino beam received key government approval last week, invigorating US and global collaborators.

The [Long Baseline Neutrino Experiment](#) passed the first Department of Energy approval stage Friday, Jan. 8, when it received Critical Decision-0. This designation cements the DOE's support for the need and physics goals of the experiment. In a field where researchers work on multiple projects at once, the designation also helps laboratories prioritize efforts.

[Read more](#)

-- Tona Kunz

Feature

Tyler Przybylek appointed URA general counsel



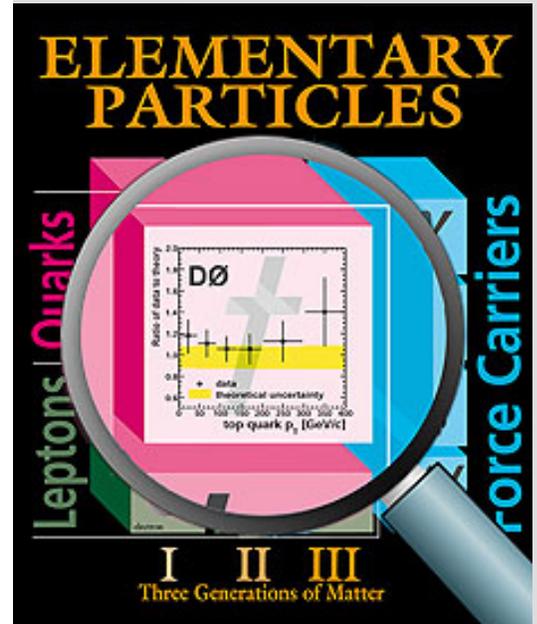
Tyler Przybylek

Tyler Przybylek, who will join URA as general counsel on Jan. 18, brings with him a background of long and distinguished service as a legal counsel in the Department of Energy. He succeeds Bill Schmidt, who will retire as URA and FRA general counsel on Jan. 15 after nearly 17 years of service.

On announcing Przybylek's appointment, URA

Fermilab Result of the Week

Top quarks join the club



The bounty of data supplied by the Tevatron and the tireless efforts of the Fermilab Accelerator Division have allowed DZero to very carefully study the top quark. This result is similar to the one reported in an [earlier ROW](#), but restricted solely to top quarks.

A mere decade and a half ago, at this very laboratory, scientists discovered the top quark. Those discovery papers utilized what we would today call only a modest amount of beam. That comparatively small amount of beam translated into many tens of millions of recorded collisions. From that data DZero and CDF observed a few tens of collisions in which top quarks were created and thus the scientists were able to claim discovery.

DZero has recently [submitted](#) for publication a measurement of the energy distribution of top quarks. This measurement utilizes about 20 times more data than was available for the discovery paper. From the couple of billion events recorded in Run II, we now have recorded a few hundred top quarks that satisfied the strict selection criteria used in this analysis.

Prior to acquiring the larger Run II data set, scientists found measuring the properties of top quarks to be challenging. They considered theoretical predictions and whether the measurements agreed with those predictions, but with the limited data, it was hard to draw definitive conclusions. One important

For information about H1N1, visit Fermilab's flu information [site](#).

Weather



Slight chance
of drizzle
36°/27°

[Extended Forecast](#)
[Weather at Fermilab](#)

Current Security Status

[Secon Level 3](#)

Wilson Hall Cafe

Thursday, Jan. 14

- Breakfast: Apple sticks
- Minnesota wild rice w/ chicken
- Tuna melt on nine-grain
- Italian meatloaf
- Chicken casserole
- Buffalo krispy chicken wrap
- Assorted sliced pizza
- Mandarin chicken

[Wilson Hall Cafe Menu](#)

Chez Leon

Thursday, Jan. 14

Dinner
- Closed

Wednesday, Jan. 20

Lunch
- Penne pasta w/ spinach & mushrooms in Alfredo sauce
- Green salad
- Italian cream cake

[Chez Leon Menu](#)

Call x3524 to make your reservation.

Archives

President Fred Bernthal noted, "The URA trustees and I are delighted that Tyler will be working with us. He brings a tremendous range and depth of legal experience at the highest levels in DOE, and more recently, private-sector experience. On behalf of URA and his many friends at Fermilab, we again want to thank Bill Schmidt for his outstanding service to URA and FRA."

Przybylek currently heads a business consulting firm in the energy and environment areas. He stepped down from the position of general counsel and chief operating officer of DOE's National Nuclear Security Administration. He previously worked as chief counsel to the Albuquerque area operations office, as DOE area site manager for the Los Alamos office and as chief counsel for Oak Ridge Operations in Oak Ridge, Tenn.

His responsibilities have included development and negotiation of major contracts and agreements related to operations, construction and evaluation at DOE laboratories and facilities, as well as oversight of litigation. Przybylek holds a J.D. degree from George Washington University and a B.A. from Boston College. He is a member of the bar of the District of Columbia.

In Brief

EAP offers January Webinars

Many people make personal goals at the beginning of a new year. Fermilab's Employee Assistance Program offers a series of Webinars in January that focus on tools and strategies people can implement to get started on those goals.

- Tuesday, Jan. 12, from 11 a.m.-noon CST, "New Year's Goal-Setting"
- Wednesday, Jan. 13, from 2-3 p.m. CST, "New Year's Goal-Setting"
- Thursday, Jan. 21, from 1-2 p.m. CST, "Credit in Today's Economy"
- Tuesday, Jan. 26, from 11 a.m.-noon CST, "Beating the Winter Blahs"

All Webinars are archived so they can be viewed at a later date if the scheduled date/time is not convenient.

Anyone interested in virtually attending the live event can register through the Fermilab [EAP Web site](#) with the User ID "Fermilab" and the password "eap". The event is one of the monthly one-hour Webinars offered by Fermilab's Employee Assistance Program.

prediction is of the momentum, the angle at which the top quark escapes from the collision and the energy at which it is produced. Measurements like this have been done to amazing accuracy using the lighter quarks and much less precisely using earlier top quark data. This measurement greatly improves the precision of the top quark measurement. The theory and data are in good agreement, adding another brick in the wall that is the Standard Model.

This measurement is an especially important one, because we do not understand in detail why the top quark is so much heavier than the other five quarks. Because of this, we hope that new physics might be hiding in top quark studies. DZero has recorded five times more data than reported in this analysis, which we are carefully scrutinizing. New physics may still lurk in our data.

-- Don Lincoln



Jiri Kvita
Charles University
Czech Republic

Jiri Kvita and Michael Biegel (Brookhaven National Laboratory, not pictured) have worked together to complete this interesting analysis.



Marc Buehler U. Virginia Stefan Grünendahl Fermilab Ivan Horedia de la Cruz CINVESTAV, Mexico Dennis Macklin Rice Univ.



Ricardo Magaña-Villalba CINVESTAV Mexico Carrio McGivern U. Kansas Jamieson Olsen Fermilab Graham Wilson U. Kansas

The DZero Level 1 CTT team is responsible for making sure that DZero can reconstruct charged particle tracks in real time and record the ones we want.

Accelerator Update

[Fermilab Today](#)

[Result of the Week](#)

[Safety Tip of the Week](#)

[CMS Result of the Month](#)

[User University Profiles](#)

[ILC NewsLine](#)

Info

[Fermilab Today](#)

is online at:

www.fnal.gov/today/

Send comments and suggestions to:

today@fnal.gov

Visit the Fermilab

[home page](#)

In the News

UK physicists warn of brain drain over funding freeze

From *physicsworld.com*, Jan. 13, 2010

Physicists have written to the UK's science minister, Lord Drayson, about the "dismal future" for researchers in the UK following cuts announced by a leading UK funding agency last month. They warn that unless the government takes action to reverse the situation the UK will be "perceived as an untrustworthy partner in global projects", and that there will be a brain drain of the best UK scientists to positions overseas.

The cuts were made on 16 December by the Science and Technology Facilities Council (STFC), which announced that the UK will be forced to withdraw from over 25 leading international projects in astronomy, nuclear physics, particle physics and space science. The cuts – brought about by a £40m shortfall in STFC funding – would also lead to a 25 percent cut in the number of STFC studentships and fellowships over the next five years, as well as a 10 percent reduction in support for "future exploitation grants".

[Read more](#)

In the News

Neutrino telescope measures temperature of the ozone layer

From *Technology Review*, Jan. 11, 2010

A neutrino telescope buried beneath the ice at the South Pole is giving researchers a unique glimpse of temperature changes in the ozone layer.

The IceCube neutrino observatory is a kilometre-scale array of photon detectors buried under the ice at the South Pole. When neutrinos pass through the ice, they occasionally bump into atoms creating particles called muons. These muons then generate light as they pass through the ice which is then picked up by the detector allowing scientists to determine the direction of the incoming neutrino.

The trouble is that most of the muons that IceCube sees are not generated by neutrinos at all but by collisions between cosmic rays and atoms in the upper atmosphere. In fact for every muon fathered by a neutrino, IceCube

Jan. 11-13

- Three stores provided ~34 hours of luminosity
- Backup I- Source work continues
- LRF2 problems persist
- Booster Chopper cable repaired
- TeV tilt meters record Haiti earthquake

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Announcements

Payroll announcement

[Benefits rates for weekly employees](#)

Latest Announcements

["BLAST! The Movie": intro, film and Q&A - Feb. 19](#)

[Muntu African Dance Theatre Feb. 6](#)

["Evolution in the 21st Century" - Jan. 22](#)

[CSO Musicians perform Sunday in Gallery Chamber Series](#)

[Barn dance Jan. 17](#)

[Tai Chi For Health begins Jan. 21](#)

[Free Tai Chi for Health open house - today](#)

[Weekly time sheets due Friday](#)

[International folk dancing, Thursdays at Kuhn Village Barn](#)

[Scottish country dancing Tuesdays at Kuhn Village Barn](#)

[Argentine Tango at Fermilab through Jan. 25](#)

[Romanian/fusion dance workshop Jan. 28 at Kuhn Village Barn](#)

[Applications accepted for awards in URA Visiting Scholars program](#)

[Atrium events - book through Office of Communication](#)

[English country dancing Feb. 7, with live music](#)

sees a million muons fathered by cosmic rays.

[Read more](#)

[2010 standard mileage reimbursement rate](#)

[Fermilab Natural Areas newsletter](#)

[Elder Care: Where do I begin? interactive seminar](#)

[Fermilab Family Open House Feb. 21](#)

[Python Programming class offered Feb. 24-26](#)

[FRA scholarship 2010](#)

[East gate began closing 1-5 a.m. Jan. 5](#)

[Additional activities](#)

[Submit an announcement](#)