

Calendar

Monday, Nov. 29
2:30 p.m.
[Particle Astrophysics Seminar](#) - One West
Speaker: Andrew Liam Fitzpatrick, Boston University
Title: Exploring Possible Dark Matter Models for DAMA and CoGeNT
3:30 p.m.
DIRECTOR'S COFFEE
BREAK - 2nd Flr X-Over
4 p.m.
All Experimenters' Meeting - Curia II
Special Topics: Historical Tevatron Magnet Roll Data

Tuesday, Nov. 30
2 p.m.
[Computing Techniques Seminar](#) FCC1
Speaker: Abhishek Dubey, Vanderbilt University
Title: Model-Integrated Computing: Using Models for Formalizing Development of Complex Software Systems
3:30 p.m.
DIRECTOR'S COFFEE
BREAK - 2nd Flr X-Over
4 p.m.
THERE WILL BE NO ACCELERATOR PHYSICS AND TECHNOLOGY SEMINAR THIS WEEK

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

[Upcoming conferences](#)

Feature

The next generation of accelerator



The Cockcroft-Walton pre-injectors. Photo: [Michael Monaxios](#)

Fermilab's iconic Cockcroft-Waltons are on their last mission. In 2012, the elephantine generators will join the cyclotron magnet in the annals of accelerator history. This will make room for a top-of-the-line system only a few yards in length.

The new pre-injector, which will include a radio frequency quadrupole, or RFQ, is scheduled to be installed during the shutdown in 2012. Accelerator Division's Bill Pellico expects the RFQs to be more reliable than the Cockcroft-Waltons and require less monitoring.

"On the operators' side, it means fewer headaches and more uptime. On the physicists' side, it means higher quality beam and lower losses," Pellico said.

In the current system, after the initial beam is accelerated by a Cockcroft-Walton, it enters a device called a Drift Tube Linac (DTL) which converts it into little packets, or bunches, that are accelerated down the Linac. Between the Cockcroft-Walton and the DTL, much of the beam is lost. The RFQ, however, can both create bunches and accelerate them with increased efficiency. This could potentially increase luminosity.

In the 1980s, Fermilab joined with Brookhaven National Laboratory to design and order RFQs, but Fermilab decided not to proceed while Brookhaven went ahead. In retrospect, Pellico said, Fermilab's decision

ES&H Tip of the Week - QA



Lessons learned database provides new work tool



Even geniuses like Albert Einstein make it a habit to look for ways to improve their work. Credit: [The Smithsonian](#)

"Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning."

-- Albert Einstein

Fermilab has created a [lessons learned database](#) to provide you with tips on how to improve efficiency, quality and safety.

The database is a compilation of lessons learned from various laboratory departments and sections, collected by the Fermilab Office of Quality and Best Practices. The database also includes information from other DOE sites and their contractors, U.S. and foreign government agencies, industry, professional societies, trade associations, national academies and universities. Learn more about the creation of the database in this August [Fermilab Today](#) article.

The lessons learned in the database are grouped by project and problem type. You can search by different queries including date of occurrence, contact Fermi ID, subject, severity of problem, work type and risk level. Each entry provides a variety of tips on what to do and what not to do to prevent problems as well as how to correct problems if they occur.

To keep the information fresh and useful, please take time to share your experiences with others. For more information on how to use the database or add information, contact

Campaigns

[Take Five](#)

Weather



Showers Likely
48°/47°

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

Current Security Status

[Secou Level 3](#)

Wilson Hall Cafe

Monday, Nov. 29
- Breakfast: Croissant sandwich

- *Potato leek soup
- Monte Cristo
- *1/2 roasted chicken
- Alfredo tortellini
- Chicken ranch wrapper
- Assorted sliced pizza
- Szechuan style pork lo mein

*carb-restricted alternative

[Wilson Hall Cafe Menu](#)

Chez Leon

Wednesday, Dec. 1
Lunch

- Shepherd's pie
- Field greens w/ cranberries & walnuts
- Cocoa cappuccino mousse w/ cookies

Thursday, Dec. 2
Dinner

- Family style seating buffet
- Roast suckling pig
- Oven roasted turkey
- Baked sweet potatoes
- Sage & onion stuffing
- Mashed potatoes
- Medley of vegetables
- Assortment of desserts

[Chez Leon Menu](#)

Call x3524 to make your reservation.

to wait was advantageous: Brookhaven worked out the kinks in the new system, and Fermilab saved time and money by getting the upgraded version.

"We're not reinventing the wheel," said Cheng-Yang Tan, who is leading the design effort on the project. "We are trying to copy as much as we can from Brookhaven, while using newer technology."

Nonetheless, after the RFQ system arrives from Germany in early 2011, a team headed by Pellico, Tan and Dan Bollinger will spend the next six months calibrating and testing it on a dummy system they are constructing for this purpose. They want no surprises when experiments start back up.

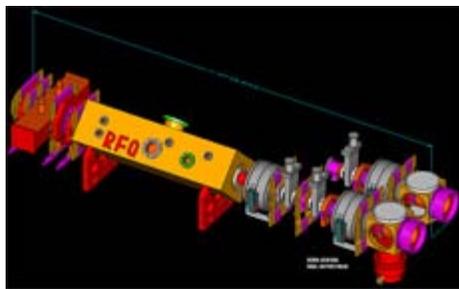
"Since there are two Cockcroft-Waltons, we have a backup, but we only have one RFQ," Pellico said. "We have to be sure it is more reliable:None of the downstream experiments will get beam if we have to work on the RFQ during normal operations."

No word has arrived yet on where the Cockcroft-Waltons will end up, although they'll almost certainly be preserved as a visitor attraction.

"I'd kind of like to use one as an office," Pellico said.

Fermilab will host a [Proton Source Workshop](#) on Dec. 7 and 8 to discuss the RFQ system and other upgrades.

-Sara Reardon



Engineer's model of the RFQ accelerator system. *Image: Kevin Duel*

Photo of the Day

New employees - Oct. 18

your Quality Assurance Representative, or the [Office of Quality and Best Practices](#).

Remember it's best to routinely look for ways to review and incorporate lessons learned into your daily activities and build them into your work processes, procedures and training.

--edited by Susan Rahimpour

Special Announcement

Last day for VSO

Today is the last day to submit your application for the Voluntary Separation Offer. You may submit an application only if you received an offer via e-mail. If you have any questions related to the VSO, please visit the [VSO website](#).

Special Announcement

Physics for Everyone: 12:30 p.m. Dec. 1 in auditorium

Particle physics research has led to the development of some of today's most commonly used technology, including the MRI machine and the Web. Learn more about the benefits of particle physics at the next installment of the Physics for Everyone lecture series on Wednesday, Dec. 1. Elizabeth Clements, senior science communicator in Fermilab's Office of Communication, will give the lecture.

"How particle physics can benefit society" will take place from 12:30 – 1:30 p.m. on Wednesday, Dec. 1, in Ramsey Auditorium. There will be time for questions and answers. The lecture is part of a non-technical series about Fermilab science and culture. Members of the public are welcome

Accelerator Update

Nov. 22-24

- Three stores provided ~38.75 hours of luminosity
- Store 8291 aborted due to lightning strike
- NuMI tripped due to exhaust fan breaker problems
- Store 8892 quenched due to HFU failure
- Cryo system techs conducted wet engine maintenance
- MTA took special run of beam

[Read the Current Accelerator Update](#)

Archives

[Fermilab Today](#)[Director's Corner](#)[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](#)

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From left: Ethan Neil, Johan Alwall, Valery Kapin, Tammy Whited, Marcelle Santos, Sean O'Kelly. Photo: Cindy Arnold

In the News

Road trip: Fermi National Accelerator Laboratory

From *Astronomy*, Nov. 23, 2010

The Fermi National Accelerator Laboratory in Batavia, Illinois, invited press and amateur astronomers to visit on November 17 and view a camera it's building for a dark-energy study. Senior Editor Rich Talcott and I jumped at the chance to see the lab. Fermilab is about 2.5 hours south of *Astronomy* magazine's headquarters, and we arrived with plenty of time to spare before the dark-energy event got under way.

After the information session, the 20 or so visitors loaded into a bus to see where scientists are building the Dark Energy Camera. (Rich will share more about the Dark Energy Survey and its camera in an upcoming blog.) Once we arrived, we got to go into the clean room where they're testing the CCD chips — everyone loves booties and hairnets!

[Read more](#)

[Read the Early Bird Report](#)
[View the Tevatron Luminosity Charts](#)

Announcements

WDRS announcement

[New Q&A posted on VSO website](#)

Latest Announcements

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

[PayFlex PowerPoint presentation](#)

[Fermilab Today holiday schedule](#)

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

[Users Office holiday hours](#)

[Tango at Fermilab through Dec. 1](#)

[Pedestrian safety awareness for families](#)

[Pedestrian safety at crosswalks](#)

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

[Submit an announcement](#)