

Layoff Information

New information on Fermilab layoffs, including an [up-to-date Q&A section](#), appears on the [layoff Web pages](#).

Furlough Information

Information on the furloughs at Fermilab, which stopped May 31, 2008, is available on the [furlough Web pages](#).

Calendar

Wednesday, June 4

8 a.m.

[Users Annual Meeting](#)

[Registration](#) - Auditorium Lobby

9 a.m.

[Users Annual Meeting](#) -

Auditorium

12 p.m.

[Special Particle Astrophysics](#)

[Seminar](#) - Curia II (NOTE

DATE & TIME)

Speaker: P. Steinhardt,

Princeton University

Title: Some Curious Theorems

about Dark Energy, Inflation

and Extra Dimensions

THERE WILL BE NO

DIRECTOR'S COFFEE

BREAK TODAY

THERE WILL BE NO

COLLOQUIUM THIS WEEK

8 p.m.

[Fermilab Lecture Series](#) -

Auditorium

Speaker: Paul Steinhardt,

Albert Einstein Professor of

Science, Princeton University

Title: The Endless Universe

Tickets: \$5

Thursday, June 5

9 a.m.

[Users Annual Meeting](#) -

Auditorium

THERE WILL BE NO

PHYSICS AND DETECTOR

SEMINAR THIS WEEK

THERE WILL BE NO

Special Announcement

Users' Meeting begins today

The annual Users' Meeting begins today at 9 a.m. and will end at 5:30 p.m. Thursday. Today's speakers include DOE's Dennis Kovar; Office of Budget and Management's Mike Holland; and U.S. Congressional staffer Adam Rosenberg. A public lecture, titled "The Endless Universe" by Princeton University physicist Paul Steinhardt takes place at 8 p.m. A few tickets are still available at the Fermilab Box Office. For more information on the Users' Meeting schedule or events, visit the [Users' Meeting Web site](#).

Feature

Project X, P5-report alignment focus of third workshop



Fermilab scientists Sergei Nagaitsev and Dave McGinnis speak with Fermilab Deputy Director Young-Kee Kim during a break at the Second Workshop on Physics with a high-intensity proton source in January.

Researchers will gather this week to flesh out experiments to keep Fermilab vital and aligned with the recently released Particle Physics Project Prioritization Panel roadmap for the next decade.

"The workshop will immediately follow the Fermilab Annual Users' Meeting. Many of the talks at the Users' Meeting will be relevant to Project X and the future Fermilab program, so we are hopeful that users will participate in both meetings," said Kevin Pitts, chairman of the Fermilab Users' Executive Committee.

The third Workshop on Physics with a high-intensity proton source begins with a town meeting in One West Thursday at 6 p.m. with

From the Technical Division

Optics crucial to achieve long-term vision for LHC

Giorgio Apollinari, head of the Technical Division, wrote this week's column.

One of the elements of Fermilab's vision for the future, highlighted by last week's [P5 report to HEPAP](#), is the continued exploitation of physics opportunities at the Large Hadron Collider through our participation in the luminosity upgrades of the accelerator.



Giorgio Apollinari

Higher luminosity requires magnets with stronger magnetic fields. For this purpose, several laboratories in the United States are developing a new generation of superconducting magnets, based on niobium-tin (Nb₃Sn), to push the performance beyond the level achieved by the niobium-titanium (NbTi) magnets presently used in the Tevatron and the LHC. Unfortunately, Nb₃Sn is brittle and difficult to turn into magnet coils.

This difficulty motivated Fermilab scientists and engineers to give high priority to the quality control of the manufacturing process, the performance of the coils and, ultimately, the quality of the optics in the final magnets. Lack of any of these features could cloud even the most amazing technical achievements on the field strength.

Members of the TD High Field Magnet program work in conjunction with the U.S. LHC Accelerator Research Program to develop Nb₃Sn magnets with good and reproducible field quality, excellent alignment properties, reliability and ease of manufacturing.

The Fermilab Nb₃Sn program has produced 16 almost identical, 1-meter-long Nb₃Sn dipole coils, making incremental improvements to the conductor and manufacturing technology. This is the largest set of identical coils and collared Nb₃Sn magnets in the world and represents the most complete study of magnetic effects of such

THEORETICAL PHYSICS
SEMINAR THIS WEEK
THERE WILL BE NO
DIRECTOR'S COFFEE
BREAK TODAY
THERE WILL BE NO
ACCELERATOR PHYSICS
AND TECHNOLOGY
SEMINAR TODAY
6-7:30 p.m.

[3rd Workshop on Physics -
One West](#)

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

Weather



Chance of thunderstorms
80°/66°

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

Current Security Status

[Secon Level 3](#)

Wilson Hall Cafe

Wednesday, June 4

- Shrimp gumbo
- Pizza burger*
- Bistro salmon steak
- Mongolian beef
- BLT wrap
- Assorted slice pizza
- Chicken Cajun pasta

[Wilson Hall Cafe Menu](#)

Chez Leon

Wednesday, June 4

Lunch

- Salad nicoise with fresh
grilled tuna
- Lemon cheese cake

Thursday, June 5

Dinner

- Green bean, feta & walnut
salad
- Medallions of beef w/
cabernet sauce
- Roasted baby potatoes
- Steamed asparagus
- Lemon yogurt cake with

Charley Baltay from Yale University, who chaired the P5, Dennis Kovar from DOE, Joe Dehmer from NSF, and Pier Oddone. The workshop continues on Friday with a series of talks given by the leaders of the proposed experiments.

"The second workshop in January focused on the details of the experiments proposed to take advantage of a high-intensity proton source, their physics impact and the development of the overall experimental strategy. The results of the second workshop and the physics document '[Golden Book](#)' were presented at the first P5 meeting at Fermilab on Jan. 31 - Feb. 2, and were included in the P5 process in developing the roadmap," said Fermilab Deputy Director Young-Kee Kim. "With the P5 roadmap released, this time we will focus on understanding P5's roadmap and the implication of P5's recommendations in detail, and developing short- and long-term experimental strategies that are aligned with [P5's recommendations](#)."

View the [preliminary program](#) and [registration](#). There is no registration fee.

The two previous workshops drew large, enthusiastic crowds from more than 78 institutions. Following the recommendations of the Fermilab Steering Group Report released in 2007, these two workshops focused on physics that is unique and is complementary to the LHC in the next decade.

"The early parts of this plan might include proposals for experiments that can run relatively soon as well as R&D plans for experiments that are on a longer timeline," Pitts said.

View information about the last two workshops, including the talks [here](#).

--Tona Kunz

Feature

magnets. We found that, despite the increased coil complexity, the Nb₃Sn magnet field errors are comparable to those of the NbTi counterparts. Most of the Nb₃Sn coils show insignificant snap-back effects. Magnetic strips, carefully placed and embedded in the Nb₃Sn magnets, can control the large magnetization effects that occur during the injection of particles into the ring.

The near-term goal of the LARP magnet collaboration is the construction and testing of a 3.6-meter-long focusing quadrupole magnet by the end of 2009, for a possible implementation of the LHC Phase 2 Upgrades in the second half of the next decade. The results of the Fermilab HFM program are crucial to the progress and success of the LARP program.

Safety Update

ES&H weekly report, June 3

This week's report, compiled by the ES&H Section, lists no accidents for the past 59 days. Congratulations. Find the full report [here](#).

[Safety report archive](#)

Announcement

Join Club Invention with Science Adventures

New to the Education Office's Science Adventure program this summer is Club Invention, a program developed by the National Inventors Hall of Fame and taught by Fermilab teachers at the Lederman Science Center from 9 a.m. - 2:30 p.m. from July 7-11. This week-long program has one class for students in grades 1-3 and one for grades 4-6. Each class participates in three modules.

Primary students start learning about architecture and engineering as they rebuild a town destroyed by an earthquake with "Bolder Builders." Intermediate students invent devices to help protect and save animal habitats in the United States with the module, "SOS: Endangered Earth." View the [Science Adventures Web site](#) for full descriptions of all modules. A special registration form is available at the end of the Club Invention description. Special notice to Fermilab families: All Club Invention applications should be received by Monday, June 16.

strawberries & cream

[Chez Leon Menu](#)

Call x4598 to make your reservation.

[Archives](#)

[Fermilab Today](#)

[Result of the Week](#)

[Safety Tip of the Week](#)

[ILC NewsLine](#)

[Info](#)

[Fermilab Today](#)

is online at:

www.fnal.gov/today/

Send comments and suggestions to:

today@fnal.gov

URA selects two winners of 11th thesis competition

The URA Thesis Award Committee reads thousands of pages of dissertations to determine that year's best submitted thesis.

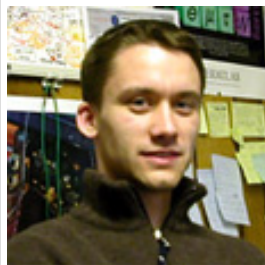
But, this year after reading 17 thesis submissions of more than 200 pages each, the committee chose two winners out of a strong field. Awards will go to both Ryan Patterson, a graduate student at Princeton University who now works on MINOS and NOvA at CalTech, and Peter Wagner, a graduate student from Texas A&M University who is now at the University of Pennsylvania working on ATLAS.

"This year's selection was difficult," said Rick Tesarek, URA Thesis Committee chair. "We had the most submissions in the 11-year history of the award, and they were all of an exceptional quality. These two stood out for both their interesting topics and strong contributions to furthering Fermilab science."

Patterson's dissertation, "Search for Muon Neutrino to Electron Neutrino Oscillations at Delta M Squared > 0.1 eV Squared" focuses on the non-observation that muon neutrinos do not oscillate into electron neutrinos in a given mass range. This result was named among the top science results of 2007 by the American Institute of Physics. According to Tesarek, Patterson also developed a lot of new techniques to obtain the MiniBooNE results.



[Ryan Patterson](#)



[Peter Wagner](#)

Wagner's thesis, titled "Search for Heavy, Long-Lived Particles that Decay to Photons," focused on searching for different types of interactions not described by the Standard Model. While his search is off the beaten path, Tesarek said, it has had high interest for theorists, because Wagner is searching for what should not exist. Wagner's work also included development of reconstruction techniques and implementation of a new system for CDF. Data in his thesis used the instrumentation he worked on.

Announcements

June 6 deadline for The University of Chicago Tuition Remission Program

The deadline for applying for the tuition remission program at The University of Chicago for the Summer 2008 quarter is June 6. For more information and enrollment forms, contact Nicole Gee at x3697 or visit the [Web site](#).

Two LabView courses offered

The Office for Professional and Organization Development offers two new LabVIEW classes. The deadline to enroll in either class is June 6.

LabVIEW Basics I: Introduction Course [Learn more and enroll](#)

LabVIEW Basics II: Development Course, June 26-27 [Learn more and enroll](#)

Heart risk screening June 10

Wellness Works and Delnor-Community Hospital will offer a heart risk screening on Tuesday, June 10. The assessment will take place by scheduled appointment between 6:30 a.m. and 10:45 a.m. for Fermilab employees in the EOC on the ground floor of Wilson Hall. Those interested can sign up on the [ES&H Web page](#). Participants must fast for 12 hours but can drink water.

Fermi Research Alliance, LLC (FRA) retirement plan changes

The Summary Plan Description for the FRA Retirement Plan has been updated to reflect a major change to the plan: A terminated participant is not subject to the age and service requirement in order to be eligible for a cash withdrawal. You may elect a cash distribution from TIAA and CREF Retirement Annuities. Withdrawals from the TIAA Traditional Retirement Annuity accumulations are only possible using a Transfer Payout Annuity (TPA). If the accumulation is less than \$10,000, it would be provided in one lump sum. The Summary Plan Description for the Retirement Plan is posted on the [Benefits Web site](#) for your review.

[Additional Activities](#)

This year's winners will split a \$3,500 prize funded by the Universities Research Association. Both Patterson and Wagner will receive their awards on Wednesday, June 4, as part of the annual Users' Meeting. They will also give brief talks after the award presentation about their thesis research.

-- *Rhianna Wisniewski*