

Calendar

[Have a safe day!](#)

Friday, July 16

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

4 p.m.

[Joint Experimental-Theoretical Physics Seminar](#)

- Auditorium

Speaker: Marco Verzocchi,

Fermilab

Title: New DZero Results

for ICHEP

Speaker: Tom Wright,

University of Michigan

Title: CDF's New Results

for ICHEP

Monday, July 19

2:30 p.m.

[Particle Astrophysics Seminar](#)

- One West

Speaker: Sukyoung Yi,

Yonsei University, Korea

Title: SFH of Galaxies from

Galex-SDSS and New Line

Measurements on SDSS

SEDs

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

4 p.m.

All Experimenters' Meeting

- Curia II

Special Topic: Beam-

Induced Electron Loading

Effects in High Pressure

RF Cavities

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

[Upcoming conferences](#)

Campaigns

[Take Five](#)

[Tune IT Up](#)

H1N1 Flu

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

Weather



Sunny
89°/68°

[Extended Forecast Weather at Fermilab](#)

Current Security Status

[Secon Level 3](#)

Wilson Hall Cafe

Friday, July 16

- Breakfast: Chorizo burrito

- New England clam

chowder

- Carolina cheeseburger

- Tuna casserole

- Dijon meatballs over

noodles

- Bistro chicken &

Feature

2010 shutdown begins next week; power outage Tuesday



An alignment crew calibrated a newly replaced Tevatron magnet during the 2009 shutdown. This year's shutdown begins Monday.

Although many pieces of the Accelerator Complex and associated experiments shut down last week or over the weekend, the shutdown officially begins Monday.

The shutdown will last four weeks and will allow time for repairs, replacements and upgrades to the accelerator and detector components in order to keep the complex performing well. Projects will include a target replacement for NuMI, fixing leaks in Tevatron houses and connecting NOVA kicker magnets to the Main Injector.

This year's shutdown, which primarily takes place for maintenance reasons, is shorter than in previous years. That means less downtime for the Tevatron and AD hopes, less time for the accelerator to ramp back up. However, the shorter time allowance also challenges employees since it means less time to fit in work and address any problems that crop up, explained Bob Mau, head of Operations.

Power outages are necessary during the shutdown. An outage to the master substation will take place from 7-7:30 a.m. on Tuesday, July 20. The nearly site-wide outage will affect all buildings except for the Village buildings and the Main Injector. Please power down all personal electronics and computers before leaving work on Monday.

More information about the shutdown and future power outages will be available in *Fermilab Today*.

-- Rhianna Wisniewski

Special Announcement

Today's Wine & Cheese lecture moved to Auditorium

Today's joint experimental-theoretical seminar, often called the Wine & Cheese lecture, will take place in the Auditorium. The lecture, which begins at 4 p.m., will include results presentations by both CDF and DZero scientists. The collaborations will present the same results at the International Conference on High Energy Physics.

From symmetry

The muon guys: On the hunt for new physics



Recovery Act Feature

Recovery Act funds keep Fermilab wired



Electrician Stan Kramer works at New Muon Laboratory.

Electrician Stan Kramer spent the better part of a recession-hit 2009 unemployed. Then, last March, he received the call from Arlington Electric that he was needed for a newly created job at Fermilab.

Fermilab hired Arlington to do electrical work at the New Muon Laboratory with funds from the American Recovery and Reinvestment Act.

"If the NML funding didn't come through, I'd probably be laid off again," Kramer said. "Knowing where I was a year ago, having a stable job guaranteed for at least the near future is huge."

The Recovery Act has provided about \$375,000 to date for electricians and electrical materials at Fermilab. The funding has given a jolt to the local job market and to several Fermilab programs.

The electrical work at NML in particular has resulted in a significantly accelerated schedule, thanks in part to two newly hired full-time electricians.

"We've been busier lately than I've seen since I've been here," said David Featherston, electrical task manager for the Particle Physics Division since July 2009. "Work has definitely picked up because of the funding."

The project leaders estimate that NML will begin initial operation later this summer and be fully operational by 2014. Scientists there will test six new superconducting radio frequency cryomodules, a technology for accelerating particle beams. The tests will support research for future accelerators such as the proposed Project X and the International Linear Collider.

One look at the interior of NML reveals the elaborate infrastructure of its electrical network. Hundreds of multi-colored bundles of individually labeled cables course down the perimeter and across the width of the 60-meter building, running on train track-like trays that hang overhead.

When the team of electricians finishes with NML, they will have run approximately 7,000 cables totaling 170 miles in length from power sources to cryomodules and from electrical racks to instrumentation for the beam.

They will also replace the 26-year-old communication and network infrastructure in the NML offices. "NML construction is moving along very quickly," Kramer said. "It's phenomenal, and it brings hope that they'll bring in more for us to do."

-- Leah Hesla

Milestone

provolone panini
- Assorted sliced pizza
- *Carved top round of beef

*Carb restricted alternative

[Wilson Hall Cafe Menu](#)

Chez Leon

Wednesday, July 21

Lunch

- Chile rellenos
- Spanish rice
- Refried beans
- Pineapple flan

Thursday, July 22

Dinner

- Corn cakes w/shrimp & chipotle
- Filet of beef w/morel sauce
- Potato gratin
- Chive green beans
- Mocha soufflé

[Chez Leon Menu](#)

Call x3524 to make your reservation.

Archives

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[Safety Tip of the Week](#)

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From left: Jim Miller, Ron Ray, and Robert Bernstein think the Mu2e experiment may answer one of the fundamental riddles of particle physics.

Editor's note: This article is featured in the newest issue of *symmetry magazine*, now online.

Amid the sprawl of mysterious equipment in a workroom at Fermi National Accelerator Laboratory, Gueorgui Velev and Alexander Makarov leaned over an elegant metal box the size of a single file cabinet. Suffused by a warm halo of late-afternoon sunlight, the two men, a physicist and an engineer, had the look of modern-day priests of industry gently handling a beloved reliquary.

Vellev lifted the box top, revealing a thin slice of dark-gray ferrite—a ceramic compound used in powerful magnets. Although the ferrite was wired up like an intensive-care patient, for the moment it felt cool and deliciously smooth to the touch.

Vellev and Makarov have been testing ferrites like this one for almost a year now, sending powerful currents through the compound, pushing the material to its limits. Far from being a relic of something dead, the ferrite is a symbol of resurrection for an experiment that could star in its own soap opera. Attempts to carry out this experiment have died two deaths on two continents over the course of two decades.

Vellev and Makarov, along with a host of collaborators, are once again bringing it to life.

The experiment's newest name, in its incarnation at Fermilab, is Mu2e (pronounced Mew to E), which stands for muon-to-electron conversion; and it is a testament to the strength of the science behind this experiment that physicists are still fighting to do it. Scientists plan to break ground at Fermilab in Batavia, Illinois, in 2013 and begin taking data four years later.

The experiment will search for a phenomenon so incredibly rare that, according to the Standard Model of physics, humans could never build a machine sensitive enough to actually see it. Which is exactly why scientists want to build this experiment. Mu2e is on the hunt for new physics.

-- *Andrea Mustain*

[Read more](#)

Death

Clair "Skip" McGuire, a former Fermilab employee who worked in the Meson Department in the 1970s, died on June 23. [View](#) his obituary.

In the News

A scientist takes on gravity

From *New York Times*, July 12, 2010

It's hard to imagine a more fundamental and ubiquitous aspect of life on the Earth than gravity, from the moment you first took a step and fell on your diapered bottom to the slow terminal sagging of flesh and dreams.

But what if it's all an illusion, a sort of cosmic frill, or a side effect of something else going on at deeper levels of reality?

So says Erik Verlinde, 48, a respected string theorist and professor of physics at the University of Amsterdam, whose contention that gravity is indeed an illusion has caused a continuing ruckus among physicists, or at least among those who profess to understand it. Reversing the logic of 300 years of science, he argued in a recent paper, titled "On the Origin of Gravity and the Laws of Newton," that gravity is a consequence of the venerable laws of thermodynamics, which describe the behavior of heat and gases.

[Read more](#)

Announcements

HR announcement

[CIGNA site and system maintenance this weekend](#)

Latest Announcements

[Free piano concert featuring Sandor Feher at noon on Aug. 12 in Ramsey Auditorium](#)

[Habitat Restoration at Fermilab](#)

[Artist Reception - Saturday, July 24, from 5-7 p.m.](#)

[Grounding and shielding of electronic systems course - Aug. 12-13](#)

[Take 5 Challenge quiz](#)

[Pre-K & youth swim lesson sessions 4 deadline](#)

[Last week's walking program drawing winner](#)

[Housing Office still accepting requests for fall 2010 & spring 2011 on-site housing](#)

[Argentine Tango - July 7-28](#)

[Format change for new personnel requisition form](#)

[Deadline approaching for requests for fall 2010 & spring 2011 on-site housing](#)

[Day Camp payments due](#)

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Classifieds

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