

Calendar

Tuesday, July 22
Noon

[Summer Lecture Seminar](#) -

One West

Speaker: M. Demarteau,
Fermilab

Title: Particle Detectors

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

**THERE WILL BE NO
ACCELERATOR PHYSICS
AND TECHNOLOGY
SEMINAR TODAY**

Wednesday, July 23

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

4 p.m.

[Fermilab Colloquium](#) - One

West

Speaker: J. Valles, Brown
University

Title: Cooper Pairs in
Insulators?!

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

Weather



Sunny
79°/58°

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

Current Security Status

[Secon Level 3](#)

Wilson Hall Cafe

Feature

Underwater warriors clear pipe-blocking mussels



A diver jumps into the pond on the northeast side of Wilson Hall.

A few times a year underwater warriors converge on Fermilab. They look like octopus slayers from "20,000 Leagues Under the Sea." Armed with vacuums and high-pressure power hoses, divers tackle razor-sharp, clam-sized zebra mussels.

The invasive species clog the intake pipes necessary to circulate water to cool Fermilab's accelerator magnets. Since January, divers have removed more than 8,000 pounds of mussels.

"At any given moment, 5,000 gallons of water a minute pass through the intake pipes," FESS's Bill Shull said. "Without a constant supply of cooling water through the pipes, the accelerators would stop running."

The aquatic squatters hitched a ride on a ship from the Caspian Sea in Eastern Europe and made their way to the Fox River that supplies water to Fermilab.

"The mussels form a thick carpet in the intake pipes and find a nice little place to attach and live out their lives," Shull said.

Trained commercial divers swim through three-foot-in-diameter, 75-foot-long pipes to blast the mussels off the walls with high-pressure water. The stubborn ones require the use of scrappers and wire brushes. A vacuum sucks the dislocated, smelly mussels up to be buried on site.

"The shells degrade and are perfectly compatible with the ground," Shull said. "We just bury them so the smell doesn't offend anyone."

Casey's Pond supplies most of the cooling water on site so divers concentrate their efforts there, but they also clean the pond pump intake structures at the Main Injector

Director's Corner

NLDC

Later today I will participate in a meeting of the executive committee of the National Laboratories Directors Council with Secretary Bodman and senior managers of the Department of Energy. The executive committee has a monthly telephone conference with the secretary and a quarterly face-to-face meeting. The executive committee consists of four laboratory directors who represent the seventeen DOE national laboratory directors at these periodic meetings. Today's agenda includes a discussion of the papers that DOE is preparing for the transition between administrations; the approach to the future of nuclear energy in the DOE; new programs on technology transfer, cybersecurity, nanosafety; and the steps that the DOE and laboratories need to take to create a uniform and recognizable "DOE brand."



Pier Oddone

The NLDC, or Council for short, was created last year with the encouragement of Secretary Bodman. The Council brings the directors of the 17 DOE national laboratories together to work as a group to improve the effectiveness of management systems across the DOE complex. A critical element for the Council is to work closely with the senior leadership of DOE on the requirements that contractors must follow. These requirements are typically contained in DOE orders, and those orders are incorporated in our contracts. This is no simple matter, because there exists a natural tension between a corporate view that drives toward uniform requirements and the generally accepted view that "one size fits all" does not work effectively when managing laboratories with very different missions.

The key to a workable set of uniform orders across the complex is to embed in those orders a graded approach that allows for optimizing the operations of a laboratory according to mission. This can only be done well by a cooperative approach in which the

Tuesday, July 22

- Golden broccoli & cheese
- Southern style fish sandwich
- Coconut crusted tilapia
- Spaghetti w/turkey meat sauce
- La Grande sandwich
- Assorted slice pizza
- Chicken fajitas

[Wilson Hall Cafe Menu](#)

Chez Leon

**Wednesday, July 23
Lunch**

- Tinga tostada
- Rice & beans
- Napolitano flan

**Thursday, July 24
Dinner**

- Pasta w/roasted summer vegetables
- Grilled swordfish
- Sauteed green beans
- Peach melba

[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

and Tevatron ring ponds when needed.

Although cleanings take place all year-long, most zebra mussel dives take place during the summer.

"The pipes are pretty small, especially when we start dragging the hoses in there, so this is definitely not for the faint of heart or the claustrophobic," said diver Pete Perich Jr. "They're sharp little buggers, too."

The job sounds dangerous, but Perich Jr. said the divers make sure to take proper safety precautions. They train regularly during the year and follow Fermilab's Lockout/Tagout standard.

-- Jennifer L. Johnson



A load of zebra mussels in the back of a pickup truck. Divers removed 8,000 pounds of zebra mussels from the Fermilab ponds and pipes since January.

Photo of the Day

Volleyball team wreaks "havoc" on competition, wins



Fermilab volleyball team "Playing Havoc" won the championship for the 2007-2008 season of the Fermilab Competitive Winter Volleyball League.

laboratories and the agency work hand in hand to build a flexible and efficient management system, an approach that Secretary Bodman supports strongly and that was a main motivation for creating the NLDC.

Can this graded approach work? While thinking about the upcoming meeting of the executive committee, and with hours of delay at O'Hare, I expanded my reading horizons and bought a Wall Street Journal. The [WSJ described](#) an extreme example of a graded approach that Roche, one of the giants of the pharmaceutical industry, has used successfully. One of the savviest investments made in the pharmaceutical industry was the acquisition by Roche of a controlling interest in Genentech early in the 1990s. Roche has profited enormously by the increase in the value of Genentech and by the flow of new drugs it has brought to market thanks to Genentech. A key to this success was that Roche resisted the temptation to impose its own corporate structure and culture on Genentech. Instead, it did not interfere with the management of Genentech. It considered that the agility of the smaller company and its ability to invent new drugs would be harmed in the larger more uniform corporate culture of Roche. I cite this example not to advocate for complete laissez-faire at each of our national laboratories but to emphasize that what we need is a framework with enough flexibility to allow us to be creative and optimize the effectiveness of each laboratory.

The entire Wall Street Journal is available in the Fermilab Library.

Announcement

Print copies of the P5 report are now available

The P5 report is now available in print. To get your report, see Judy Treend in the Office of Communication, WH atrium level east side, or send her an [e-mail](#). The report is also available [online](#).

Accelerator Update

Front row, left to right: Guilherme Lima, Dorota Busch and Taka Yasuda. Back row, left to right: Geoff Savage, Glenn Cooper and Sue Grommes. Not pictured: Mark Mattson.

In the News

CERN lab goes 'colder than space'

From *BBC News*, July 18, 2008

A vast physics experiment built in a tunnel below the French-Swiss border is fast becoming one of the coolest places in the Universe.

The Large Hadron Collider is entering the final stages of being lowered to a temperature of 1.9 Kelvin (-271C; -456F) - colder than deep space.

The LHC has thousands of magnets which will be maintained in this frigid condition using liquid helium.

The magnets are arranged in a ring that runs for 27km through the giant tunnel.

Once the LHC is operational, two particle beams - usually consisting of protons accelerated to high energies - will be fired down pipes running through the magnets. These beams will then travel in opposite directions around the main ring at close to the speed of light.

At allotted points along the tunnel, the beams will cross paths, smashing into one another with cataclysmic force. Scientists hope to see new particles in the debris of these collisions, revealing fundamental new insights into the nature of the cosmos and how it came into being.

The most powerful physics experiment ever built, the LHC will re-create the conditions just after the Big Bang.

Currently, six out of the LHC's eight sectors are between 4.5 and 1.9 Kelvin, though all sectors of the machine have been down to 1.9 Kelvin at some stage over the last few months.

[Read more](#)

July 18-21

- Four stores provided ~47 hours and 57 minutes of luminosity
- Booster WAPS resistor replaced
- MI PSLOOP trips due to ground faults
- Accumulator power supply trip; stack lost
- 7/21/08 access to find TeV ground fault and for Pbar repairs

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Announcements

Have a safe day!

Free osteoporosis screening Aug. 8

Wellness Works and Delnor-Community Hospital will host an osteoporosis screening between 7:30 and 11 a.m. on Aug. 8 in the Emergency Operating Center on the ground floor of Wilson Hall. Only Fermilab employees who have not participated in a previous screening are eligible. The free heel scan is an ultrasound test that measures the bone density in the heel. Participants will need to remove their sock and the shoe from one foot. (Ladies please do NOT wear panty hose.) Participants with heel/ankle fractures or surgery to both feet are excluded from this screening. Sign up instructions are on the [ES&H homepage](#).

Tango lessons

Beginning July 23, the International Folk Dancing group and NALWO will start a new group and offer Argentine tango lessons by experienced tango dancers from Chicago. The lessons will take place in Ramsey Auditorium on Wednesdays from 7:30 to 8:30 p.m. for beginners and 8:30 to 9:30 p.m. for intermediate/advanced level. To sign up, call Pamela Noyes at (630) 840-5779 or [e-mail](#) her.

Scottish Country Dancing Tuesday

Scottish Country Dancing will meet in Ramsey Auditorium Tuesday, July 22. Instruction begins at 7:30 p.m. and newcomers are always welcome. Most dances are fully taught and walked through, and you do not need to come with a partner. For more information call (630) 840-8194 or (630) 584-0825 or [e-mail](#).

[Additional Activities](#)