

Calendar

Wednesday, July 16
3:30 p.m.

DIRECTOR'S COFFEE
BREAK - 2nd Flr X-Over
THERE WILL BE NO
FERMILAB COLLOQUIUM
THIS WEEK

Thursday, July 17
1 p.m.

Physics and Detector Seminar
- West Wing, WH-10NW
Speaker: M. Palmer, Cornell
University

Title: ILC Damping Rings

2:30 p.m.

[Theoretical Physics Seminar](#) -
Curia II

Speaker: G. Mahlon,
Pennsylvania State University,
Mont Alto

Title: Relations Among Spin
Amplitudes for 2-->2 Scattering

3:30 p.m.

DIRECTOR'S COFFEE
BREAK - 2nd Flr X-Over

4 p.m.

[Accelerator Physics and
Technology Seminar](#) - One

West
Speaker: J. Norem, Argonne
National Laboratory

Title: Can We Increase the
Operating Gradients of Linacs?

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

Weather



Sunny
92°/67°

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

Current Security Status

[Secon Level 3](#)

Feature

Wayne State University muon experts join U.S. CMS



CMS Collaboration Board Chair Lorenzo Foa (center) and CMS Spokesperson Jim Virdee (right) welcomed Wayne State University to the collaboration by presenting Paul Karchin (left) with an autographed photo of the experiment.

Wayne State University started after the Civil War as a medical school to treat injured soldiers. Now, the Detroit, Michigan school is the newest institution to join the CMS collaboration at the LHC earlier this year.

"We were delighted about the prospect of working on the LHC," said Paul Karchin, a physicist at Wayne State University. "The university was also very supportive of the program."

After more than a decade of work on muon systems for HERA-B at DESY and operation of CDF at Fermilab, the high-energy physics group at Wayne State University now brings their expertise to CMS.

"Muons are crucial for event selection," Karchin said.

The Wayne State University group develops high-level trigger software for the endcap muon system. Located at each end of the detector, the circular endcaps identify and measure muons that emerge at small angles from the interaction point. The trigger software tracks muon measurements in the endcaps and converts the data into usable information, acting like a spam filter that selects key particle events.

"Each subsystem group prepares its part,"

From the Accelerator Division

Extra dimensions

Roger Dixon, Accelerator Division head, wrote this week's column

Even though I don't always succeed, it is my responsibility to write this column approximately every three months. Serving as AD head is certainly an exciting and rewarding



Roger Dixon

responsibility, but I know the Accelerator Division would work almost as well, or maybe even better, without me. Therefore I am going to color outside the lines today and write about something completely different.

In the long term, I think that my most significant activities at the laboratory could prove to be those related to the Saturday Morning Physics and the internship programs. I like to believe this because I enjoy these activities so much. Nevertheless, I think there is also some possibility that it is true. To be sure, I have encountered some outstanding young people in both of these programs, and many of them have already gone on to become special people in physics as well as other fields.

Unfortunately, it won't do for me to take credit for their success. The truth is that they probably have had a larger impact on me than I have had on them. If you have never been chased around the One West lecture hall by an 11-year-old prodigy who knows tons more about string theory than you will ever know, you have missed out on something very special. (I got out of this tight spot by asking him about his batting average.) These young people have a completely unspoiled perspective of the world and sharing it with them can be compared to standing on a perfectly sized chair and staring directly into an extra dimension for the first time. Even though these young people are not typical, just knowing they exist makes me optimistic.

Some of them are the future of our field, and some could be the future of our world. I feel very fortunate to work in a laboratory that

Wilson Hall Cafe**Wednesday, July 16**

- Beef barley
- Fish & chips
- Smart cuisine: Caribbean grill salmon
- Country fried steak w/pepper gravy
- Beef & cheddar panini w/ sauteed onions
- Assorted slice pizza
- Cavatappi pasta w/Italian sausage & tomato Ragu

[Wilson Hall Cafe Menu](#)

Chez Leon**Wednesday, July 16****Lunch**

- Catfish filet veracruz
- Lemon rice
- Corn & red pepper
- Chocolate pecan bourbon tart

Thursday, July 17**Dinner**

- Closed

[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

Karchin said. "Then we combine the information with the rest of the detector.

Matching up the data from the endcap system with the data from the tracker, for example, gives us more confidence that we properly measured the muon trajectories."

Two graduate students from Wayne State University visited CERN this summer to help commission the detector. Other faculty members plan to take advantage of the LHC Physics Center at Fermilab and split their time between the U.S and Switzerland. "The LPC allows students and faculty to stay involved without being on site," Karchin said. "It was a key factor that made it possible for us to participate."

-- *Elizabeth Clements*

Photos of the Day**Stormy weather, striking images**

Marty Murphy, from the Accelerator Division's Operations Department, submitted this photo of lightning over Wilson Hall. The photo was taken on July 9.

recognizes the importance of encouraging future scientists and leaders.

In the News**Meet the master of the universe**

From *New Scotsman*, July 11, 2008

For years it's been a particle of faith, but this giant machine may soon confirm one city scientist's theory of creation.

Over the centuries, Edinburgh has produced some of history's most remarkable scientists, inventors and mathematicians.

Among those who have shaped the world in which we live are Alexander Graham Bell, inventor of the telephone, James Clerk Maxwell, without whom we might have no mobile phones or microwaves, and John Napier, who created logarithms.

But while these men's names are known far beyond the academic world, there is a man residing in Edinburgh today with perhaps an even bigger claim to fame.

Living quietly in his New Town flat, this grey-haired gentleman with an unassuming smile is no limelight-seeker and few of his neighbours know the significance of his work. But Peter Higgs (pictured below) is in fact the man credited with figuring out how the universe works.

[Read more](#)

Safety Update**ES&H weekly report, July 15**

This week's safety report, compiled by the Fermilab ES&H section, lists no reportable injuries. The laboratory has worked 79 days without a reportable injury. Find the full report [here](#).

[Safety report archive](#)

Announcements



Local fisherman Don Rego submitted this photo from last week's storm.

In the News

Underwater neutrino telescope looks down to see sky

From *New Scientist*, July 14, 2008

An international team has finished building the ANTARES telescope, which will search for elusive particles called neutrinos from its base 2.5 kilometres under the Mediterranean Sea.

The telescope will run for roughly five years. If all goes well, ANTARES's design might be used to build a larger version to rival the cubic-kilometre-sized IceCube Neutrino Observatory currently under construction in the ice at the South Pole. The giant projects would complement one another, since they would each look through the Earth at different parts of the sky.

Neutrinos are fundamental particles that are produced in many natural particle accelerators, such as supernovae and the ultra-bright centres of galaxies. Physicists also expect to see neutrinos produced by the annihilation of dark matter, a process that may occur within the Sun.

[Read more](#)

[Have a safe day!](#)

Pool tags available at Recreation Office

Pool members can pick their pool tags at the Recreation Office on WH15 Tuesday and Wednesday from 9:30 a.m. - 12:30 p.m. Memberships and swim lesson registration are also available at the Recreation office. Registration for the second session lesson (July 21-Aug 1) remains open until Thursday, July 17 at noon.

Family public quadrat study Saturday

Families can help restore the prairie this weekend. A Public Quadrat Study for families will take place Saturday, July 19, from 9-11:30 a.m. Regular sessions of the quadrat study will take place on July 29 and Aug. 5. More information is available [online](#).

Accelerated C++ Short Course

On August 4, Fermilab will offer the first session of Accelerated C++: A Short Course in Practical Programming by Example. The eight-session course teaches computer programming in modern standard C++. Participants receive TRAIN credit upon successful completion of the course. No tuition is charged; the only cost is for the required textbooks. A subsidy is available for most students. Walter Brown, who participates on Fermilab's behalf in the international C++ standardization effort, is the course instructor. Register [here](#).

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](#).

[Additional Activities](#)