

Calendar

Wed., August 1

THERE WILL BE NO FERMILAB ILC R&D MEETING THIS WEEK

3:30 p.m.

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

4:00 p.m.

[Fermilab Colloquium](#) - 1 West

Speaker: R. Steiner, National Institute of Standards and Technology

Title: How Measuring the Planck Constant gets to an Electronic Kilogram Standard

Thurs., August 2

THERE WILL BE NO ILC ALCPG PHYSICS AND DETECTOR R&D SEMINAR THIS WEEK

2:00 p.m.

[Computing Techniques](#)

[Seminar](#) - FCC1

Speaker: A. Iamnitchi, University of South Florida

Title: Filecules and Small Worlds in the DZero Workload: Characteristics and Relevance for Data Management

2:30 p.m.

[Theoretical Physics Seminar](#) -

Curia II

Speaker: H. Nunokawa, Pontificia Universidade Católica do Rio de Janeiro
Title: Probing Non-Standard Neutrino Properties by Future Long-Baseline Oscillation Experiments

3:30 p.m.

DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over
THERE WILL BE NO ACCELERATOR PHYSICS AND TECHNOLOGY SEMINAR TODAY

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

Feature

QuarkNet trains teachers, engages students in research



Science teacher Steven Grosland works with students Swaraj Banerjee and Ben Barber on measuring cosmic rays at Glenbrook South High School.

Many high school students see physics as a graduation requirement rather than a personal choice. But Fermilab's QuarkNet program is helping teachers to change that.

Since 1999, teachers from more than 500 U.S. high schools have flocked to Fermilab to attend seminars and workshops designed to help them engage their students in modern physics. The program offers research experiences, materials for student investigations, online resources, teaching methods and equipment for the classroom, such as cloud chambers and cosmic ray detectors. These tools allow students to collect and analyze data on cosmic rays and record their findings in a national online database. Called the Cosmic Ray e-Lab, the project enables students from participating high schools to be part of nationwide research effort by sharing their data on a Grid-enabled website.

To help teachers achieve their goals, QuarkNet provides teachers with important social and professional networking opportunities for the promotion and discussion of high school science. These include connections to the high-energy research community and collaborations such as CDF, DZero, ATLAS and CMS.

"QuarkNet is a teacher professional development program," said Marge Bardeen, QuarkNet spokesperson. "That means that we have a team of four principal investigators who

From the Finance Section

Fiscal integrity

Today's column is written by Cindy Conger, Chief Financial Officer and head of the Finance Section.

When a company's Chief Financial Officer is in the news, it's usually not a good sign. We all remember the headlines associated with companies such as Enron, WorldCom and Tyco. In response to problems at these companies, the



Cindy Conger

American public demanded greater accountability and transparency in how companies govern themselves and stand behind their financial results. In 2002, Congress passed the Sarbanes-Oxley Act. Now more than ever, a company's financial integrity is a big part of the public's perception of the company's overall integrity. Federally-funded organizations like ours also must live up to higher expectations than in the past and now are subject to the government's version of the Sarbanes-Oxley Act.

Here at Fermilab, we have asked many of you in the last couple of years to get one more approval on a requisition, to explain the reason for a purchase or to make a correction to a travel voucher. These are all part of the laboratory's overall efforts to assure ourselves, our funding agency—the Department of Energy—and the public that we are good financial stewards of the resources our nation provides.

For the past 18 months, teams led by the Finance Section have painstakingly documented the laboratory's financial processes, identifying the hundreds of control points that help assure that the laboratory's financial information is accurate and timely as well as properly recorded and reported. By the end of the summer, auditors from Deloitte & Touche will have tested all of these checks and balances to make sure they're working as intended.

Every employee has a role to play in assuring a strong internal control system. Working

Weather



Sunny 93°/69°

Extended Forecast

Weather at Fermilab

Current Security Status

Secon Level 3

Wilson Hall Cafe

Wednesday, August 1

- Italian Wedding w/Meatballs
- Diner Style Patty Melt
- Chicken Skewered
- Mongolian Beef
- Greek Chicken Panini w/Feta Cheese
- Assorted Slice Pizza
- Chicken w/Pesto Cream

Wilson Hall Cafe Menu

Chez Leon

Wednesday, August 1

Lunch

- Parsley Poblano Salad w/ Orange Glazed Beef
- Blueberry Cobbler

Thursday, August 2

Dinner

- Asian Spring Rolls Grilled
- Seafood in Saffron Sauce
- Vegetable risotto Grilled
- Bananas w/Rum & Ice 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

help teachers become part of the HEP research community by working with physicists at the 52 labs and universities that participate. The teachers design the program at their center to meet local interests and needs.”

After two years in the program, teachers have the opportunity to attend week-long workshops at CERN, Fermilab or other institutions.

“QuarkNet is a way for teachers to network with other professionals, particularly in rural areas where there may be only one physics teacher in each school,” said Bardeen. “This is another way to assess the program’s success: by seeing how beneficial it is for teachers to have other physics enthusiasts with whom they can share ideas.”

QuarkNet is supported in part by the National Science Foundation and the Office of High Energy Physics in the U.S Department of Energy Office of Science. Additional funding comes from universities and labs and HEP experiments.

-- Lauren Younis

In the News

From *PhysOrg.com*, July 30, 2007

Quantum dance draws unexpected guests

In a paper that appeared Friday in the online edition of *Physical Review Letters*, University of Florida physicists report that — contrary to expectations — electrons in magnetic metals exhibit the same quantum tendencies as their counterparts in ordinary metals at extremely low temperatures. Rather than acting like particles that move independently of each other, they behave as waves, influencing each other’s paths and trajectories.

The effect is a bit like a roomful of dancers performing, arm-in-arm, a frenetic set piece.

The electrons push and pull each other around, then return to the spot where they started off, as though completing a choreographed finale.

Call it “the wave.”

“They move around and have these elastic collisions, and then they remember they are waves, and they end up back in the same place they started,” said Art Hebard, a UF professor of physics and one of four co-

together we can make sure that the news about Fermilab stays focused on our great scientific program and its achievements.

Announcements

Power Outage on Monday, 7:00 a.m.

A sitewide power outage will take place on Monday morning from 7:00-7:30 a.m. Except for the Village and the Main Injector, the entire site will be without power. Please switch off computers and other equipment sensitive to power surges.

Friday: Cafeteria closes at 1 p.m., Users Center opens at 6:30 p.m.

Because of preparations for the labwide party, the Fermilab cafeteria will close on Friday, August 3, at 1 p.m. It will open again on Saturday morning. The Users Center will stay closed on Friday until 6:30 p.m.

FESS/Site Services picnic today

The FESS/Site Services Summer Student picnic will begin today at 11:30 a.m. by the volleyball courts in the village. This is a chance for the department to get together and say thanks to the seasonal people who do so much for us during the summer months.

Shutdown safety discussion, Aug. 2

Members of the Electrical Safety Subcommittee invite employees involved in this year’s shutdown work to an open meeting on Thursday, August 2 at 11:00 a.m. in Curia II (WH2SW). Although all employees have received training, there may be questions about the principles of Lockout/Tagout and electrical safety, and this meeting will help explain the associated requirements. Attendance is not required but may be informative to the conduct of your particular work activities.

Voluntary Supplemental Life Insurance Enrollment

Supplemental Life Insurance Enrollment packets have been sent to the mail stations of all employees eligible for supplemental life insurance coverage. Enrollment materials are also available on the [Benefits Office website](#). The premium holiday has ended and new rates, effective September 1, will be charged for all supplemental life insurance coverage. Please take the opportunity to review your current coverage and make any necessary changes by the end of the enrollment period on August 3. Contact the Benefits Office if you have questions or need assistance completing your enrollment.

Summer Intern Photo Thursday

Fermilab Today
is online at:
www.fnal.gov/today/

Send comments and
suggestions to:
today@fnal.gov

authors of the paper.

[Read more](#)

All summer interns should report to the steps
of Wilson Hall Thursday, Aug. 2 at 9 a.m. for a
group photo. In case of rain, the photo will be
taken in the Atrium.

[Additional Activities](#)