Fermilab Today

Wednesday, July 29, 2009

Calendar

Have a safe day!

Wednesday, July 29
11:30 a.m.
Medical Health Seminar - One West
Speaker: John Ilko, Fermilab
Title: Summer Safety Tips for Mature Adults
3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over
4 p.m.
Fermilab Colloquium - One West
Speaker: Yagmur Torun, Illinois Institute of Technology
Title: Muon Colliders: The Next Frontier

Thursday, July 30
2:30 p.m.
Theoretical Physics Seminar - Curia II
Speaker: Enrique Fernandez-Martinez, MPI Munich
Title: Non-Unitary and Non-Standard Neutrino Interactions
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.

Campaigns

Take Five

Tune IT Up

Weather

Feature

On TARGET: Camilla Brewer

TARGET program intern Camilla Brewer helps maintain Business Services Section Web sites.

Editor's note: *This is the first Q&A in a series on TARGET program students. Tonisha Taylor, a TARGET student working in the Office of Communication, conducted the interviews. A program overview article and article on the program's influence will appear in upcoming issues of* Fermilab Today*.*

Camilla Brewer is a junior at Oak Park River Forest High School, participating in TARGET, a program that aims to expose high school students from underrepresented minority groups to physics and engineering. Camilla has spent her summer working with Jean Reising in the Business Services Section.

Q. What do you do at Fermilab?

A. My job is to repair, improve and create Web sites. If they have any site problems, I help fix them. Right now, I am working on a site that will identify people in a 1969 personnel photo.

Q. What is special about the 1969 personnel photo?

A. The year 1969 represents Fermilab's first staff. It is really cool to look up and see how different people were, and how the laboratory's goal of diversity has transcended time. People can log onto the site, click someone's picture and see who they were and what they did here at Fermilab.

Q. What do you like best about Fermilab?

A. The diversity here is awesome. I can just walk down the hall and hear about 18 different

From the Technical Division

A breakthrough in magnet development

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

Giorgio Apollinari

Approximately 30 years ago, Fermilab developed and built the first reliable superconducting accelerator magnets. This effort led to the industrial fabrication of niobium-titanium superconducting wires, which today are used in most superconducting magnet applications such as accelerators and medical MRI systems.

Last month, our High Field Magnet R&D program tested a magnet based on a new type of superconducting wire. We found that the magnet can achieve a maximum field of about 12 Tesla when cooled to 4.5 Kelvin and about 13 Tesla at 1.9 Kelvin. This result opens doors for the development of magnets for many applications.

In order to achieve stronger magnetic fields, scientists at several laboratories are developing magnets based on this new superconductor, Niobium-Tin (Nb3Sn). At Fermilab, we pursue this effort as part of our HFM R&D program and the LHC Accelerator Research Program.

When developing new superconducting cables, one of the first issues to address is the problem of thermo-magnetic instabilities, also known as flux-jumps. These instabilities are generated by the intrusion of magnetic field in the current-carrying strands. The solution is rather well-known: make the size of the superconducting filament as small as possible.

But talk is cheap. We actually had to show that using Nb3Sn strands with smaller filament size results in superior magnets.

In June, the HFM R&D program achieved a great success on this front. It developed and built a quadrupole mirror magnet. This is a test magnet in which all coils except one are replaced by iron blocks. It allows scientists to test the field of one coil in a configuration

Mostly sunny
78°/56°

Extended Forecast
Weather at Fermilab

Current Security Status

Secon Level 3

Wilson Hall Cafe

Wednesday, July 29
- Cajun style lentil soup
- Cajun chicken ranch
- BBQ ribs
- Chicken parmesan
- Smoked turkey panini pesto mayo
- Assorted sliced pizza
- Chicken Alfredo fettucine

Wilson Hall Cafe Menu

Chez Leon

Wednesday, July 29
Lunch
- Carne asada w/ guajillo sauce
- Spanish rice
- Pico de gallo
- Cold lime soufflé

Thursday, July 30
Dinner
- Closed

Chez Leon Menu
Call x3524 to make your reservation.

Archives

Fermilab Today

Result of the Week

Safety Tip of the Week

User University Profiles

ILC NewsLine

languages.

Q. What is your favorite science subject?

A. I like chemistry because I can see it, and it is very real to me.

Q. What do you think of when you hear the word Fermilab?

A. Before I got this job, my friend, Kerstin, told me to run around the accelerator. My physics teacher, Mr. Martinek, said it would be funny and called it the world's fastest 'Camilla Accelerator.'

Q. If you could make one discovery what would it be?

A. I have ideas about a lot of crazy inventions. Though if I had to choose one, I would create a phone that you could travel through. You could call Tokyo and instantly be right there.

Q. Wait, so you would be pulled through some sort of portal?

A. Yes, but I have not thought about it to that stage yet.

In Brief

Seminar today offers summer advice for 50-plus age group

Every age group faces slightly different health concerns. The Fermilab Medical Department and Unity Coat will host a seminar today from 11:30 to 1 p.m. in One West in Wilson Hall for the 50-plus age group.

John Ilko, a nurse in the Medical Department, will provide a short introduction talk followed by a continuous loop screening of the video “Summer Safety Tips for Older Adults". Drop in anytime to catch all or part of the video.

The video will focus on tips including staying safe in hot weather, managing asthma during heat and pollen-filled days, creating raised garden beds to ease joint stress, finding recreation options and modifying home environments to address mobility issues.

The seminar is the first in a series of presentations aimed at the 50-plus group. An August 6 seminar will focus on osteoarthritis, an August 12 seminar on health after 50 and October seminars will focus on how this “sandwich generation” deals with its raising children and caring for its aging parents at the same time.

resembling the final one, using only a fraction of the expensive superconducting cable and a fraction of the assembly labor required for a full magnet. We found that a quadrupole coil made with a smaller superconducting filament strand--RRP-108/127, for the techies among you--can achieve the desired maximum field, 12 Tesla or more. A test at CERN taking place right now is reproducing our results.

Our result is not only a great breakthrough for the planned LHC upgrades, but it also provides a path forward for the development of high-field magnets for a possible muon collider at Fermilab.

Safety Update

ES&H weekly report July 28, 2009

This week's safety report, compiled by the Fermilab ES&H section, includes two first aid cases. One was a reportable injury to a subcontractor who hit a burr with an angle grinder. The grinder then jumped off the steel plate and caused a 1" laceration in the person's left knee requiring six sutures. We have now worked five days without a recordable injury.

Find the full report here.

Safety report archive

Correction

Correction

In Tuesday's *Fermilab Today*, we announced the relocation of John Kent, building manager for Wilson Hall, to the fifth floor, west side. Kent's office is actually on the building's east side.

Announcements

Latest Announcements

URA Visiting Scholars Program now accepting applications

Summer intern presentations - August 5

International folk dancing cancelled July 30, resumes August 6

Services account password needed for Fermilab Time & Labor reporting

Info

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

Send comments and suggestions to:
today@fnal.gov

Visit the Fermilab
home page

In the News

Excerpts from the House debate on the FY 2010 DOE funding bill

From ***AIP FYI***, July 28, 2009

During House consideration of the FY 2010 Energy and Water Development Appropriations Bill earlier this month Members discussed funding for the DOE Office of Science; the Thomas Jefferson Laboratory upgrade; the Energy Innovation Hubs; funding for Laboratory Directed Research and Development; and LANSCE, the Los Alamos Neutron Science Center. Selections from the floor debate follow:

Office of Science Funding

Rep. Judy Biggert (R-IL):

“I rise today in support of the fiscal year 2010 Energy and Water Appropriations bill. I want to commend Chairman [Ed] Pastor and [Subcommittee] Ranking Member [Rodney] Frelinghuysen and their subcommittee for putting together a balanced bill that clearly recognizes the importance of scientific research and energy security to our Nation’s competitiveness.

“There are several provisions of this bill I’m proud to support. Chief among those is the increase for the Department of Energy’s Office of Science. I, along with 70 of my colleagues, asked appropriators for an increase consistent with the President’s request to double the investment in the basic sciences within the next decade. The committee provided for $170 million more than the fiscal year 2009. This funding is critical to our basic research infrastructure and national laboratory work, like that of Argonne in my district.

Read more

Time to complete accomplishment reports

Bristol Renaissance Faire discount tickets

Six Flags Great America discount tickets

Pool memberships available in the Recreation Department

Raging Waves Waterpark online discount ticket program

Summer safety tips for older adults

Accelerated C++ Short Course begins August 6

Outlook 2007: New Features class August 6

The University of Chicago Tuition Remission Program August 17 deadline

Process piping (ASME B31.3) class offered in October and November

Additional Activities

Submit an announcement