Fermilab Today

Monday, February 11, 2008

Furlough Information

New furlough information, including an up-to-date Q&A section, appears on the furlough Web pages daily.

Calendar

Monday, Feb. 11
2:30 p.m.
Particle Astrophysics Seminar - Curia II
Speaker: G. Farrar, New York University
Title: Giant AGN Flares and Cosmic Ray Bursts
3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over
4 p.m.
All Experimenters' Meeting- Curia II
Special Topic: Update on CMS Installation and Commissioning

Tuesday, Feb. 12
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.

Weather

Snow 11°/10°

Extended Forecast
Weather at Fermilab

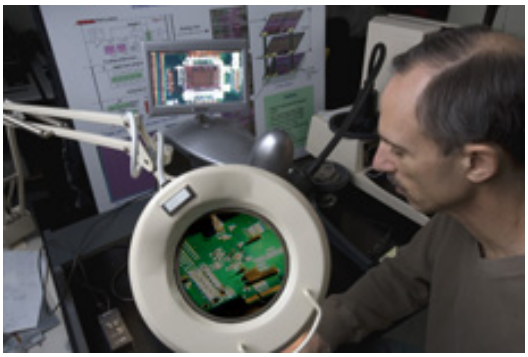
Current Security Status

Secon Level 3

Wilson Hall Cafe

Feature

Fermilab scientists contribute to 3D chip development



Fermilab scientist Tom Zimmerman examines the 3D vertical integrated silicon chip.

Research advances that could make your iPod even cooler also may help to advance particle detector technology. Fermilab scientists believe that new 3D vertical integrated silicon technology may help to make future particle detectors lighter, more concise and consume less power.

"Particle detectors are moving in a new direction," said Fermilab physicist Marcel Demarteau. "They will need to have better resolution and more processing power for precision physics. Yet at the same time, they should have less mass and not use a lot of power."

Vertical Integrated Systems, or 3D technology for short, consists of layers of extremely thin silicon stacked on top of each other with interconnections between the layers. This new stacking ability could potentially revolutionize the semi-conductor world because it allows engineers to make very thin, low-power devices with optimized technology. This means that the cell phones, MP3 players and other electronic gadgets of tomorrow will have the capacity to store an abundance of information, yet at the same time stay lightweight and retain a long battery life.

Fermilab is further developing this 3D chip technology for future particle detector use. In 2006, a team of Fermilab scientists including Gregory Deptuch, Jim Hoff, Tom Zimmerman and Alpana Shenai, headed by Ray Yarema, designed their own 3D chip, dubbed the Vertical Integrated Pixel chip. "The 3D

Safety Tip of the Week

Winter driving trends & tips

Correctly preparing and responding to winter weather hazards will help you stay safe.

Editor's note: *This week's Safety Tip was written by Chuck Morrison, chairperson of Traffic Safety Subcommittee, while regular author Tim Miller was on furlough.*

When winter weather hits, trouble can find even the most skilled driver. Improper winter driving caused 15 of the 23 motor vehicle accidents reported onsite since Dec. 1, 2007. Here are some tips to help you avoid becoming a statistic:

- **Maintain clear visibility.** Clear away all ice and snow from windows, mirrors and wipers to make sure you can see clearly in all directions. Make sure head and taillights also are clean.
- **Prevent slippage.** Remove ice and snow from shoes and boots to prevent pedal slippage.
- **Slow down.** Driving too fast for conditions contributes to many winter weather accidents. Don't follow too closely to the vehicle in front of you.
- **Avoid harsh actions.** Any quick force input to the tires, including quick starts, hard breaking or steering, can contribute to sliding. Steer, brake and accelerate slowly.
- **Avoid distractions.** Pay attention to road conditions and other vehicles. Avoid anything that might divert your attention.

Sometimes, winter weather conditions can

Monday, Feb. 11
- not available

Wilson Hall Cafe Menu

Chez Leon

Wednesday, Feb. 13
Lunch
- Sautéed salmon fillet w/ watercress sauce
- Vegetable medley
- Apricot tart

Thursday, Feb. 14
Dinner
- Red pepper soup
- Steamed lobster tails w/ mousseline sauce
- Asparagus w/lemon rind
- Sweetheart salad (beets, walnuts & bleu cheese)
- Lover's delight

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

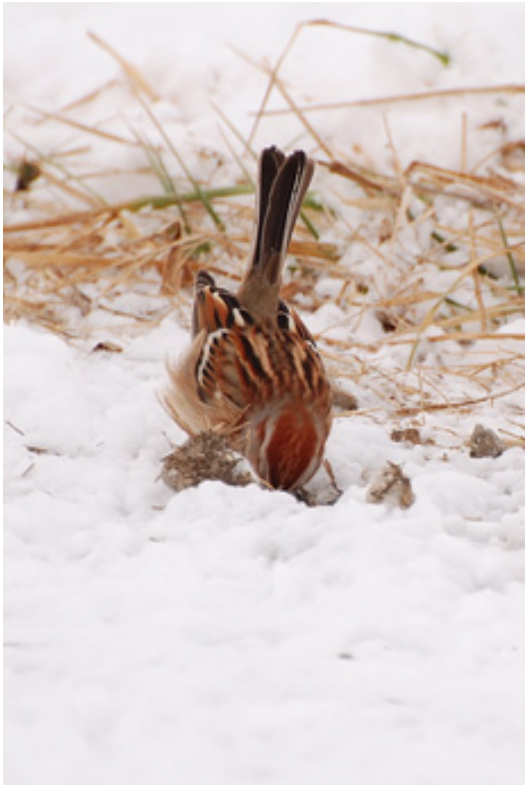
technology allows us to think about new kinds of detectors with unprecedented levels of intelligence in each pixel," said Fermilab physicist Ron Lipton.

The team submitted the chip to MIT's Lincoln Laboratory in the fall of 2006. It took about a year for MIT to process and assemble the chip, which has three tiers each approximately 7-microns thick. MIT shipped the chip back to Fermilab in November 2007 for further testing. "We're now trying to characterize the behavior of the chip," Zimmerman said. "It looks very promising."

-- Elizabeth Clements

Photo of the Day

Winter wilderness



AD's John Edwards submitted this photo of a American tree sparrow digging for food taken onsite Saturday, Feb. 2, after a snow storm.

Budget News Update

create dangerous scenarios. If you encounter one, here are some tips on how to respond:

- **Sliding.** If your car starts to slide, gently lift your foot off of the accelerator and turn the wheel gently where you want the car to go. You steer where you look, so look where you want to go, and steer the car appropriately.
- **Getting unstuck.** If your wheels start spinning and the car isn't moving, stop. Spinning wheels only dig deeper into the snow. Slowly move forward and then reverse. This can create wheel tracks you can use to generate momentum.

For an official list of winter driving and maintenance tips, visit Click and Clack the Tappet Brothers.

Safety Tip of the Week Archive

Announcement

Reduced hours in Medical Department

Because the furlough has reduced the available hours of the medical staff, we regret to announce that the Medical Department can no longer maintain its extended office hours. Beginning Monday, Feb. 11, and until the rolling furlough period ends, the Medical Department will only be open between 7 a.m. and 3:30 p.m. Monday through Friday. We apologize for any inconvenience this may cause.

Accelerator Update

Feb. 6-8
- Three stores provided 39 hours and 15 minutes of luminosity
- Severe winds whip 345kV power lines around
- TeV suffers from vacuum problems

Read the Current Accelerator Update
Read the Early Bird Report
View the Tevatron Luminosity Charts

Announcements

Sacrificing science

From *Chicago Tribune* Editorial, Feb. 8, 2008

When it comes to supporting basic scientific research with federal dollars, President Bush and members of Congress talk the talk. Last summer, they passed a law affirming the primacy of federally funded science in maintaining U.S. economic competitiveness.

Walking the walk is another matter. Argonne National Laboratory and Fermilab in Illinois became collateral damage in the recent budget fight between Bush and Congress. The labs face a $43 million cut in their combined $850 million in annual funding. That will force them to shrink staffing and facilities.

There will be an immediate local impact at the facilities, which together employ 5,000 people. But the greater harm will be in the corrosion of scientific research capability, which will weaken the innovative spirit upon which this country's post-World-War-II economic dominance has been built.

Research funding often gets short shrift because it can take years, even decades, for what can seem like esoteric physics and engineering projects to reach their practical applications. Visible light-emitting diodes, the building blocks of our newfangled LCD flat-screen TVs, were developed more than four decades ago, in 1962, by Nick Holonyak Jr., now a professor at the University of Illinois at Urbana-Champaign.

The technology used to build MRI machines started as a project at Fermilab.

Basic scientific research -- on radar, lasers, optics and nanotechnology -- has contributed to the vital military superiority of the U.S.

Read more

See all related news stories here

Have a safe day!

Register for S/CI training
Technical personnel and managers can sign up for suspect/counterfeit items identification training, scheduled to take place Feb. 11-14 at Fermilab. This training is required for construction supervisors and task managers. Three courses are offered: course 1, "Suspect/Counterfeit Items Identification", a 2-hour hands-on experience; and course 2, "Suspect/Counterfeit Items DOE Program", a 1.5-hour overview of DOE's S/CI program; and course 3 "Suspect/Counterfeit Items Train the Trainer", a 3-hour Q&A session intended for Fermilab individuals with responsibility to provide S/CI training for personnel within their division or section. Courses must be taken in order. Register at the ES&H Web site or contact Joel Kofron, x8444

Adobe Acrobat 7.0 Professional: Advanced - Feb. 28, 2008
Learn to convert technical documents to PDF files, enhance and control PDF content accessibility, customize PDF documents for interactive use only and prepare PDFs for commercial printing. Learn more and enroll

Employee art show - applications due 2/25
"Hidden Talents: Fermilab Employee Art Show" will be on display, March 19 - May 14, 2008. Intent applications are due Feb. 25 and forms are available in the Art Gallery on the stand near Curia II or on the Web.

Scottish country dance Tuesday
Scottish country dancing will meet Tuesday, Feb. 29, at Kuhn Barn. Instruction begins at 7:30 p.m., and newcomers always are welcome. Most dances are fully taught and walked through, and you do not need to come with a partner. Call (630) 840-8194 or (630) 584-0825 or e-mail for more information.

Additional Activities