Fermilab Today

Thursday, Feb. 18, 2010

Calendar

Have a safe day!

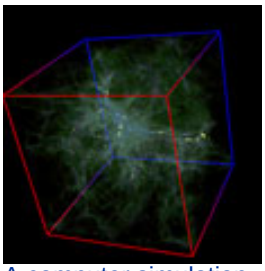
Thursday, Feb. 18
1 p.m.
Computing Techniques Seminar - FCC2A/2B
Speaker: LeRoy Budnik, KnowledgeTransfer.Net
Title: The Cloud Challenge
1:30-5 p.m.
Special LPC lecture - One West
Speaker: Dan Green, Fermilab
Title: Dark matter, dark energy
2:30 p.m.
Theoretical Physics Seminar - Curia II
Speaker: Adam Martin, Fermilab
Title: Boosting BSM Higgs Discovery with Jet Substructure and Decays Constants
3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over
4 p.m.
Accelerator Physics and Technology Seminar - One West
Speaker: Peter Limon, Fermilab
Title: LHC Splice Repairs and the Chamonix Discussions

Friday, Feb. 19
2 p.m.
Particle Astrophysics Seminar - One West (NOTE DATE and TIME)
Speaker: Mark Devlin, University of Pennsylvania
Title: Where Did Half the Starlight in the Universe Go?
3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over
4 p.m.
Joint Experimental-Theoretical Physics Seminar - One West
Speaker: Yoshinori Kurimoto, Kyoto University
Title: Neutral Current Neutral Pion Production by Neutrinos at SciBooNE
8 p.m.
Fermilab Lecture Series -

Feature

Learn how to use art to further your research

Fermilab launches new program with University of Chicago, Argonne


A computer simulation of reionization of the universe.

Researchers and engineers rarely get to interact with their peers in different scientific fields, yet great ideas, especially for public outreach, can arise from looking outside your normal sphere of influence.

To foster this type of cross-discipline collaboration, Fermilab, the University of Chicago and Argonne have created a new joint speaker series that will kick off March 11.

The goal of the program is to encourage collaboration and further the research objectives of all three institutions. Evening events held about twice a year will include engaging speakers and topics, food and refreshments, and a setting that encourages informal discussion and interaction among attendees.

The first event, planned for 6 to 8:30 p.m., Thursday, March 11, at the Oriental Institute in Chicago, will focus on how researchers can use art, such as computer visualizations of galaxies colliding, to deepen understanding. A panel discussion will delve into the topic: "The art of science: furthering public understanding of science and technology through artistic expression and visualization."

The panel should last about 1 hour and 15 minutes with food and drinks before and after. You can view the invitation and panelist list here.

If you would like to attend, please RSVP by March 4 on the invitation; space is limited.

-- Tona Kunz

Special Announcement

Feature

New NOvA building pops up almost overnight


The NOvA Near-Detector surface building is being constructed next to the MINOS surface building. Photo courtesy of Tim Trout of FESS. To watch a time-lapse video of the construction, go to Fermilab's YouTube site.

The curvy MINOS surface building at Fermilab has a new neighbor. The new neutrino experiment in town recently moved in right next door.

Ward Commercial Construction Inc. of East Dundee began building the foundation for the NOvA Near-Detector surface building in late December, but putting up the prefabricated wall panels took only two days.

The NOvA collaboration will construct two detectors in the path of a beam of neutrinos generated at Fermilab. The near detector will gather data on-site at Fermilab, and the far detector will study the beam in Ash River, Minn., at a laboratory of the University of Minnesota's School of Physics and Astronomy.

The base of the new building measures 72 by 35 feet, and it stands about 37 feet high. It will house the NOvA Near Detector during its year-long trial run, before the detector moves 330 feet underground into a hall below the MINOS building.

The NOvA collaboration plans to outfit the surface building with heat, lights, ventilation and structural steel and be ready to take data on July 12, said John Cooper, NOvA project manager at Fermilab.

The collaboration members have worked to match the design of the near detector as closely as possible to that of the far detector – except that the near detector will weigh 220 tons, just

Auditorium
Tickets: $7
Special viewing of the film "BLAST!"
NOTE: Pre-film discussion with Mark Devlin, Cosmologist at 7:30 P.M.

Click here for NALCAL, a weekly calendar with links to additional information.

Upcoming conferences

Campaigns

Take Five

Tune IT Up

H1N1 Flu

For information about H1N1, visit Fermilab's flu information site.

Weather

Mostly sunny
34°/12°

Extended Forecast
Weather at Fermilab

Current Security Status

Secon Level 3

Wilson Hall Cafe

Thursday, Feb. 11
- Breakfast: Apple sticks
- Minnesota wild rice w/ chicken
- Tuna melt on nine-grain
- Italian meatloaf
- Chicken casserole
- Buffalo crispy chicken wrap
- Assorted sliced pizza
- Mandarin chicken

Wilson Hall Cafe Menu

Chez Leon

Documentary film tells tale of telescope trouble and triumph

When you're shooting a telescope into space aboard a weather balloon, it's convenient to have someone along to document the process. When that person is your brother, and your arctic telescope launch turns into a years-long, disaster-plagued ordeal spanning three continents, you've got yourself a feature-length film. Filmmaker Paul Devlin's "BLAST!" tells the dramatic story of his astrophysicist brother Mark Devlin, and Mark's beleaguered attempts to get his telescope off the ground. Come watch the film, and meet its intrepid stars. (The telescope will not be available for questions.)

Friday in Ramsey Auditorium there will be a pre-film talk by astrophysicist Mark Devlin at 7:30 p.m., screening at 8.p.m. and Q&A with the Devlin brothers immediately following. Tickets, $7. Call 630-840-2787, or stop by the Wilson Hall box office.

From *symmetry breaking*

Extreme jets take new shape

Jets of particles streaming from black holes in far-away galaxies operate differently than previously thought, according to a study published [Feb. 17] in *Nature*. The new study reveals that most of the jet's light—gamma rays, the universe's most energetic form of light—is created much farther from the black hole than expected and suggests a more complex shape for the jet.

The research was led by scientists at the Kavli Institute for Particle Astrophysics and Cosmology, jointly located at the Department of Energy's SLAC National Accelerator Laboratory and Stanford University, with participation from scientists from around the world. The study included data from more than 20 telescopes including the Fermi Gamma-ray Space Telescope and KANATA telescope.

High above the flat Milky Way galaxy, bright galaxies called blazars dominate the gamma-ray sky, discrete spots on the dark backdrop of the universe. As nearby matter falls into the black hole at the center of a blazar, "feeding" the black hole, it sprays some of this energy back out into the universe as a jet of particles.

"As the universe's biggest accelerators, blazar jets are important to understand," said KIPAC Research Fellow Masaaki Hayashida, who serves as corresponding author on the paper with KIPAC Astrophysicist Greg Madejski. "But

over 1 percent of the heft of the 14,000-ton far detector.

"This is like one tiny corner of the far detector," said Steve Dixon of the Fermilab Engineering Services Section.

The collaboration placed the near-detector surface building near the MINOS building to skim neutrinos from the NuMI and Booster beams. The detector will not sit directly in the path of either beam but should see a couple of thousand interactions and also will collect data from cosmic rays, Cooper said.

-– Kathryn Grim

Accelerator Update

Feb. 15-17
- Three stores provided ~44/75 hours of luminosity
- H^- source's water resistor flushed and its extractor replaced
- LRF4 power amplifier replaced
- Feynman Computer Center suffered power outage

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

Announcements

Latest Announcements

Weekly Time Sheets due Feb. 19

Art Gallery talk - Virginia Broersma - March 10

Fermilab Natural Areas annual meeting - Feb. 18

Lunch & Learn about back pain - Feb. 18

Employee discount offered at Batavia Rosati's

Hiring summer students for 2010

Harlem Globetrotters special ticket price - April 15

2010 standard mileage reimbursement rate

Chicago Bulls discount tickets available online

Introduction to Argentine Tango series of

Thursday, Feb. 11
Dinner
- Closed

Wednesday, Feb. 17
Lunch
- Spicy honey-brushed chicken
- Garlic-roasted potato wedges
- Tossed salad
- Sticky toffee pudding

Chez Leon Menu
Call x3524 to make your reservation.

Archives

Fermilab Today

Result of the Week

Safety Tip of the Week

CMS Result of the Month

User University Profiles

ILC NewsLine

Info

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

Send comments and suggestions to:
today@fnal.gov

Visit the Fermilab
home page

how they are produced and how they are structured is not well understood. We're still looking to understand the basics."

Read more

In the News

IceCube's Antarctic season ends with success

From *Interactions.org*, Feb. 17, 2010

As darkness settles over the South Pole and the Antarctic winter begins, the IceCube Neutrino Observatory has something to celebrate: a great season on the ice.

The 2009-10 season wrapped up 10 days ahead of schedule, and increased efficiency with the hot-water drill translated to 25,000 gallons in fuel savings.

IceCube is an innovative physics experiment that uses a cubic kilometer of ice at the South Pole as a telescope, searching the universe for neutrinos.

Read more

classes - FREE

Qi Gong, Mindfulness and Tai Chi Easy for Stress Reduction

Engineers Week through Feb. 19

Unleash those stomach butterflies - Toastmasters

BLAST! The Movie: intro, film and Q&A - Feb. 19

Ukrainian egg decorating class - Feb. 22

Weight Watchers at Work begins new session

Applications accepted for awards in URA Visiting Scholars program

Blood drive sign-up

Fermilab Family Open House - Feb. 21

Ask HR sessions to be held at the Computing Division and Wilson Hall

Conflict Management and Negotiation Skills offered March 3 and 10

Adobe Acrobat Professional 9.0 Level 1 class offered March 4

Deadline for The University of Chicago Tuition Remission Program - March 5

On-site Housing for summer 2010 - March 8 deadline

Adaptive Leadership: Coaching for Individual Differences class - March 9

Excel Power User / Macros class offered March 11

FRA Scholarship 2010

Additional activities

Submit an announcement