Calendar

Have a safe day!

Friday, Oct. 26

3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over

4 p.m.
Joint Experimental-Theoretical Physics Seminar - One West
Speaker: Hogan Nguyen, Fermilab
Title: A New Measurement of the CMB Polarization at 90 GHz by the QUIET Experiment

Monday, Oct. 29

2:30 p.m.
Particle Astrophysics Seminar - One West
Speaker: F. William High, University of Chicago
Title: Targeted Weak-Lensing Follow-Up of Galaxy Clusters in the South Pole Telescope Survey

3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over

THERE WILL BE NO ALL EXPERIMENTERS' MEETING THIS WEEK

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

Ongoing and upcoming conferences at Fermilab

Campaigns

Take Five

Weather

Mostly sunny
49°/30°

Extended forecast
Weather at Fermilab

Current Security Status

Secon Level 3

Current Flag Status

Flags at full-staff

Wilson Hall Cafe

Friday, Oct. 26

- Breakfast: strawberry-stuffed French toast
- Philly steak and cheese
- Blazin' Buffalo wings
- King ranch chicken casserole
- Smart cuisine: Tex-Mex turkey pot pie
- Honey mustard ham and Swiss panini
- Assorted pizza
- Chicken fajitas

Wilson Hall Cafe Menu

Chez Leon

Friday, Oct. 26
Dinner
Closed

Wednesday, Oct. 31
Lunch
- Skeleton bones
- Frankenstein fingers
- Ghost clouds
- Dracula's dream

Chez Leon Menu
Call x3524 to make your reservation.

Archives

Fermilab Today
Director's Corner
Result of the Week
CMS Result
Physics in a Nutshell
Tip of the Week
User University Profiles
Related content

Info

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Special Announcement

State-of-the-laboratory meetings - today

Fermilab Director Pier Oddone and Deputy Director Young-Kee Kim will host three state-of-the-laboratory meetings today in One West for the following groups of employees:

- Technical staff: 8:45 to 10:15 a.m.
- Engineers: 10:30 a.m. to noon
- General staff: 1 to 2:30 p.m.

You are encouraged to attend your designated meeting.

Milestone

After 42 years, Bruce Chrisman bids farewell to Fermilab

Bruce Chrisman will retire from Fermilab this year. *Photo: Reidar Hahn*

"Looking back, 1969 was a bad year to get a degree in physics," chuckled Bruce Chrisman. "Due to changes in government funding because of the Vietnam War, physicists were not exactly in demand in the late '60s and early '70s."

That may be true, but it didn't stop Chrisman, who went on to spend 42 years working in the field. Most of those years were here at Fermilab, including a recently concluded stint as chief operating officer of the laboratory. With his retirement on the horizon, Chrisman took a break one recent afternoon to reflect on his career.

That career started just after Chrisman graduated with a Ph.D. in physics from the University of Illinois. Lucky for him, his thesis professor's tennis partner was Ned Goldwasser, Fermilab's first deputy director, who hired Chrisman to work in the lab's film analysis facility.

"Fermilab was just two years old," Chrisman said. "There was no high-rise and office space was hard to come by. So I worked out of a kitchen in one of the homes in the Village."

But the limited space didn't dampen the excitement of helping to build a new scientific program in particle physics.

"In those early days of getting the Main Ring functioning, everyone had the opportunity to be a 'tunnel rat'. It was exciting times," he said.

University of Chicago, the bubble chamber and Yale

A few years later, Chrisman earned an M.B.A. from the University of Chicago and, at the same time, he moved from "doing" science to "administrating" science. While finishing up his last quarter at the University of Chicago in the spring of 1975, he became the executive assistant to the head of Fermilab's accelerator division. That same year, he published several papers on a bubble chamber experiment.

When the laboratory built the first extraction line to create antiprotons, Chrisman was the project manager. He was also heavily involved in the development of the Northern Illinois University neutron therapy facility at the laboratory.

He was later promoted to Fermilab's head of business services before leaving in 1983 to take a vice president position at Yale University – the first non-Yale grad to hold an officer title at the university.

From the kitchen to the board room

After a year in New Haven, Conn., Chrisman was missing the stimulating work and people at Fermilab, so he returned. In the late 1980s he worked on the contract for the Superconducting Super Collider in Texas and, in 1989, was the first person to relocate there to help set up the lab. After a few months, he left the SSC and the Universities Research Association for the second time in his career to manage a law firm in Chicago.

But by May 1991, the allure of physics and the lab had brought Chrisman back to Batavia again, this time for good.

Read more

—Deb Sebastian

Everyone is invited to attend the farewell symposium for Bruce Chrisman today from 3 to 5 p.m. in Ramsey Auditorium, as well as a reception on the Wilson Hall 2nd-floor crossover from 5 to 7 p.m.

Special Announcement

Cafeteria increases prices, closes on Saturdays

Beginning Nov. 5, it will cost more to eat in Fermilab's cafeteria. The amount you pay for food and beverages will increase by about 10 percent, so the average cost of a meal will rise from $5.00 to $5.50.

The increase is necessary because of higher food and supply costs, as well as the added cost of janitorial services that have been shifted to revenue-generating areas of the lab, including the cafeteria.

"Because of the heat and drought this past summer, consumers are seeing significantly increased costs for food in the grocery store" said Accommodations Manager Jack Hawkins. "As a result, it costs more today for the supplies we use in the cafeteria."

To save money on your purchases and help keep cafeteria costs down, cafeteria patrons can continue to bring their own cups and mugs. Southern Food Service Management offers a discount of 20 cents each time a patron uses his or her own cup or mug.

Another cost-saving measure is to close the cafeteria on Saturdays beginning on Nov. 10. During some special events, such as Tom Skilling's annual tornado seminar, the cafeteria will remain open.

Special Announcement

Kautz Road Substation power outage - Oct. 29

On Monday, Oct. 29, from 7 to 7:30 a.m. there will be a power outage to install jumpers on a transmission line. This outage will only affect the Main Injector.

In the News

Why symmetry matters

From *Nature*, Oct. 24, 2012

Symmetries lie at the heart of the laws of nature. Early scientific giants such as Galileo Galilei, René Descartes and Isaac Newton did not speak in those terms, but symmetries were implicit in their ideas of a comprehensive framework of the Universe. And symmetries lie explicitly at the basis of modern physics, from general relativity to quantum field theory.

To a physicist, symmetry is a broader concept than the reflective form of butterfly wings, or the rotational similarity of a triangular roundabout sign. In physics, to be symmetrical is to be immune to possible changes. Symmetry represents those stubborn cores that remain unaltered even under transformations that could change them.

Read more

CMS Result

Gravity and the Standard Model

The idea of heavy gravitons is not a traditional one, but if extra spatial dimensions exist, it is completely credible. *Figure modified from http://www.particlezoo.net*

In the 1960s, physicists were working out the details of how the electromagnetic force and the weak nuclear force were related. After considerable effort, they showed that the forces' differences disappeared at higher energy. The design parameters of the LHC, most importantly the beam energy, were chosen to explore the transition from the unified electroweak regime to the point where the two forces acted differently.

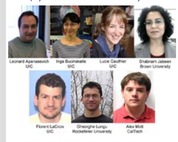
Physicists think that a similar unification of the electroweak, strong nuclear and gravitational forces will occur at much higher energy. The problem is that the energy at which this grand unification should occur is the Planck scale, which is about 10^{19} GeV. To give a sense of how much bigger this is than the energy of electroweak unification, if we equate the electroweak scale to the height of a person, the Planck scale is about halfway to Alpha Centauri. This enormous difference in scale is simply not understood and is called the hierarchy problem.

One possible answer to this mystery invokes additional spatial dimensions. If there are more dimensions beyond the familiar three, the traditional method of estimating the grand unification scale is simply wrong and could occur at much lower energy, perhaps low enough to be accessible to the LHC. In order to conform with existing data, these extra dimensions must be "curled up." In one particular theory, called the Randall-Sundrum model, a new class of gravitons is predicted. Because of the extra dimensions, these are not traditional, massless gravitons. These gravitons have mass. In a specific version of the theory, the gravitons are predicted to preferentially decay into pairs of *Z* bosons.

CMS searched for massive particles decaying into a pair of *Z* bosons. In order to enhance the sensitivity of the measurement, they restricted their search to particles with a subatomic spin of 2, which is the spin expected to be carried by gravitons. The spin of a particle governs the angles at which its daughter particles can be created, so the decay angles were a central part of the analysis. The measurement was consistent with Standard Model expectations, so no massive gravitons were observed. However, physicists will continue to look at the data in even more creative ways.

—Don Lincoln

These physicists contributed to this analysis.



In order to select interesting events from the onslaught of collisions that occur at the center of CMS, physicists must teach the detector to "trigger" itself when a collision occurs that is an example of the phenomenon that physicists want to study. This group works in the JETMET group, which specializes in selecting events that have jets or events with missing energy. Events with missing energy can be the signature of dark matter, supersymmetry and other exotic phenomena.

Photo of the Day

Goldenrod in black and white

Elliott McCrory, AD, took this close-up of a tall goldenrod near the woods west of Wilson Hall.

Announcements

Farewell symposium for Bruce Chrisman - today
State-of-the-laboratory meetings - today
NALWQ Playgroup Halloween party - today
Zumba on Fridays - begins today
In the Footsteps of Django - Oct. 27
English country dance Halloween Party - Oct. 28
Kautz Road Substation power outage - Oct. 29
Yoga class - begins Oct. 30
Survey of God's promise through history - begins Oct. 30
Butts & Guts - begins Oct. 30, Nov. 1
"Playing with Time" at the Field Museum - register by Oct. 31
SciTech presents Masters of Lightning - Nov. 3
CSADay 2012 training opportunities - Nov. 6
Enrollment for 2013 benefits - through Nov. 6
LabView sessions - scheduled for Nov. 16
Deadline for UChicago Tuition Remission Program - Nov. 26
Calling all veterans
2013 403(b) plan limitations
Applications being accepted for Wilson Fellowship
Abri Credit Union - money just got cheaper
Winter volleyball begins soon
Accelerate to a Healthy Lifestyle update
Professional development courses
Atrium work updates

Submit an announcement

Classifieds
Find new classified ads on *Fermilab Today*.