

Calendar

Wednesday, June 1

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

11:00 a.m. Research Techniques
Seminar - Curia II

Speaker: T. Shutt, Case Western
Reserve University

Title: The XENON Dark Matter
Experiment

2:00 p.m. Proton Driver General Meeting -
1 West

Speaker: F. DeJongh, Fermilab
Title: e Experimental Ideas

Speaker: G. Romanov, Fermilab
Title: Front End Design of the Proton
Driver

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

4:00 p.m. Fermilab Colloquium - 1 West
Speaker: R. Kaufmann, Boston University
Title: Oil and the American Way of Life:
Don't Ask, Don't Tell

Thursday, June 2

2:30 p.m. Theoretical Physics Seminar -
Curia II

Speaker: S. Chivukula, Michigan State
University

Title: Higgsless Models in AdS: Lessons
from Deconstruction

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

THERE WILL BE NO ACCELERATOR
PHYSICS AND TECHNOLOGY
SEMINAR TODAY

Weather

Rob Roser Named New Spokesman at CDF

Rob Roser begins his two-year tenure today as the co-spokesperson for the Collider Detector at Fermilab, along with Young-Kee Kim. Prior to becoming co-spokesperson, Roser was head of the day-to-day operations of CDF. The new role attracted him because of CDF's unique opportunities in the next few years. "We now have almost ten times the amount of data that was gathered during the first run," Roser said.



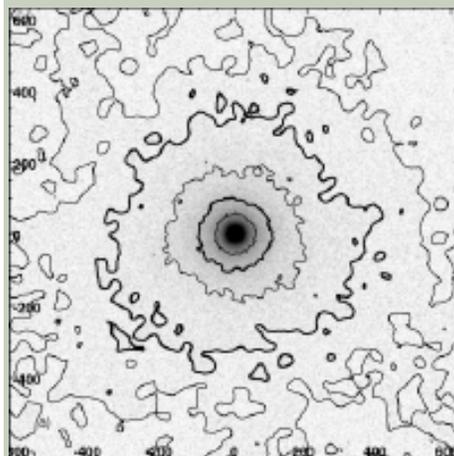
Rob Roser

Roser will focus on three areas: trying to retain experimenters' connections with CDF before, during, and after the LHC comes online; pushing hard to get results out on time; and encouraging communications between the funding agencies and experimenters. "We don't tell the agencies enough about the successes we have here," Roser said. "We need to make our triumphs more available to everyone."

Roser is from a small town outside Hartford, Connecticut. He conducted his undergraduate work at the University of Connecticut, with a Ph.D in high energy physics from the University of Rochester. His favorite part of working at CDF is the range of personalities and the chance to work with some of the best minds in the world. "We laugh at each other sometimes, but we make sure that all the work gets done," Roser said.

Astrophysics Result

Wealth of SDSS Data Reveals Invisible Parts of Galaxies, Clusters



The stacked cluster image shows the central brightest cluster galaxy and the diffuse light from stars and galaxies in the cluster that are too faint to be detected individually (the solid lines are contours of constant surface brightness). (Click on image for larger version.)

One of the most active areas of current astronomical research aims to answer when structures formed in the universe and how the gas that was left after the big bang settled into stars, galaxies, clusters of galaxies, and superclusters of clusters. The broad picture that emerges is that of "hierarchical clustering": the smallest galaxies form first and then merge to form larger galaxies which then fall into clusters. However, six parts out of seven of the mass in galaxies and clusters is not in the gas and stars whose light we see, but in dark matter "halos" hosting the stars. These halos are clouds of particles of hitherto unknown nature, whose presence was inferred only through the effect of their gravity, because they do not emit any light.



Mostly Sunny 80°/56°

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

[Secou Level 3](#)

Wilson Hall Cafe

Wednesday, June 1

French Onion Soup

Texas Style Meatloaf Sandwich \$4.85

Grilled Chicken with Black Bean & Corn

Salsa \$3.75

Kielbasa & Sauerkraut \$3.75

Smoked Turkey Panini w/ Pesto Mayo
\$4.85

Sausage & Pepperoni Combo \$3.00

Fettucine Carbonara with Ham &

Mushrooms \$4.85

The Wilson Hall Cafe now accepts Visa,
Master Card, Discover and American
Express at Cash Register #1.

[Wilson Hall Cafe Menu](#)

[Chez Leon](#) is now open. Call x4512 to
make your reservation.

Search

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Info

--Eric Bland

Power Hungry and Waste Wise

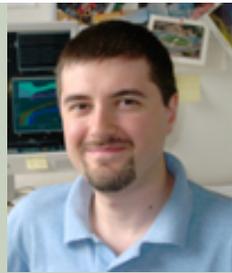


One way to reduce waste is to start using rechargeable batteries whenever possible.

The lab uses a vast array of small portable devices that constantly hunger for more power. To run all of this equipment, each year we consume thousands of single use batteries that eventually become waste. Recently, all employees have been required to take a new training class geared toward greater environmental awareness. This training encourages us to re-think how we can do our day-to-day business in a more eco-friendly way. One opportunity to reduce waste is to convert portable equipment from non-rechargeable to rechargeable batteries when possible.

Several groups have begun making the switch on a common device many people carry daily. Members of both the Accelerator Division and the Computing Division have set up programs that test the use of rechargeable batteries in long-range pagers. With over 1,000 of these pagers assigned to employees, the Business Services Telecommunications group is following the progress to determine if using rechargeable batteries in this type of equipment should be recommended to other users. Other opportunities exist. Many new computers are being purchased with wireless mice and keyboards. Using rechargeable batteries in these devices is an option.

However, the details of this process are still subject to debate: How did the dark matter halos merge to form ever larger structures? What



Stefano Zibetti

exactly happens to a galaxy when it falls into a larger one, or a galaxy cluster? A small team of astronomers headed by graduate student Stefano Zibetti, now a postdoc at Max Planck Institute for Extraterrestrial Physics in Garching, Germany, and Simon White of the Max Planck Institute for Astrophysics also in Garching, have harnessed the statistical power offered by the sheer size of the SDSS to study the distribution of stars in the faintest outer reaches of galaxies and in the intergalactic space in clusters of galaxies. These parts of galaxies and clusters are up to 10,000 times fainter than the sky background light, so that extremely long exposures and extraordinarily careful procedures are needed to detect them in observations of individual objects. Instead, Zibetti and White collected SDSS images of 1047 individual galaxies seen edge-on and scaled, aligned, and added them. They performed a similar analysis for a list of 683 clusters of galaxies provided by Fermilab's Jim Annis. In both cases, the stacking procedure reveals the presence of a faint halo of stars around individual galaxies, and of diffuse stars within clusters of galaxies. The spatial and color distribution of these stars suggest that both stellar halos are formed from the remnants of individual galaxies that were torn apart during their fall into the surrounding dark matter halo. The results have been published in the Monthly Notices in [January 2004](#) and

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Consider converting to rechargeable batteries. There are a wide range of battery sizes to fit virtually any application. Many small devices such as flash lights and many cameras can now be powered by nickel metal hydride (NiMH) batteries. These batteries are replacing the more common nickel cadmium (NiCad) rechargeable batteries in many applications. The most common sizes of NiMH batteries and battery chargers are now available in the Fermilab Stock Room. Questions? Contact [Eric Mieland](#) at x2248.

[more information](#)

--Eric Mieland

In the News

From *Rocky Mountain News*, May 30, 2005

Colorado site vying for observatory

By Associated Press

LAMAR - A group of international scientists is expected to decide next month whether to locate a cosmic ray observatory in southeastern Colorado or western Utah.

Officials in both areas have been working to land the Northern Pierre Auger Observatory, an international collaboration involving about 300 scientists from 19 countries.

The new observatory would work in conjunction with the \$55 million Southern Pierre Auger Observatory, which covers 70 square miles in Argentina.

The observatory would be made up of an array of particle detectors spaced one mile apart to measure and study high-energy cosmic rays.

[April 2005.](#)

[Result of the Week Archive](#)

Announcements

Children's Center 25th Anniversary Reunion and Ice Cream Social

All current or former Children's Center students and their families are invited to a Reunion at The Children's Center (28 Shabbona) on Wednesday, June 1, from 5:30 p.m. to 6:30 p.m. We will celebrate our 25th year by enjoying ice cream and lots of reminiscing. If you plan to attend, please RSVP to Linda Olson-Roach, (630) 840-3082, lor@fnal.gov.

Register for the 2005 Fermilab Users' Meeting

It's not too late to register for the 2005 Fermilab Users' Meeting. Join us for:

- Presentations from representatives of DOE, NSF and OSTP, with Q&A
 - Latest results from Fermilab experiments
 - An insider's view of the EPP 2010 panel
 - Status of future initiatives at the lab and in HEP as a whole
 - Free catered dinner at the Users Center...but only if you REGISTER!
- Registration is free, and can be done online at the [Users' Meeting](#) Web site.

Accelerated C++ Short Course

On June 6, Fermilab will offer the first session of Accelerated C++: A Short Course in Practical Programming by Example. The Short Course is an extended professional development experience that emphasizes computer programming in modern standard C++. No tuition is charged; the only cost is for the required textbooks. Walter Brown, who participates on Fermilab's behalf in the international C++ standardization

[Read more](#)

From Argonne National Laboratory, May 27, 2005 **Argonne-designed instruments vital in RHIC discovery**

ARGONNE, Ill. — Argonne researchers played a significant role in research that led to the surprising finding of a possible ideal liquid instead of the expected quark-gluon plasma at Brookhaven National Laboratory's Relativistic Heavy-Ion Collider (RHIC).

On April 18, each of the four major experiments at RHIC released white papers summarizing the first four years of RHIC operation and their findings from high-energy collisions of gold nuclei. At the incredibly high temperatures and pressures created in the collisions, physicists expected to create “quark-gluon plasma” — a gaseous state of matter thought to have existed in the first few microseconds after the Big Bang. Instead, the matter created inside the detectors behaved like a liquid — a completely unexpected result.

[Read more](#)

effort, is the course instructor. He is a member of the Computing Division's CEPA department. Course registration is now open.

[more information](#)

International Folk Dancing

International Folk Dancing will meet Thursday, June 2, at Kuhn Barn on the Fermilab site. Dancing begins at 7:30 p.m. with teaching earlier in the evening and request dancing later on. Newcomers are welcome and you do not need to come with a partner. Dancing will move to the air-conditioning of Ramsey Auditorium for the summer season on June 16. Info at 630-584-0825 or 630-840-8194 or folkdance@fnal.gov.

Fermi Days at Great America in July

Enjoy a day at Great America for only \$25.00. The Fermilab Recreation Office has designated July 9, 10, 23 & 24 as Fermi Days at Great America. Purchase tickets in the Recreation Office for only \$25.00 and enjoy one of these days at Great America with your friends and family. Children three (3) and under are admitted free and do not require a ticket. This ticket includes the colossal new water park, Hurricane Harbor, next to Six Flags. Tickets can be purchased in the Recreation Office.

[more information](#)

[Upcoming Activities](#)