

Calendar

Thursday, August 11

2:00 p.m. LHC Physics Center Mini-

Workshop - Sunrise Room (WH 11)

Speaker: Michelangelo Mangano

3:30 p.m. Director's Coffee Break -

2nd Flr X-Over

Note: There will be no accelerator physics and technology seminar today

Friday, August 12

12:00 p.m. Public Lecture Preview -

One West

Speaker: Young-Kee Kim

Title: $E=mc^2$: Opening Windows on the World

12:30 p.m. Theoretical Physics Seminar - One North

Speaker: M. Awramik, DESY Zeuthen

Title: Two Loop Electroweak Corrections to Standard Model Observables

3:30 p.m. Director's Coffee Break -

2nd Flr X-Over

4:00 p.m. Joint Experimental Theoretical Physics Seminar - 1 West

Speaker: U. Nierste, Fermilab

Title: CKM Matrix and CP Violation

Weather



Chance Thunderstorms **83°/69°**

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

[Secou Level 3](#)

Wilson Hall Cafe

Oddone Announces New ILC R&D Organization; Robert Kephart to Lead



Fermilab physicist Bob Kephart holding a "permit" that he caught fly-fishing in Belize.

Permit, said Kephart, are like the ILC: elusive and difficult to catch, but worth the effort.

On Wednesday, August 10, Fermilab Director Pier Oddone announced a new organization for the Laboratory's International Linear Collider R&D Program.

"I believe these assignments will significantly strengthen our ILC R&D effort, which remains Fermilab's highest priority for the future," said Oddone.



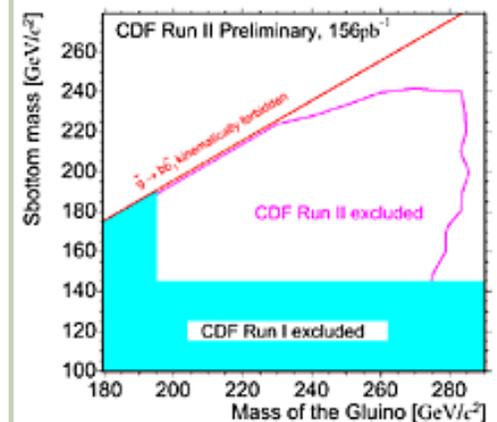
Victor Yarba will become the Technical Division's Acting Head

Bob Kephart, former head of the Technical Division, will join the directorate on October 1 as Fermilab ILC Program Director.

Sergei Nagaitsev and Shekhar Mishra will assist Kephart as his deputies. Victor

Fermilab Result of the Week

Seeking SUSY with beauty



A plot showing the region of sbottom mass vs gluino mass excluded by this result. (Click on image for larger version.)

Particle physicists have been hunting for supersymmetry (SUSY) for decades. SUSY is a promising extension of the Standard Model (SM) which allows for the unification of all forces. Cosmologists are also excited about SUSY since it predicts a stable particle called the Lightest Supersymmetric Particle (LSP) which is a leading candidate for the dark matter in the cosmos.

For each existing Standard Model particle, SUSY predicts a yet-to-be-discovered more massive "superpartner." Unfortunately the theory does not predict the mass of these superpartners which makes it challenging for researchers to find them. At CDF, scientists for the first time have explored a specific hierarchy of the superpartner masses where the gluino (the superpartner of the gluon) is more massive than the sbottom (the superpartner of the bottom or beauty quark). This results in a truly "beautiful" experimental signature of 4 "b jets" or collimated sprays of energy from bottom

Thursday, August 11

Southwestern Chicken Tortilla Soup
Philly Style Cheese Steak \$4.85
Chicken Pot Pie \$3.75
Tomato Basil Chicken Parmesan \$3.75
Southwestern Turkey Wrap \$4.75
Four Cheese Pizza \$3.00
Marinated Grilled Chicken Caesar Salad \$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

Thursday, August 11

Dinner

Skewered Shrimp w/Prosciutto
Steak au Poivre w/Brandy Cream Sauce
Vegetable of the Season
Lemon Berry Napoleon

Wednesday, August 17

Lunch

Cajun Shrimp Salad w/Tomatoes & Avocados
Pineapple Rum Cake

[Chez Leon Menu](#)

Call x4512 to make your reservation.

Search

Search the Fermilab Today Archive

Info

Yarba will serve as Acting Head of the Technical Division.

"The International Linear Collider is a huge and exciting scientific initiative. I am humbled to be asked to join the Directorate and take responsibility for Fermilab's efforts on the ILC," said Kephart. "The ILC will make some great science possible; the superconducting technology is fascinating; and the international nature of this linear collider will be a challenge."

Kephart, Nagaitsev and Mishra will form the core team that will coordinate Fermilab's ILC activities with the Global Design Effort, directed by Barry Barish.

"Let me offer my congratulations on the new organization and assignments for ILC R&D at Fermilab," said Barish. "This represents a very important step toward developing our ambitions for Fermilab to become a lead laboratory for ILC R&D. I very much look forward to working closely with this talented Fermilab team."

—Kelen Tuttle

[Director's Announcement](#)

[Kephart's Statement](#)

ILC This Week

ILC - Global Design Effort The Director's Corner

Next week the Snowmass ILC Workshop will begin. More than 600 participants have already signed up! Snowmass promises to be a very exciting



Barry Barish

and productive two weeks for the ILC. The workshop will consist of both the

quark decays, and a large imbalance of energy from 2 LSP's created from the supersymmetric particle decays. Since the bottom quark has a long lifetime, particles in the b jet will be displaced from the collision point by fractions of a millimeter, allowing b jets to be distinguished from jets produced by other types of quarks within the exquisitely precise CDF silicon detectors.

After looking through millions of CDF events, the scientists have not yet observed a significant excess of these spectacular events above the SM background. This allows them to exclude a large region of possible sbottom and gluino masses as displayed by the purple line in the figure. The hunt for SUSY continues as the Tevatron experiments collect more data.



Carsten Rott (top left) a former Purdue graduate student, now at Penn State, performed this search for his thesis Carsten worked with Daniela Bortoletto (top right), professor at Purdue University and Carsten's advisor, Oscar Gonzales (bottom left) a postdoc at Purdue University, Brig Williams (bottom center) a professor at the University of Pennsylvania and Toni Munar (bottom right) a post doc at the University of Pennsylvania. (Click on image for larger version.)

[Result of the Week Archive](#)

Accelerator Update

Fermilab Today is online at:

<http://www.fnal.gov/today/>

Send comments and suggestions to

today@fnal.gov

[Fermilab Today archive](#)

[Fermilab Today PDF Version](#)

[Fermilab Result of the Week archive](#)

[Fermilab Safety Tip of the Week archive](#)

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2005 International Linear Collider Physics and Detector Workshop and the Second ILC Accelerator Workshop. In addition, it will be the first time the newly created GDE will be physically together; and therefore it represents our kickoff meeting.

The Physics and Detector Workshop will be a regional American Linear Collider Physics Group (ALCPG) Workshop with expanded World Wide Study (WWS) participation. That workshop contains a set of panels: Physics Case panels; Two Complementary Detectors Panel; Software Tools Panel; Benchmarks Panel; Costing Panel; R&D Panel; Test Beam Panel; etc. Snowmass will represent a significant step forward in interactions between the WWS and ILC communities. Besides the large overlap for studies of the machine-detector interface, we hope to stimulate far more extensive interactions, including a set of lunchtime pedagogical talks on ILC-related accelerator physics.

[Read more](#)

—*Barry Barish*

[Linear Collider News Archive](#)

Science Grid This Week

nanoHUB Makes Nanotech Tools Easily Accessible

By Katie Yurkewicz

A nanometer is one-billionth of a meter—25,000 times smaller than the width of a human hair. At that tiny scale, matter can exhibit some strange, new behaviors. Nanotechnology researchers harness those behaviors to create new devices and materials, and the nanoHUB allows researchers and students to harness simulation tools, educational

August 8 - August 10

- During this 48 hour period Operations established one store that when combined with an existing store provided the experiments with approximately 38 hours and 18 minutes of luminosity
- Booster RF limps through to Tuesday maintenance

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Announcements

Wilson Hall Interior Window Washing

The cleaning crew will wash the interior windows on the 4th, 5th, 6th and 7th floors of Wilson Hall today. Please remove any papers that are taped to the windows in your office. Please move any papers or other items on your desk that are near the windows. Contact Enixe Castro (x2798) with questions.

Young-Kee Kim: Public Lecture Preview

Join Young-Kee Kim in a preview of her public lecture, to be presented in Aspen on August 17. Her talk aims to convey the excitement of 21st-Century particle physics. Friday, August 12, 12:00 noon - 1 p.m. in 1 West.

4th Annual GSA Triathlon

This 800 yard swim, 20 km bike ride and 5km run will take place at 8 a.m. on Saturday, August 20. Racers can participate individually or as a member of a 2-3 person team. To register, contact the [GSA officers](#). Registration is free.

[More Information](#)

Bristol Renaissance Faire in Kenosha, Wisconsin

materials and computing resources necessary to study matter at the nanometer scale.

[Read More](#)

In the News

From *New Scientist*, August 13, 2005

Heavyweights battle to expose the naked quark

By Dana Mackenzie

When a supercomputer took on a particle smasher in a race to pin down the ephemeral quark, the stakes could hardly have been higher.

IT WAS a true clash of the titans. In the blue corner: a multimillion-dollar particle accelerator. In the red: one of the world's most powerful supercomputers. Both were battling to pin down the lifetime of an ephemeral subatomic particle known as the D-meson. Their deadline was 30 June.

Two days ahead of their target, the 20 or so theorists behind the supercomputer announced their answer. For 48 nail-biting hours, they waited for their rival's result. They knew that if their numbers tallied, the supercomputer approach would have what it takes to revolutionise our understanding of the subatomic world. So when the 150-strong team at the accelerator finally announced that its answer matched, the theorists were over the moon.

[Read More](#)

Discover the Bristol Renaissance Faire for the first time, or discover it again and again! With 16 open-air stages; treats from 50 food booths; over 180 high quality arts and crafts shops, you will discover a day filled with revelry and merriment, the arts, enlightenment, and delightful family fun. The Faire runs through September 5 on Saturdays, Sundays and Labor Day Monday 10:00 a.m. until 7:00 p.m. (rain or shine). Discounted Tickets available in the Recreation office Tuesday through Thursday \$15.75 adults, \$7.50 children. Payment by cash or check only.

SciTech Holds Duck Race

The SciTech Hands-on Museum in downtown Aurora is holding a duck race on the Fox River on Friday, August 19. Sponsor a duck to support SciTech and receive free family admission (up to six people) from 5:00 to 8:00 p.m. and chance to win with \$5 ticket. Event presented in connection with Aurora's "Downtown Alive: Beach Party." For details call SciTech at 630-859-3434.

[More Information](#)

[Upcoming Activities](#)