

**Around the World**

**From Fermilab Today: ARRA funds SRF technology, U.S. industry to benefit**



Fermilab will use Recovery Act funds to expand its superconducting radio frequency test facility and make cryomodules to construct a prototype accelerator.

In August, the Department of Energy announced that the American Recovery and Reinvestment Act will provide Fermilab with \$52.7 million to test and develop superconducting radio frequency cavities, a key technology for next-generation accelerators and the future of particle physics. The funds provide a significant boost to the [SRF program](#) at Fermilab, allowing the laboratory to expand its test facilities and strengthen American manufacturing capabilities. [Read more...](#)

-- Elizabeth Clements

**BlogLine**

6 September - [Ingrid Gregor](#)  
[In Vino Veritas](#)

5 September - [Frank Simon](#)  
[Navigation From Hell](#)

[Follow all Quantum Diaries](#)

**Feature Story**

**GRACE-ful students**  
*First school for GRACE tool held at KEK*



GRACE school students and the lecturers smile after an intense four-day programme.

One of the most important subject in future high-energy experiments is to search and investigate the Higgs particle – the last missing piece of the Standard Model. Another important subject is the investigation of physics beyond the Standard Model such as supersymmetry. From 31 August to 3 September, the first “GRACE school”, the school for one of the important tools for quests in high-energy physics, was held at KEK in Tsukuba, Japan in cooperation with Kogakuin University. [Read more...](#)

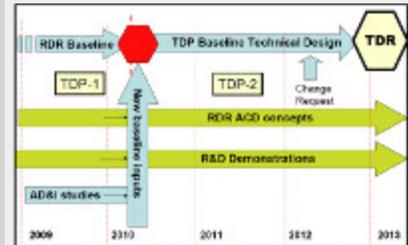
-- Rika Takahashi

**Image of the Week**

**SCRC – superconducting roller coaster technology**

**Director's Corner**

**A new ILC baseline and global consensus**



The GDE schedule for creating a new baseline for the technical design phase. As indicated, baseline changes will also be possible during that phase.

One of our proudest accomplishments in the Global Design Effort has been the global process by which we created the ILC reference design. This was a fundamental success resulting from how we organised ourselves and the process we used in making decisions. As a result, our *Reference Design Report* (RDR) was universally accepted as a detailed concept for technical and cost evaluation. Now, we are undergoing a process we refer to as Accelerator Design and Integration (AD&I), from which we expect to make a number of important changes to the baseline for the ILC. I want to state unequivocally that we are as committed as ever to using a global process in evaluating and deciding about these proposed changes. [Read more...](#)

-- Barry Barish

[Director's Corner Archive](#)

**Announcements**

**The mysterious universe**  
*Public lecture by Jim Brau during ALCPG in Albuquerque*

## Calendar

### Upcoming meetings, conferences, workshops

[14th International Conference on RF Superconductivity \(SRF2009\)](#)

Berlin, Germany  
20-25 September 2009

[2009 Linear Collider Workshop of the Americas \(ALCPG09\)](#)

The University of New Mexico,  
Albuquerque, New Mexico, USA  
29 September - 3 October 2009

[The mysterious universe - Exploring our world with particle accelerators](#)

Free public lecture by Jim Brau  
University of New Mexico,  
Albuquerque (Anthropology Lecture  
Hall 163), New Mexico, USA  
1 October 2009, 7pm

[CLIC09 Workshop](#)

CERN  
12-16 October 2009

[12th International Conference On Accelerator And Large Experimental Physics Control Systems \(ICALEPCS 2009\)](#)

Kobe International Conference  
Center, Kobe, Japan  
12-16 October 2009

### Upcoming school

[Fourth International Accelerator School for Linear Colliders](#)

Beijing, China  
7-18 September 2009

[GDE Meetings calendar](#)

[View complete ILC calendar](#)



The ultracold roller coaster in the science fun corner was only one of many attractions at last week's open house at KEK. Some 4000 people from Tsukuba and beyond admired the lab's wide scope of activities, including many ILC-related exhibits. Image: Nobu Toge

## In the News

From *Physorg.com*  
7 September 2009

### Belle Finds a Hint of New Physics in Extremely Rare B Decays

The purpose of the B factory experiment is to elucidate the fundamental laws of elementary particles by producing B mesons that contain the second heaviest quark (bottom).  
[Read more...](#)

From *Le Monde*  
5 September 2009

### Retour vers le Big Bang

Un régime de croisière [pour le LHC] qui, justifie le directeur, assure "un fonctionnement en toute sécurité", tout en offrant aux physiciens la possibilité de vraies découvertes. L'accélérateur le plus puissant après celui du CERN, le Tevatron américain du Fermilab de Chicago, ne développe qu'une énergie de 2 TeV.  
[Read more...](#) (in French)

From *Symmetry Breaking*  
3 September 2009

### Turkey plans an accelerator center

TAC represents the second accelerator center in the Middle East. The first, SESAME, is a synchrotron



Don't miss Jim Brau's free public lecture about the role particle accelerators play in exploring our mysterious universe! It will start at 7 pm on 1 October at the University of New Mexico.

For more information go to [linearcollider.org/mysteriousuniverse](http://linearcollider.org/mysteriousuniverse)

### arXiv preprints

[0909.1064](#)

Full electroweak one-loop corrections to  $W^+ W^- Z^0$  production at the ILC

[0909.1052](#)

Measurement of the Higgs boson decay branching ratio to charm quarks at the ILC

[0909.0961](#)

Status of the global electroweak fit of the Standard Model

[0909.0419](#)

Photon 2009: Summary of Theory Talks

[0909.0290](#)

Lepton Jets in (Supersymmetric) Electroweak Processes

light source, built in Jordan from recycled portions of accelerators from French, German, Swiss, UK, and US labs, including SLAC.

[Read more...](#)

---

From *Live Science*  
2 September 2009

**Space Station Experiment to Hunt Antimatter Galaxies**

Now just months from completion, the Alpha Magnetic Spectrometer (AMS) represents years of work [...] It also holds the hopes of an international physics community that wants to finally tackle some of the longest-standing questions behind the universe.

[Read more...](#)