

### Research Director's Report

#### Preparing future detector R&D at testbeams

This month's *Research Director's Report* was written by François Richard, co-chair of the Worldwide Study, regional detector contact for Europe



Picture showing Roman Poeschl, organiser of the testbeam workshop, in a training session with future ILC users

Testbeams are the first occasion for detector concepts to face the truth about their design, and an optimal opportunity to train young physicist on real data. Recently, 40 experts (two from Asia, five from North America and the rest from Europe) met at the Laboratoire de l'Accélérateur Linéaire (LAL) at Orsay to review the needs for [testbeams for the R&D on detectors in the future](#). The goal of this workshop was to collect the needs and to coordinate the activities of the various collaborations active in the field: CALICE, FCAL and SiD groups on calorimetry, LCTPC on gaseous tracking as well as SiLC for the various silicon tracking devices. Representatives of the current major test beam facilities, CERN, DESY and Fermilab, presented their sites and actively took part in the discussions. Many other facilities available in the world were discussed: J-Parc, IHEP Beijing, Tohoku, KEK in Asia, IHEP/Protvino, Dubna in Russia, and it was noticed that SLAC would restore test beams and create a new facility in its end station A by 2010. The successful testbeam efforts prior to the Letters of Intent (LOI) for detectors were reviewed followed by vivid discussions on what is needed to improve these testbeams for the next phase. [Read more...](#)

-- François Richard

### [Research Director's Report](#)

### Around the World

#### Developing new tool for hospitals and life science



The project leader Junji Urakawa of KEK (left) and Abhay Deshpande of SAMEER, India (right) standing beside the test laser-Compton X-ray source in the accelerator test facility (ATF) at KEK.

The Quantum Beam Project, a year-old project to study and utilise the quantum nature of particle beams at KEK, is developing a commercial version of a new affordable, compact X-ray source. The aim of the project is to develop a compact and high-quality particle source for broad commercial use in medicine, life science, information technology, nanotechnology, and quantum science. The project's name, Quantum Beam, refers to beams of particles like neutrons, photons, and ions, which exhibit quantum mechanical behaviours, and the unique feature of the project is to take advantage of this nature to promote the technology transfer of an affordable compact X-ray source to hospitals and research institutions. [Read more...](#)

-- Misato Hayashida

### In the News

From *CERN Bulletin*  
16 November 2009

#### Half way round the LHC

"The LHC operations teams are preparing the machine for circulating beams and things are going very smoothly. ..."

[Read more...](#)

From *Physics Central*  
13 November 2009

#### Buzz Blog – Nobu Toge: Machine Portraits

"... A high-energy physics laboratory might seem an unlikely muse for a photographer. But just a glance at a few of Toge's photos might convince you otherwise. ..."

[Read more...](#)

### Director's Corner

#### The Spallation Neutron Source at Oak Ridge

In planning for a new large initiative like the International Linear Collider, it is important to learn as much as possible from existing projects that have relevance. In that spirit, we have invited presentations from other projects at our large



Stuart Henderson celebrates SNS achieving 1 MW beam power

workshops. At the American Linear Collider Physics Group workshop at Albuquerque (ALCPG09), we had a very informative presentation by Stuart Henderson of Oak Ridge on "[The Spallation Neutron Source \(SNS\) Linac: Performance and Operational Experience](#)." The SNS is the most powerful proton linac in the world and uses similar technologies to those proposed for the ILC. [Read more...](#)

-- Barry Barish

### [Director's Corner Archive](#)

### Image of the Week

#### The future visits Japanese accelerator symposium



This is Lina (pronounced Lai-na), the fanciful scientist from a future particle physics laboratory created by Masumi

## [Archive](#)

## BlogLine

17 November 2009 - *Frank Simon*  
[Planning new Projects at the Center of the Particle Physics Universe](#)

13 November 2009 - *Frank Simon*  
[Back in the North](#)

13 November 2009 - *Ingrid Gregor*  
[Frank and the Chocolate Factory](#)

[Follow all Quantum Diaries](#)

## Calendar

### Upcoming meetings, conferences, workshops

[ILC Accelerator Design & Integration Meeting](#)  
DESY, Germany  
2-3 December 2009

### Upcoming school

[The US Particle Accelerator School sponsored by the UC Santa Cruz](#)  
Santa Cruz, CA, USA  
18-29 January 2010

[GDE Meetings calendar](#)  
[View complete ILC calendar](#)

From *Der Freitag*  
13 November 2009

### Das Universum voller Geigen

Er hat die String-Theorie miterfunden und wurde gerade zum Nachfolger von Stephen Hawking ernannt: Aber kennt Michael Green die Antwort auf letzte Fragen der Physik?

[Read more...](#)

Chato for her graduation project. Masumi is a student from Tokyo Kasei University, a member of the Advanced Accelerator Association promoting science and technology.

## Announcements

### arXiv preprints

[0911.3314](#)

Review of Linac-Ring Type Collider Proposals

[0911.2897](#)

Higgs boson production in photon-photon collision at ILC: a comparative study in different little Higgs models

[0911.2304](#)

Higgs mediated flavor violating top quark decays  $t \rightarrow u_i H$ ,  $u_i \gamma$ ,  $\mu_i \gamma \gamma$ , and the process  $\gamma \gamma \rightarrow t\bar{c}$  in effective theories

[0911.1892](#)

Neutrino phenomenology and unparticle physics