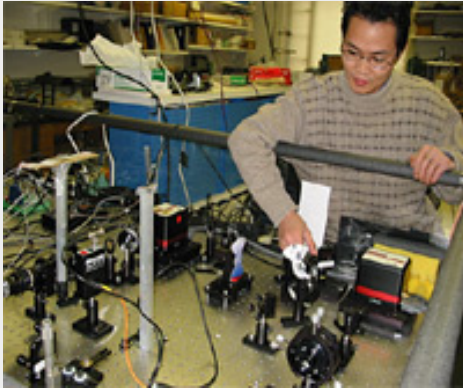


Feature Story

University of Michigan Experiments with Silicon Microstrip Detectors



Haijun Yang of the University of Michigan adjusts the alignment of the frequency scanned interferometer system.

Because high precision measurements will be the hallmark of experiments at the International Linear Collider, the project will require a detector with highly technical components to accurately measure the properties of the emerging particles. From beam position monitors to measuring particle flow, groups of physicists at universities across the U.S. are contributing to detector designs for the ILC. A group of researchers at the University of Michigan is contributing to international studies on the charged particle tracker, a critical component that measures the trajectories of electrically charged particles as they cross a magnetic field.

By measuring how much the field bends the particles, physicists can determine their energies. For particles traveling close to the speed of light, however, this bending is minimal and difficult to measure. Silicon microstrip detectors are a leading candidate for finding these small deflections. Consisting of multiple layers of thin silicon planes, these microstrips measure the passage of charged particles to a

Feature Story

Students Selected for International Accelerator School For Linear Colliders



More than 500 students applied to the International Accelerator School for Linear Colliders, which will be held in Sokendai, Hayama, Japan.

As the projected timeline currently stands for the International Linear Collider, the machine will start running in about a decade or so. While some physicists view retirement as a novel concept, ILC scientists and engineers must face the fact that the next-generation particle accelerator needs a next-generation of experts behind it. After the overwhelming response of applicants to the [International Accelerator School for Linear Colliders](#), physicists can rest a little easier, knowing that a future generation of scientists is ready and eager to take the helm.

More than 500 applicants from 44 countries applied to the International Accelerator School for Linear Colliders, which will be held in Sokendai, Hayama, Japan from 19-27 May 2006. After a very difficult decision process, the Curriculum Committee accepted 80 students, the maximum number that the school can accommodate. "The response was overwhelming," said Weiren Chou, Chair of the ICFA Beam Dynamics Panel. "It made the student selection a very tough job for the Curriculum Committee."

Director's Corner

The Russian Federation in Seven Days

Today's issue features a Director's Corner from Brian Foster, GDE Regional Director of Europe.



Brian Foster

It is widely known that the Russian Federation is home to a large number of prestigious accelerator laboratories and many highly regarded accelerator scientists. Somehow the 30 years of my particle physics career had not produced an excuse to discover this for myself, so I was very glad on a personal level finally to rectify this last month during a 7-day trip.



While at JINR, Brian Foster (right) met with Director Alexey Sisakian (opposite Foster, leaning forward). Also pictured are Chief Engineer Grigory Shirkov (on Sisakian's right), Deputy Chief Engineer Grigory Trubnikov (Foster's right) and Igor Meshkov (Trubnikov's right).

It was a rather hectic visit, not helped by leaving my now-unfamiliar paper airline tickets at Heathrow. I arrived in St Petersburg and visited Gatchina, then on to Novosibirsk to visit the Budker Institute, to Moscow and Protvino, ITEP, INR at Troitsk and finally JINR at Dubna. This is an average of more than one accelerator a day (several institutes have more

statistical precision better than 10 millionths of a meter, or 10 microns. The position and stability of the silicon layers play a large role in achieving accurate measurements, making it very important to minimize any disturbances to the ultra light strips.

[Read more...](#)

-- Keith Riles, University of Michigan

Calendar

Upcoming meetings, conferences, workshops

[International Symposium on Detector Development in Particle and Astroparticle Physics and Synchrotron Radiation](#)

SLAC
3-6 April 2006

[ILC Americas Regional Team Review](#)

ILC - Americas
FNAL
4-6 April 2006

[ILC Software and Physics Meeting](#)

Cambridge
4-6 April 2006

[MAC Review](#)

Fermilab
6-7 April 2006

[Polarized Positrons Workshop](#)

POSIPOOL 2006
CERN
26-28 April 2006

[Linear Collider Forum of America Industrialization Meeting](#)

SLAC
1-2 May 2006

[HEP Forum](#)

Cosener's House, UK
6-7 May 2006

European GDE meeting
DESY
10 May 2006 (16:00)

[ILC positron source meeting](#)

Budker Institute of Nuclear Physics

After two weeks of deliberation and careful consideration of all the applicants, the committee admitted 20 students from America, 20 from Europe and 36 from Asia. The Local Committee will also appoint four scientific secretaries to attend the classes, bringing the total attendance to 80 students. "The great majority of the applicants were very qualified for the school and most presented strong credentials as well," Chou said. "The committee was faced with the necessity of choosing a class from a great many more talented and highly qualified students than we had room to admit."

[Read more...](#)

-- Elizabeth Clements

Feature Story

Help Your GDE Communicators

Attend the ILC Communications Meeting at KEK



The GDE Communicators meet every week via videoconference. In May, they will join ILC communicators from all three regions to establish a global communications plan. (Note: Your Americas communicator is not wearing her pajamas in this photo.)

On the week after the International Accelerator School for Linear Collider, InterAction communicators and ILC outreach committee members from all three regions will meet at KEK on 29-31 May to discuss the issues of ILC communications. Anyone who is interested in ILC communications is encouraged to attend. Provisioned members are InterAction, ILC communicators, regional ILC outreach committee members and industrial forum members.

The agenda items will be to exchange the status of the global and regional ILC communications and outreach

than one!) and so necessarily my impressions could only be relatively superficial. Those impressions were however strong: a sense of awe that so much excellent work is still going on under very difficult economic circumstances; the inventiveness of the scientists in finding ways to generate funds for research by activities in the commercial sphere; the excellence of the accelerator physics ideas regularly being generated. While some of the institutes were more interested and had more expertise in detector development, all expressed enthusiasm for a greater level of involvement with the ILC and in particular engagement with the GDE in areas where the European effort is urgently in need of strengthening. Perhaps the institute with the greatest enthusiasm and the most ambitious plans was JINR at Dubna. Recently designated one of only six Special Economic Zones by the Russian government, Dubna is a hive of activity, with plans for new science parks, new bridges and infrastructure, a massive conference centre etc. The new Director, A. Sisakian, is determined to revitalise JINR's international mission and to work enthusiastically on ILC preparation. With all the institutes I discussed concrete plans to increase their engagement with the GDE which will hopefully develop in the coming months.

[Read more...](#)

-- Brian Foster

[Director's Corner Archive](#)

Announcements

BINP, Novosibirsk, Russia
10-12 May 2006

[Electron Accelerator R&D for the
Energy Frontier](#)

LAL Orsay, France
15-17 May 2006

[International Accelerator School for
Linear Colliders](#)

Sokendai, Graduate School for
Advanced Studies
Hayama, Japan
19-27 May 2006

InterAction Meeting on ILC
KEK
29-30 May 2006

ILC Communicators Meeting
KEK
31 May 2006

[ILC VTX Workshop at Ringberg](#)
Ringberg Castle, Lake Tegernsee,
Germany
28-31 May 2006

[CALOR 2006](#)
12th International Conference on
Calorimetry in High Energy Physics
Chicago, USA
5-9 June 2006

[Vancouver Linear Collider Workshop](#)
Vancouver, Canada
19-22 July 2006

ILC GDE Meeting
Vancouver, Canada
19-22 July 2006

[Single Crystal Niobium Technology
Workshop](#) (pdf)
Araxá mine in Brazil
30 October-1 November 2006
[Request Information](#) (email)

ILC GDE Meeting
Valencia, Spain
6-10 November 2006

activities, and to revisit and
implement the strategic ILC
communication plans.

The meeting dates are 29-30 May.
There will be a KEK tour on 31 May
and J-PARC tour on 1 June. Ad hoc
practical discussions are scheduled
for 31 May.

For details, contact by [email](#).

-- Youhei Morita

In the News

From *PhysOrg.com*
31 March 2006

New String-Theory Notion Redefines the Big Bang

String theory — the concept that all
particles can be represented as
strings or string-loops of incredibly
minute length, oscillating at various
frequencies — was initially developed
to help explain why quarks, the tiny
fundamental particles that make up
protons and neutrons, are always
confined within larger composite
particles.

[Read more...](#)

From *SLAC Today*
March 2006

ILC Innovation: Improving the Photocathode

When built, the International Linear
Collider (ILC) will generate one of the
world's highest energy electron
beams. And it will all start with an
electron source called a cathode. This
source releases the electrons when
hit by laser and is the size of a nickel.

[Read more...](#)

Register for the Vancouver Linear Collider Workshop

On behalf of the ALCPG and GDE, the
Local Organizing Committee of the
Vancouver Linear Collider Workshop,
invites you to the July 2006 joint
meeting of the American Linear
Collider Physics Group and the
International Linear Collider Global
Design Effort - organized by TRIUMF.
The workshop will be held on the
Campus of the University of British
Columbia in Vancouver, Canada, from
Wednesday July 19 to Saturday July
22, with satellite meetings on July
18th and July 23.

[more information](#)

Search Feature Added to ILC NewsLine

ILC NewsLine now has a new [search
feature](#). You can search past issues
by clicking on the link at the top of
the issue.

ILC Related Preprints

[hep-ph/0604020](#)

3 Apr 2006

Production of four leptons in
electroweak gamma gamma
interactions

[hep-ph/0603246](#)


30 Mar 2006

Baryogenesis, Electric Dipole
Moments and Dark Matter in the
MSSM

Image of the Week



Four representatives of the French
Atomic Energy Commission
(Commissariat à l'Energie Atomique)
learned all about the ILC on a recent
tour of Fermilab. Yves Caristan,
Physical Sciences Director, Gabriele
Fioni, Doris Neumann-Maazi and
Bernard Salanon heard talks on the
ILC program. Physicist Timothy Koeth
(photo, right) described the testing of



the superconducting cavity inside
capture cavity number 2 in the ILCTA
at Fermilab.