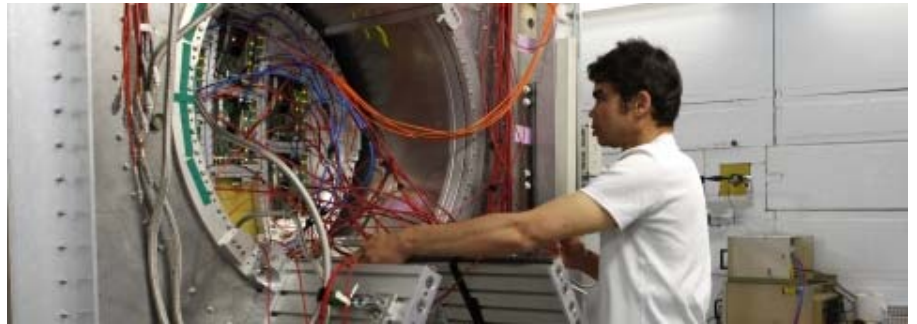
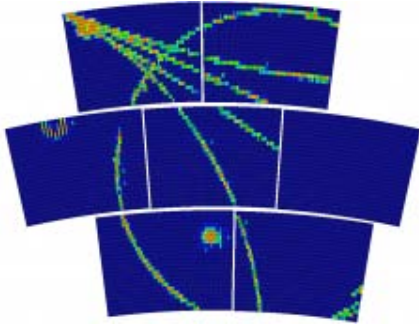


IMAGE OF THE WEEK

Quite attract-tive

by Barbara Warmbein



Tracks show the paths of particles passing through the time projection chamber, the tracker prototype for the ILD detector, in a DESY test beam last week. Six brand-new readout modules of the Micromegas type - one possible module type for the final detector - were mounted to the TPC endplate and produced beautiful tracks both from cosmic and beam particles.

FEATURE

From Fermilab Today: ICFA and ILCSC in Melbourne

Image: Laura Vanags



The International Linear Collider Steering Committee and the International Committee for Future Accelerators met recently in Melbourne in conjunction with ICHEP2012. ICFA chair and Fermilab Director Pier Oddone reports in his Director's Corner in the 17 July issue of Fermilab Today on the new organisation

of the linear collider efforts, the timelines and responsibilities. There's also a call for nominees for the new Linear Collider Board.

DIRECTOR'S CORNER

Physics thrives in South Korea

by Barry Barish



The Korean Physical Society recently celebrated its 60th anniversary in an impressive event in Daejeon, South Korea. South Korea has made an astounding recovery from a country devastated by war to a struggling poor postwar country to a leading high-tech industrial country. The Koreans have embraced science and technology, are manufacturing high-quality cars and electronics for the world, and have become an important part of the international science community.

IN THE NEWS

from **Times Higher Education**

19 July 2012

[Research Intelligence – Higgsteria: it's only the beginning](#)

New 'big physics' projects will need global funding and public support. Elizabeth Gibney writes

from **stern.de**

16 July 2012

[Cern-Chef Rolf-Dieter Heuer "Wir bewegen uns an den Grenzen des Wissens"](#)

Der LHC soll bis zum Jahr 2030 in Betrieb bleiben. Folgt auf den 27 Kilometer langen Ringtunnel eine noch größere Maschine?

from **The Vancouver Sun**

13 July 2012

[Vancouver's Big Bang theorists \(with video\)](#)

More exhaustive analysis is needed both at the CERN facility in Geneva where the Higgs boson was found, and, Lockyer hopes, at a new linear accelerator that would be built with significant international cooperation to share the cost.

from **Japan Times**

12 July 2012

[EDITORIAL: Discovery of long-sought particle](#)

To broaden human knowledge of the universe, more research on the Higgs boson is necessary. The international community is pushing a joint project to construct a more powerful, 30-to-50-km-long International Linear Collider.

from **The Economist**

7 July 2012

[Material answers](#)

The universe is stitched together by invisible threads

CALENDAR

UPCOMING EVENTS

[SiD Workshop](#)

SLAC

21- 23 August 2012

[6th International Workshop on Semiconductor Pixel Detectors for Particles and Imaging \(PIXEL2012\)](#)

Inawashiro, Japan

03- 07 September 2012

[POSIPOL 2012](#)

DESY, Zeuthen

04- 06 September 2012

[View complete calendar](#)

PREPRINTS

ARXIV PREPRINTS

[1207.3734](#)

Inverse Seesaw Neutrino Signatures at LHC and ILC

[1207.2516](#)

Comparison of LHC and ILC Capabilities for Higgs Boson Coupling Measurements

ANNOUNCEMENTS

Register now for LCWS12

Registration is open for the [2012 International Workshop on Future Linear Colliders \(LCWS12\)](#) that will be hosted by the University of Texas at Arlington from 22 to 26 October. Book your room now or the Texas Rangers fans might snap them all up (and then book a ticket to the game). You can register [here](#).

Research Director's Report will appear next week

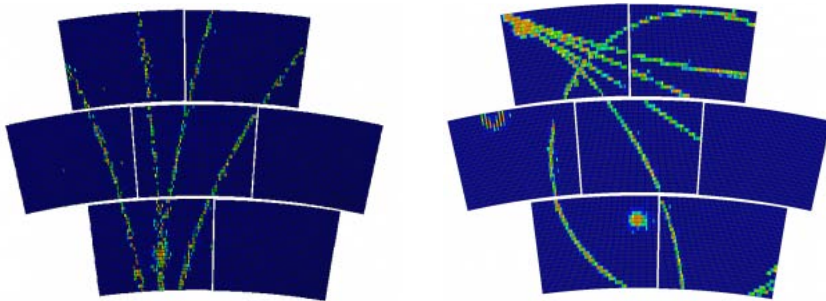
The Research Director's Report, usually a feature of the month's third issue of ILC NewsLine, will be published in next week's issue.

IMAGE OF THE WEEK

Quite attract-tive

Barbara Warmbein | 19 July 2012

Tracks show the paths of particles passing through the time projection chamber, the tracker prototype for the ILC detector, in a DESY test beam last week. Six brand-new readout modules of the Micromegas type – one possible module type for the final detector – were mounted to the TPC endplate and produced beautiful tracks both from cosmic and beam particles. With almost a whole week in the test beam and a total of a million events, the French-Canadian Micromegas team (with support from CERN, DESY and a number of other institutes) has a lot of data to look through this week. They want to study the new multi-module aspects of the test run, for example check the alignment and the uniformity of the modules.



The six modules also pioneered a new cryogenic system for the TPC magnet. A 1-Tesla magnet that has previously flown in space, it has been equipped with a new closed cooling loop that had been tested on its own before, but never with real beam and real detectors. The new system worked well and did not interfere with the data taking. Stay tuned for more detailed info.



[CEA](#) | [DESY](#) | [ILC DETECTOR](#) | [MICROMEGAS](#) | [TEST BEAM](#) | [TPC](#)

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ICFA and ILCSC in Melbourne

The International Linear Collider Steering Committee and the International Committee for Future Accelerators met recently in Melbourne in conjunction with ICHEP2012. Joining us was Lyn Evans, who in June was appointed to be the [Linear Collider Director](#).



Fermilab Director
Pier Oddone

In this column I briefly summarize the situation with the ILC and the new organization that brings together the ILC and CLIC efforts. More information can be found in my [presentation](#) to ICHEP attendees.

The linear collider effort has received a big boost with the discovery at CERN of a particle likely to be the Higgs boson. There is a lot of activity around the world to understand how far the LHC can go in its study of this particle and what important physics we would require a "Higgs factory" of some sort to study (e.g., this [report](#)). A prime candidate for such an accelerator that could be built relatively soon is the International Linear Collider. The ILC is designed to produce a collision energy of 0.5 TeV in the center of mass, with extendability to 1 TeV. If an ILC with an energy lower than 0.5 TeV is chosen as an initial stage, the technical design will need some re-optimization. The 0.5 TeV design, documented in the ILC Technical Design Report and in its Detector Baseline Design, will be available later this year and will be reviewed by an augmented Project Advisory Committee in December.

The TDR and DBD will include the estimated cost for a 0.5-TeV ILC and its associated detectors, although the detector designs are subject to a larger cost uncertainty. An ad-hoc international cost committee assembled by the ILCSC will review the costs in early 2013. By the next meeting of ICFA and the ILCSC in Vancouver in February 2013, both the technical and the cost reviews should be complete.

In terms of the new linear collider organization, the new Linear Collider Board, with oversight of both the ILC and CLIC efforts, will replace the present ILCSC. ICFA appoints members of the board based upon recommendations by representatives from the Americas, Asia and Europe. A nominating committee brings forward candidates from each region and proposes a final slate to ICFA. The LCB will consist of five members from each region plus a chair. You are invited to contact your regional representatives on the nominating committee with your suggestions.

The nominating committee members are:

Americas: Pier Oddone (Fermilab) and William Trischuk (University of Toronto)

Asia: Jie Gao (IHEP, Beijing) and Sachio Komamiya (University of Tokyo)

Europe: Joachim Mnich (DESY) and Manfred Krammer (HEPHY, Vienna and the new ECFA Chair)

The Vancouver meeting will see an overlap meeting between the ILCSC and the new LCB to review the outcomes of both the technical and cost reviews. In the meantime, Lyn Evans will be working to appoint the three associate directors for the ILC, CLIC and physics research. For the latter appointment, Lyn will work directly with the many stakeholders to design the appropriate procedures and management structures.



ICFA Director Pier Oddone congratulates new Linear Collider Director Lyn Evans in Melbourne on his appointment. *Photo: Fermilab*

DIRECTOR'S CORNER

Physics thrives in South Korea

Barry Barish | 19 July 2012



Poster for the 60th anniversary of the Korean Physical Society

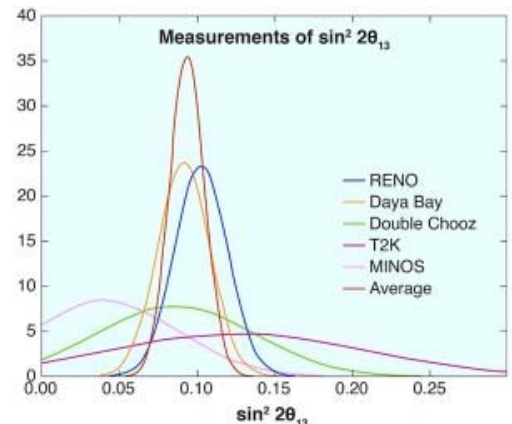
Many of us who are involved in ILC design efforts were in South Korea for the [KILC12 workshop](#) in May in Daegu. Wearing a different hat as past president of the American Physical Society, I was also invited to participate in the celebration of the 60th anniversary of the Korean Physical Society in Daejeon. That event was particularly impressive because it served both as a celebration of the amazing recovery of the country since the devastation of the Korean War and as a recognition of their impressive progress in science and technology. The Korean Physical Society was created by a very small group of physicists in Busan in the midst of the Korean War, and from that fledgling organisation it has become a strong and thriving physical society.

South Korea is a charter member of the global effort towards a linear collider and was one of the countries that came together to create the Global Design Effort. Ever since the technology decision to base the ILC design on superconducting radiofrequency cavities, South Korea has continued to be strongly represented on our various oversight

committees: FALC (Funding Agencies for Large Colliders), ICFA (International Committee for Future Accelerators) and ILCSC (International Linear Collider Steering Committee). South Korea has contributed to our common fund and has been the host for a number of our most important meetings and workshops.

In recent years, Korea has developed a significant effort in particle physics, now having particle physics groups in several Korean universities. For the Large Hadron Collider, they have contributed detector hardware and are deeply involved in the physics data analysis from the initial physics runs. Especially noteworthy is the recent result from a reactor neutrino experiment, RENO, in South Korea that confirmed the announcement from the Daya Bay experiment in China of a larger-than-expected value for the neutrino mixing angle θ_{13} . The Daya Bay result and the RENO confirmation has created considerable excitement in the neutrino and broader particle physics communities because the large reported value makes future neutrino physics more accessible, including the possibility of observing charge parity violation with neutrinos.

The investments in physics in South Korea go well beyond particle physics and include the Pohang Light Source, a Rare Isotope Accelerator Project in Daejeon, the High Flux Advanced Neutron Application Reactor (HANARO) and others. The



The recent measurements of the much sought-after mixing parameter, θ_{13} , for electron neutrino oscillations. Image: APS/Carin Cain

Korean physics community is growing in both size and stature. Korean scientists are publishing increasingly in the most prestigious journals in the world while at the same time the South Korean journals are themselves gaining in stature.

At the 60th anniversary celebration, Professor Sung-Chul Shin, President of the Korean Physical Society, gave a very uplifting speech summarising the progress and status of physics in Korea and presented an ambitious vision for the future. I reprint below the English translation he provided:

Commemorative Speech for the 60th Anniversary of the Korean Physical Society

Good afternoon, members of Korean Physical Society and distinguished guests. I am glad to be part of this ceremony in honor of the 60th anniversary of KPS. I would especially like to thank presidents of physical societies and physicists who came to celebrate this meaningful ceremony from countries all over the world.

KPS was established in Busan, December 7th 1952 during the Korean War. Sixty years ago, Korea was the poorest and most hopeless country in the world due to the war. The United Nations representatives said, "Expecting Korea's reconstruction is like expecting a rose to come into bloom in a garbage can" while visiting Korea right after the war. KPS was established upon 34 physicists' noble spirit of planting roots of physics for the realization of a scientifically advanced country despite the difficult conditions of the nation. Now we, physicists, can work in a terrific environment thanks to those pioneer physicists who planted solid roots of physics in Korea.

It takes three generations for a country to blossom in science. The first generation is science taking root, the second generation is the tree of science growing and the third generation the science blossoms and bears fruits. This is the time for the Korean physics communities to enter the third generation and the science to blossom, considering one generation of academia as being 30 years. In this respect, I would like to make this year of the 60th anniversary as the beginning year to advance KPS into the top 5 world physical societies. KPS has become the representative academic society by achieving quantitative and qualitative growth over the last 60 years. A society that started 60 years before with 34 members has grown into the only society in Korea that publishes 4 journals, including 2 SCI journals with 14,000 members. It became possible by great leadership of 23 former presidents and members' dedication and passion. I would like to express my deepest appreciation for their achievements.

Now, it is the time to spread our wings to become one of the world's renowned societies, utilizing 60 years of experience as a platform. To this end, I would like to take this opportunity to jump into the world by carrying out various projects commemorating our 60th anniversary.

First, the 2012 spring meeting is upgraded to an international conference celebrating 60 years of KPS with distinguished overseas and domestic physicists. We will realize the globalization of PS through scholarly cooperation with APS, JPS, JAPS, CPS and TPS.

Second, we will hold the ICM 2012 in Busan, the beginning place of KPS, this July. ICM is the largest and most prestigious international conference in the field of magnetism which has been held every three years, and Korea hosts it for the first time after 50 years from formation. Over 2,000 scholars from 54 countries, including 3 Nobel laureates, Andre Geim (2010) Albert Fert (2007) and Klaus von Klitzing (1985), will participate in the conference and this will be a big opportunity to enhance the reputation of KPS.

Third, we will establish an information system at the international level through epochal improvement. The new information system will take the form of cloud computing which provides enhanced security, accessibility, serviceability and scalability.



Sung-Chul Shin, President of the Korean Physical Society, during the 60th anniversary celebration.

Fourth, we will prepare an efficient administration system by adopting new governance system appropriate for the scale of KPS. Considering the scale and diverse activities of KPS, the current centralized governance system needs to be converted into a decentralized system. We created four new positions of functional vice presidents for the settlement of a decentralized system and amended the articles of association.

Fifth, we would like to make the 60th commemorative book. It will be a precious historical source recording KPS's 10 years of achievements following the 50th commemorative book.

I was honoured to participate in this inspiring event as a physics colleague and as Past-President of the American Physical Society. The transformation of South Korea into a modern advanced society is surely the reward of the hard work and dedication of the Korean people, and they have received an important boost from their embracing science and technology, both for its intrinsic benefits, and as an engine to drive the economics of the country through manufacturing. I congratulate our Korean colleagues, and we all look forward to long and productive collaborations on the physics frontiers of the future.

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