

LC NEWSLINE

THE NEWSLETTER OF THE LINEAR COLLIDER COMMUNITY

FEATURE

Learn from the experience of others – Tohoku University campus planning group visits DESY

by Ricarda Laasch

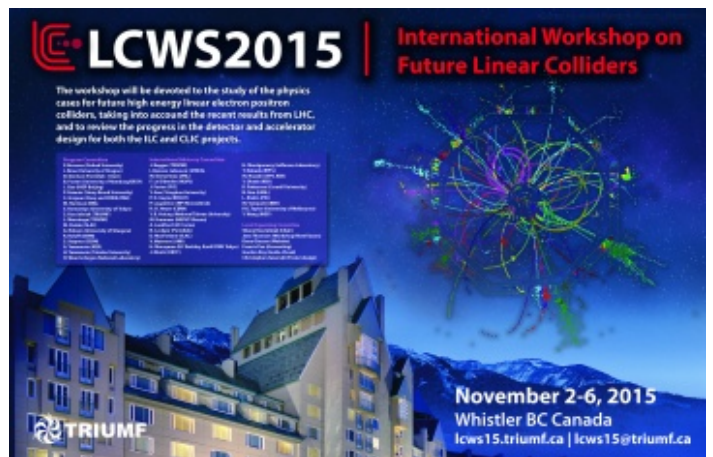


DESY welcomed the group of three who are studying the size and needs of a possible ILC campus in Tohoku.

DIRECTOR'S CORNER

Two Linear Collider events in Whistler, Canada this autumn

by Steinar Stapnes



As the summer conferences are kicking off, providing more and more complete LHC 8 TeV results and the very first glimpses of 13 TeV data, it is also time to start thinking about the autumn linear collider programme. The LCWS15 and the International Linear Collider School will be held in Whistler, BC, Canada.

VIDEO OF THE WEEK



Videos of the ILC Tokyo Event available on YouTube

Let's look back for the last Linear Collider conference held in Japan in Spring. Videos of the Tokyo Event are now available on YouTube!

IN THE NEWS

from *NHK World On Demand*

[The Leading Edge: Post-Higgs Boson Launching a Linear Collider](#)

The rerun of the program broadcasted in 2013. Available until July 29, 2015

In August 2013, the Kitakami mountain region in Japan's north-east was chosen as the country's candidate site for the International Linear Collider (ILC). The ILC is a mammoth project to build a huge underground particle accelerator over 30 kilometers long. It aims to recreate conditions in the universe right after the Big Bang, to track down unknown elementary particles and new physics phenomena. Tune in as we lift the veil on preparations for this colossal global project.

from *Kahoku Shinpo*

20 July 2015

[< I L C > 「宇宙の研究に貢献」専門家が講演](#)

「国際リニアコライダー（ILC）」に関する講演会が、秋田北鷹高であり、岩手大工学部の成田晋也教授（高エネルギー物理学）がILCの意義や基礎物理学の役割を説明した。（The lecture about the ILC was held at Akita Hokuyou High school, and Shinya Narita from Iwate University explained the significance of the ILC and the role of the fundamental physics.）

from *Iwate Nichi Nichi*

19 July 2015

[空白域 地質調査へ I L C 衝突エリアの大東・興田](#)

ILCの国内建設候補地となった北上高地の地質調査に向けた地元住民への説明会は18日、一関市大東町で開かれた。2012年度に続く調査で、今回は年内をめどに中心部の衝突点が想定される興田地区の未調査区域を調べる。（Public briefing on the geological survey for the ILC construction was held on 18 July at the Ichinoseki city, Iwate prefecture. This survey is the follow-up of the survey in 2012, to cover the uninvestigated area around the expect interactions point.）

from *Tanko Nichi Nichi*

6 July 2015

[An ILC City: 30 City Residents Exchange Opinions](#)

A town planning workshop held by Oshu City was held in the auditorium of Mizusawa Minami Community Center on July 5th. Thirty residents from those in their 20s to the more experienced crowd gathered together to give their opinions about issues like promoting industry and living with international residents.

from *Gentside*

19 June 2015

[Accélérateur de particules : le ILC, un nouveau collisionneur pour succéder au LHC En savoir plus](#)

Un nouvel accélérateur linéaire de particules géant, International Linear Collider (ILC), viendra succéder, dans quelques années à l'actuel Large Hadron Collider.

CALENDAR

Upcoming events

Meeting of the American Physical Society Division of Particles and Fields (DPF 2015)
Ann Arbor, Michigan, USA
04- 08 August 2015

XXVII International Symposium on Lepton Photon 2015 (LP 2015)
Ljubljana Exhibition and Convention Centre, Slovenia
17- 22 August 2015

10th International Positron Source Workshop (POSIPOL 2015)
Cockcroft Institute, UK
02- 04 September 2015

17th International Conference on RF Superconductivity (SRF2015)
Whistler, BC, Canada
13- 19 September 2015

Upcoming schools

15th Hellenic School and Workshops on Elementary Particle Physics and Gravity (Corfu2015)
Corfu, Greece
01- 26 September 2015

The 2015 European School of High-Energy Physics
Bansko, Bulgaria
02- 15 September 2015

[View complete calendar](#)

PREPRINTS

ARXIV PREPRINTS

[1507.05893](#)
Experimental Tests of Particle Flow Calorimetry

[1507.05382](#)
Experimental Tests of Characteristics of Non-Irradiated and Irradiated Double SOI Integration Type Sensor

[1507.04186](#)
Type-III Seesaw fermionic triplets at the International Linear Collider

[1507.03630](#)
Radiative corrections to the Triple Higgs Coupling in the Inert Higgs Doublet Model

[1507.03112](#)
Charged Higgs Study through Triple or Double Higgs Production in a General Two Higgs Doublet Model at Future Lepton Collide

[1507.02809](#)
Beam Dump Experiment at Future Electron-Positron Colliders

FEATURE

Learn from the experience of others – Tohoku University campus planning group visits DESY

Ricarda Laasch | [23 July 2015](#)



Tohoku University campus planning group at DESY (from left: Tokiko Onuki, Nick Walker, Eisaku Nashiyama, and Akihiko Nagasaka)

German national laboratory Deutsches Elektronen Synchrotron (DESY) welcomed three Japanese visitors on 30 June, 2015, who asked to be introduced to DESY – its campus and organizational structure as an example of a research institute. The group is studying the size and needs of a possible International Linear Collider (ILC) campus in Tohoku. Tokiko Onuki, Campus Designer of Tohoku University, together with Eisaku Nashiyama, General Manager of the Industry and Economy Group from Tohoku Economic Federation and also the Executive Director of the Tohoku ILC Promotion Council, and Akihiko Nagasaka, ILC Promotion Division of the Mayor's Office at Ichinoseki City, were welcomed at DESY by Manfred Fleischer, Deputy Director of the High Energy Physics Department of DESY, and Nick Walker, Global Coordinator for ILC Accelerator Design & Integration.

A program alternating between tours around the campus and presentations by different departments of DESY was the day filling schedule which Fleischer and his colleagues presented to the Japanese visitors. The

program started with a historical overview of DESY and the present status of the institute as a national laboratory with many international projects. The broad variety of topics encompassed: civil architecture and planning of the campus, needed infrastructure for a laboratory, transportation along the DESY sites (mainly during HERA times), introduction of foreign researcher's families to life in Germany and the DESY's social support systems, possible schools and education for researcher's children, and regional impact of DESY in many facets of life.

Onuki was interested in different models for office space and their functionality within the research community. The ILC will need offices for resident staff, long-term guest-scientists and also short-term visitors. At DESY different models for the different groups are used which were presented to the visitors. Further needs concerning seminar rooms and other equipment was addressed and also well received by the visitors.

Of course an institute for the ILC needs more than office buildings. A tour through workshops and a look inside the cavity testing facility AMTF was part of the visit at DESY. "Such a facility like AMTF or even bigger will be needed for the building phase of the ILC." was a statement from Nick Walker during the tour through AMTF. The ILC will use the same accelerating technology but it has 20 times as many accelerating structures than the European XFEL (which already needed a mass production). Here additional space and planning for the necessary mass production of accelerating structures is needed for the ILC campus. Walker could give many important insights about the ongoing European XFEL production as stepping stones for the ILC.

Campus transportation of equipment and personnel will also be an issue for the possible site of the 30km long ILC with all buildings and needed infrastructure. "A good number of bicycles are in use at DESY but they also need maintenance and parking space." was one of the first answers which were given by Fleischer. DESY solved some of the issues of transportation on campus site by using bicycles, installing a car pool (including transport vans) and during the time of the use of the HERA accelerator a bus shuttle was provided towards the experimental halls. Onuki and their colleagues were interested in all those solutions and of course how these things are

used and received within DESY staff.

Steffi Killough, Leader of the International Office at DESY, was giving helpful insights about social support which would be needed for foreign researchers and their families. DESY supports the guest-scientists starting with the visa application until the end of their stay in the country. Especially the tax system, insurances and other legal matters need explanations and advising. Also the education system for children is an important topic to visiting scientists and support for the integration into those systems needs to be provided. This issue is also very important for the ILC and its possible host nation Japan. "What would you like to provide if you had more resources?" was one of the questions from Onuki and her colleagues. Here the answer was very clear to Killough: more time which can be dedicated to provide support for each individual, also to provide more language support to address a greater variety of visitors in their native language, and to organize more social events.

At the end of the day many other topics had been addressed like: scientific outreach, visitor numbers to DESY on open house days and the cooperation with the University of Hamburg and other Universities. "A key factor in the 50 year history of DESY was a close collaboration between Hamburg University and DESY, which has grown over the years." is one of the statements of Frank Lehner towards the visitors from Tohoku University.

Also the regional impact of DESY towards Hamburg was detailed and discussed in all areas like economy and education. The possibility for spin-off companies, regional investment for the needed infrastructure, training of skilled personnel in a variety of professions which are needed to provide the support system of a laboratory and growth for the regional economy were also further topics of the discussions.

The Campus Planning Group from Tohoku University was given as many answers as possible from DESY in all possible areas to assist with the future ILC campus plans.

[CAMPUS PLANNING](#) | [DESY](#) | [JAPAN](#) | [TOHOKU UNIVERSITY](#)

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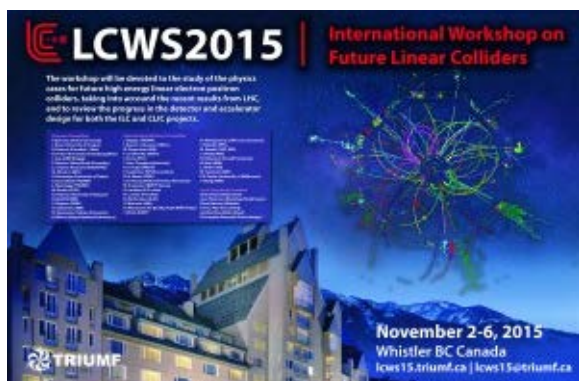
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Steinar Stapnes | [23 July 2015](#)



As the summer conferences are kicking off, providing more and more complete 8 TeV LHC (Large Hadron Collider) results and the very first glimpses of 13 TeV data, it is also time to start thinking about the autumn linear collider programme. The highlight for the linear collider community is the yearly international Linear Collider Workshop which in 2015 will take place from 2 to 6 November in Whistler, BC, Canada. It is being hosted by TRIUMF Vancouver. The workshop [webpage](#) is available. General information about TRIUMF and the workshop was presented by Shane Koscielniak, the chair of the Local Organising Committee, introducing the LCWS15 planning during the [Asian Linear Collider Workshop](#) hosted by KEK in April in Japan.

The workshop in Whistler will start Monday morning and run until Friday around 13:00. The format will be familiar to the linear collider community, with plenary sessions Monday and Friday, and parallel sessions Tuesday to Thursday. The parallel session working groups will be defined by end July and 6 to 8 working groups can be expected both for the detector&physics and accelerator sectors. It is not too late to influence the programme for the workshop – ideas and comments are welcome (mail to the chair of the programme committee [Dmitri Denisov](#) (Fermilab)).

This Linear Collider Workshop is the seventeenth in the series that started in 1991. This workshop is, in general terms, devoted to the study of the physics cases for future high-energy linear electron-positron colliders, taking into account the recent results from LHC, and to review the progress and future plans for the International Linear Collider (ILC) and Compact Linear Collider (CLIC) detector and accelerator projects.

Both ILC and CLIC have key challenges to address during the second half of 2015 and 2016, and the workshop provides an excellent opportunity to discuss and make progress on some of these challenges. For ILC the ongoing process in Japan related to a site-specific implementation and providing the information needed to national committees and decision makers are expected to reach conclusion in 2016 and very high on the priority list. For CLIC the accelerator, detector and physics studies the overall goals are being defined for 2018, preparing for next European Strategy update around that time, and the programmes are scrutinized by and discussed with the incoming CERN management team.

On the social side there will be a welcome reception Monday evening, a workshop banquet Wednesday evening, in addition to ample opportunity to discuss with colleagues and friends outside the workshop events. As usual there will be opportunities for smaller discussions for specific topics and steering groups. Friday evening Hitoshi Murayama will give a public lecture about “Physics Beyond the Standard Model” in Vancouver.

A new development this year is that the Ninth International Accelerator School for Linear Colliders will take place 26 October – 6 November 2015, overlapping with LCWS15, also at Whistler, BC, Canada. The school is also hosted by TRIUMF and is organised by the Linear Collider Collaboration and the International Committee for Future Accelerator (ICFA)'s Beam Dynamics Panel.

The school covers the following topics:

- Overview of TeV-scale lepton colliders (ILC, CLIC and other advanced accelerators)
- Accelerator physics and technology of linear colliders
- Accelerator physics and technology of the free electron laser (FEL)

More information about the school can be found at the school's [website](#) . It provides an excellent opportunity for graduate students, postdoctoral fellows, junior researchers to learn more about linear colliders and accelerators. Details of the venue and local arrangements in Whistler can be found [here](#).

On the Wednesday afternoon November 4 there will be a common session between the LCWS and the LC school focusing on the longer term perspectives and R&D for future linear accelerators and colliders.

So the message is clear, plan your LC travels to Vancouver and Whistler this autumn as soon as possible and spread the word:

The [registration for the LCWS15](#) workshop is open, and early registration is highly recommended to help the planning and to get the best rate.

The LC school [application page](#) is now open. (deadline August 20)

[ACCELERATOR R&D](#) | [LCWS](#) | [TRIUMF](#)

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VIDEO OF THE WEEK

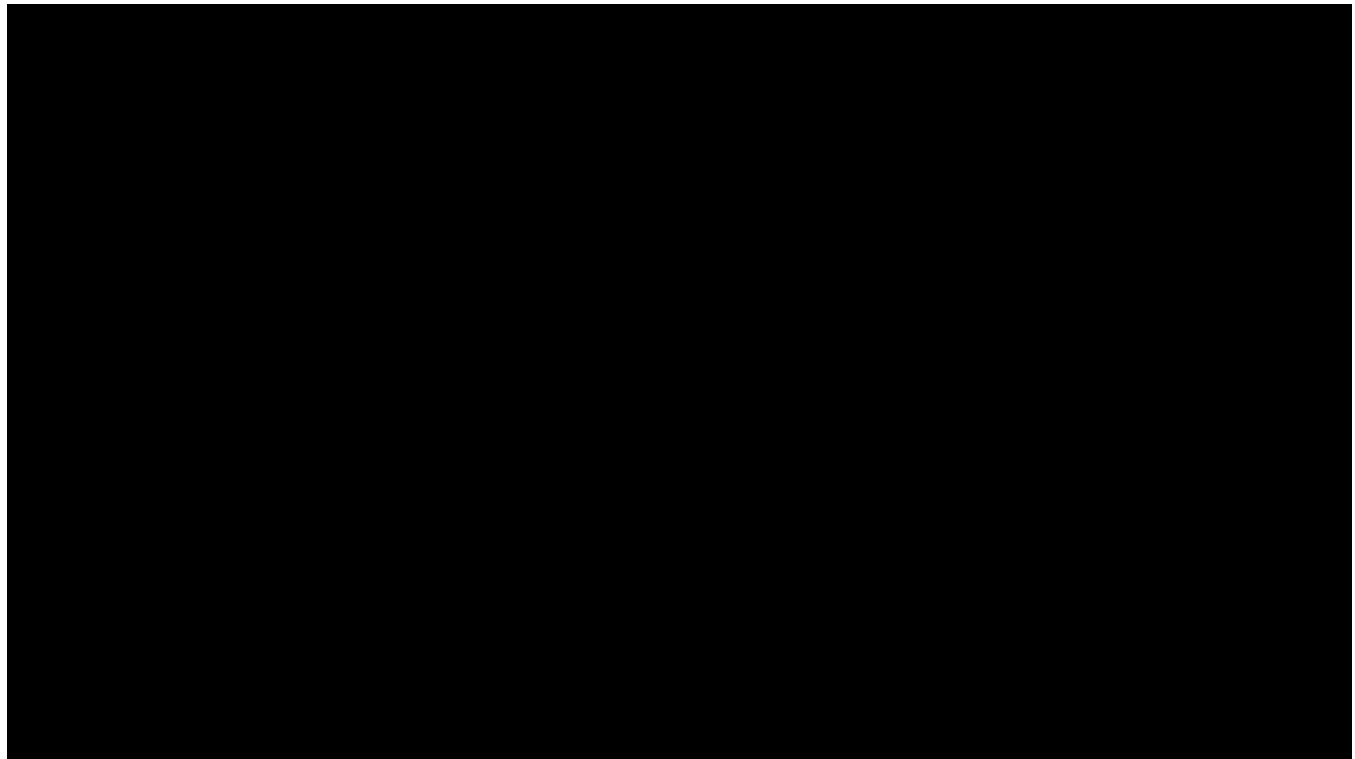
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[23 July 2015](#)

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Check out the ["ILC Tokyo Event" playlist](#) on ILCCommunication YouTube channel.

One of the most amazing performance by Tomoko Kawao at the banquet.



[ALCW2015](#) | [ASIA](#) | [JAPAN](#)

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