

LC NEWSLINE

THE NEWSLETTER OF THE LINEAR COLLIDER COMMUNITY

DIRECTOR'S CORNER



Proudly presenting: the new LCC management

by Lyn Evans

As many of you will have heard by now, the Linear Collider Collaboration was given another three-year mandate by the International Committee for Future Accelerators (ICFA). It took the opportunity to streamline management a little, so from January we will run the collaboration in a smaller and slightly changed team. Let me introduce the new and old management to you.

FEATURE

Press statement LCWS2016



A new management team will lead the Linear Collider Collaboration from January 2017. The members of this team were announced in Morioka, Japan, on Tuesday 6 December at the 2016 Linear Collider Workshop. The term of office for this new team is three years.

AROUND THE WORLD

Science First with the ILC- Keynote speech by Takeo Kawamura



In his keynote at LCWS2016, former MEXT Minister Takeo Kawamura stressed that while fundamental research may have application in the long run, it's the science that is most important.



Impressions from Iwate

Photos: N.Kobayashi, B. Warmbein, P. Royole-Degieux.

Wish you were in Iwate for last [LCWS2016 workshop](#)? Here are some impressions of Iwate, proposed region for the International Linear Collider. More than 320 participants from around the world gathered for one week to discuss the latest R&D developments, the linear collider physics case, detectors and accelerators and project management updates for the linear collider. Scientists were warmly welcomed by an enthusiastic local community of ILC supporters. They were also honoured by the presence and speeches of distinguished guests from the Japanese Federation of Diet Members and Iwate officials.

- [View slideshow](#)

- Lost in Tohoku? Please make sure to check our big [Kitakami Iwate Tohoku Glossary](#)

- Didn't have a chance to visit the candidate site? Check our special 2014 issue of *LCNewsLine*: "[The ILC guide to Kitakami](#)" and make sure to visit the [ILC Kitakami website](#).

IN THE NEWS

from *ibc news*

7 December 2016

ILC誘致へ世界からの科学者を歓迎 / 岩手・盛岡

(with Video)

歓迎式典では今年8月にスイスのジュネーブにある素粒子物理学研究所・「CERN」を訪れたILCクラブの中学生5人が活動の成果を報告しました。この中の一人、山本繭子さんは「もし岩手にILCができればと未来を思い描いています。そして世界から科学者が集まり、世界の知の拠点となってほしいと祈っています」と話していました。(At the welcome reception for LCWS, middle school students who visited CERN in last August reported their activities. Mayuko Yamamoto said "I am visualising my future with ILC in Iwate, and hoping that this city will become one of the hub for world science.")

from *Around the O*

7 December 2016

Brau to help lead international effort on next-generation collider

University of Oregon particle physicist Jim Brau has been named associate director for physics and detectors for the Linear Collider Collaboration, an international organization uniting particle physicists, accelerator physicists, engineers and other scientists preparing for the next generation of particle colliders.

from *Iwate Nippo*

7 December 2016

リニアコライダーめぐり議論 盛岡で国際学会開幕

日本での地方開催は国際リニアコライダー（ILC）計画の検討が始まった2004年以降初めて。北上山地（北上高地）が世界的な建設候補地とされ、県民の期待感が高まる中で、リニアコライダー（LC、直線型加速器）の技術発展やコスト削減などの検討が始まった。(It will be the first ILC workshop held in local city in Japan since 2004 when world scientists start the effort for the ILC. Kitakami mountain is the leading candidate site for ILC construction, and expectation by the local citizen has been rising high. Participants will discuss about various issues such as R&D developments and cost reduction.)

from *Kahoku Shinpo*

7 December 2016

< ILC > 候補地の熱意PR 岩手でシンポ

超大型加速器「国際リニアコライダー（ILC）」誘致の機運を高めるシンポジウムが6日、岩手県盛岡市であった。建設候補地となっている岩手県南と宮城県北にまたがる北上山地圏域の市長らによるパネル討論を通して、誘致実現に向けた地元の熱意を発信した。(A symposium to increase the momentum to invite the ILC to Tohoku area was held on 6 December in Morioka city. Mayors from potential ILC construction site showed enthusiasm for the ILC in the panel discussion.)

from *Iwanichi online*

7 December 2016

ILC実現後の姿描く 資源有効活用探る 盛岡でシンポ

県立大の鈴木厚人学長が「ILC計画の現状と地域へのインパクト」と題して講演したほか、「ILC実現を通して描く地域社会の未来」をテーマに盛岡、一関、奥州、宮城県気仙沼4市と県の代表者5人がパネルディスカッションを行った。(Atsuto Suzuki, president of Iwate Prefectural University gave talk entitled "Status of the ILC project and its impact on society," and representatives from 4 cities; Morioka, Ichinoseki, Oshu, Kesenuma, and Iwate Prefecture discussed about future of the region with the ILC)

from *Kahoku online*

7 December 2016

< ILC > 研究者に岩手PR 国際会議スタート

LCWS現地実行委員長の成田晋也岩手大理工学部教授は「研究の発展につながるような実りある議論をするとともに、世界の研究者に岩手を知ってもらおう場にもしたい」と話した。(Shinya Narita, Chair of local organising committee for LCWS2016 said "We are wishing to have fruitful discussion toward the development of research, and also this occasion to become a good opportunity for foreign scientists to know more about Iwate.")

from *TVI news*

6 December 2016

ILC誘致の盛り上げを...盛岡でシンポジウム

(with video)

この中で、鈴木学長はILCの日本での実現は『科学の分野での開国』とも言え、世界の国々も支持していると、日本政府の前向きな決断を促しました。(Atsuto Suzuki said that the realisation of the ILC in Japan is "Opening of the country on science field" and it is supported by other countries, hoping for the progress on the discussion at Japanese government)

from *Iwanichi online*

6 December 2016

国内外研究者が集結 LCWS開幕 誘致実現へPR好機

L CWSは I L Cの国際共同研究を推進するリニアコライダー・コラボレーション (L C C) が主催し、欧州とアジア、北米の持ち回りで毎年開催している国際会議で、国内では2013年の東京都以来、本県としては1995年以来の開催となる。

from Yomiuri Online

6 December 2016

I L C研究者ら 盛岡で国際会議

国際会議は9日まで行われ、22の国と地域の大学や研究機関から、物理学などの研究者約350人が参加する。(The workshop for the ILC will be held until 9 December. About 350 scientists from 22 countries will join.)

from IBC News

5 December 2016

リニアコライダー国際会議がスタート / 岩手・盛岡

(with VIDEO)

会議の冒頭、達増知事は「I L Cの東北誘致が実現した際には研究者やその家族が快適に過ごせるような環境を整えます」と挨拶しました。(At the beginning of the session, Gavenor Takuya Tasso said "Iwate prefecture will prepare the environment for foreign scientists and their family to live pleasant life here in Tohoku")

from Iwate Nippo

5 December 2016

国際学会きょう5日開幕 盛岡、ILC実現へ課題協議

リニアコライダー (L C、直線型加速器) に関する国内外の研究者約350人が9日まで集い、本県の北上山地 (北上高地) が世界的な建設候補地とされる国際リニアコライダー (I L C) 計画の実現に向けた課題などを協議する。(About 350 scientists gathered at Morioka until 9 December to discuss about the issues to realise the ILC.)

from Iwate Nippo

5 december 2015

リニアコライダーめぐり議論 盛岡で国際学会開幕

国際学会リニアコライダー・ワークショップ (L CWS) は5日、盛岡市盛岡駅西通のアイーナを主会場に開幕し、全体集会が開かれた。(Linear Collider Work Shop has started on 5 December in Morioka city, and plenary session was held in Aiina, the main venue for the conference.)

from ANL

2 December 2016

Cooling technique helps researchers "target" a major component for a new collider

Researchers at the U.S. Department of Energy's (DOE's) Argonne National Laboratory have recently developed a new ultra-low-friction sliding contact mechanism that uses chilled water to remove heat from a key component of a next-generation collider.

from Sankei news

5 December 2016

「北上山地は I L C に最適」 達増・岩手知事、国際会議でアピール

達増拓也知事は開会式で「北上山地の安定した地盤は地球から送られた貴重な宝物。世界中の研究者が活用することは大きな意義がある」と I L Cの最適地であることを英語でアピールした。(Takuya Tasso, Gavenor of Iwate prefecture stressed the value to have the ILC in Iwate saying "The geography of Kitakami mountain is a gift from mother earth. It is very significant for world scientists to take advantage of this wonderful geology .)

CALENDAR

Upcoming events

[International Workshop on Future Linear Colliders \(LCWS2016\)](#)
Morioka, IWATE (Japan)
05- 09 December 2016

Upcoming schools

[Tenth International Accelerator School for Linear Colliders](#)
Susono, Shizuoka, Japan
08- 19 December 2016

[View complete calendar](#)

PREPRINTS

ARXIV PREPRINTS

[1612.00773](#)
Connecting Dark Matter Annihilation to the Charge Radii of Standard Model Fermions

[1611.08843](#)
The signatures of doubly charged leptons in future linear colliders

[1611.08518](#)
Testing CP-Violation in the Scalar Sector at Future e^+e^- Colliders

[1611.08504](#)
Leptogenesis: Improving predictions for experimental searches

[1611.07896](#)
Phenomenology of a Higgs triplet model at future e^+e^- colliders

[1611.07864](#)
Physics at the LHC Run-2 and Beyond

ANNOUNCEMENTS

NewsLine goes on holiday

LC NewsLine is taking a winter break. Happy holidays to our readers! We will be migrating the website and will be back in a couple of weeks.

Joint Universities Accelerator School: register now

Registration for the 2017 session of the Joint Universities Accelerator School (JUAS) is open to all staff, fellows and post-graduate students wishing to further their knowledge in the field. For more information please visit the [website](#).

European School of Instrumentation in Particle & Astroparticle Physics

The next edition of the European School of Instrumentation in Particle & Astroparticle Physics (ESIPAP) will be held from 23 January to 17 March 2017. Registrations for the 2017 session of ESIPAP are open [here](#).

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Lyn Evans | [8 December 2016](#)

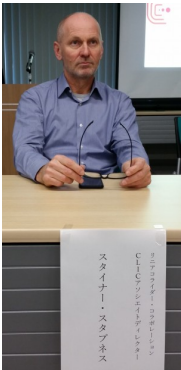


*Shin(ichiro)
Michizono, KEK*

As many of you will have heard by now, the Linear Collider Collaboration was given another three-year mandate by the International Committee for Future Accelerators (ICFA). It took the opportunity to streamline management a little, so from January we will run the collaboration in a smaller and slightly changed team. Let me introduce the new and old management to you.

Let's start with the new members. The Associate Director for the ILC will be Shinichiro Michizono from KEK. He takes over from Mike Harrison, who did this (and many other) jobs for a long time and deserves a big thank you for all his dedication, hard work and persistence even in hard times. Thanks Mike! Shin has been working at KEK for more than 20 years and he's an expert in superconducting radiofrequency. At this crucial time, we hope that putting the ILC into Japanese hands will help the Japanese government take the right decision for the ILC.

The new Associate Director for Physics and Detectors is Jim Brau from the University of Oregon. Like Shin he's no stranger to the community and has held a number of roles in the world designing and developing detectors for the linear collider in the past. Like his predecessor Hitoshi Yamamoto he is very interested in letting the general public know about the promising physics the linear collider holds. A big thanks also to you, Hitoshi!



*Steinar Stapnes,
CERN*

Associate Director for CLIC has been and will remain Steinar Stapnes from CERN, who is also the project's leader in his home lab. He explained the staging scenarios for CLIC in the [last Director's Corner](#), and staging is a topic I believe the ILC should address as well in the near future as a means of proposing a cost-effective collider with a rich physics potential.

My deputy, science advisor and part-time interpreter remains Hitoshi Murayama from US Berkeley. Finally, as you may have noticed, I will stay on as Director of the Linear Collider Collaboration. With all the contacts LCC management has made in the last three years we believe continuity sends a positive message to politicians – namely that that we're very keen to get the ILC off the ground!

I am very happy that ICFA could convince all of these new and old members of the team to dedicate their energy to the linear collider cause. I would also like to thank the three regional directors, Akira Yamamoto for Asia, Brian Foster for Europe and Harry Weerts for the US, for their help over the last years. I will be happy to serve as Director for another three years. However, it's probably no secret that we all hope that we do not have to finish our three-year term because that would mean that a decision has been taken and the linear collider is moving on to the next step.



*Jim Brau,
University of
Oregon*



*Hitoshi
Murayama. UC
Berkeley*

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FEATURE

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8 December 2016



A new management team will lead the Linear Collider Collaboration from January 2017. The members of this team were announced in Morioka, Japan, on Tuesday 6 December at the 2016 Linear

Collider Workshop. The term of office for this new team is three years.

The Linear Collider Collaboration unites two potential future particle colliders, the CLIC compact linear collider study and the International Linear Collider (ILC) in one organisation. The LCC is charged by the International Committee for Future Accelerators (ICFA) to coordinate efforts towards the planning and construction of a new linear collider that would complement the Large Hadron Collider (LHC) at CERN (Switzerland).

The overall Director of the Collaboration continues to be Lyn Evans (Imperial College London, former LHC Project manager), his Deputy remains Hitoshi Murayama (UC Berkeley). Steinar Stapnes (CERN) also continues as Associate Director for CLIC.

The new Associate Director responsible for the International Linear Collider will be Shinichiro Michizono (KEK), taking over from Michael Harrison (Brookhaven National Lab), and the new Associate Director for Physics and Detectors will be James Brau (University of Oregon), who takes over from Hitoshi Yamamoto (Tohoku University).

[LCWS2016](#) | [LINEAR COLLIDER COLLABORATION](#)

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NEWSLINE

THE NEWSLETTER OF THE LINEAR COLLIDER COMMUNITY

AROUND THE WORLD

Science First with the ILC- Keynote speech by Takeo Kawamura

8 December 2016



Hon. Takeo Kawamura giving a keynote speech at the LCWS2016 in Morioka, Japan. Image: LCWS2015 LOC

Here is the speech delivered by Takeo Kawamura, member of the House of Representatives, on the opening day of LCWS2016. Translation thanks to the workshop local organising committee.

"Good morning, ladies and gentlemen. I'm honored to be here and to speak about the ILC.

I am Takeo Kawamura, a member of the House of Representatives. I serve as Chair of the multi-party Federation of Diet Members for the ILC. Joining me here today from the Federation are Hon. Shun-ichi Suzuki, Vice-Chair of the Federation, and Hon. Hinako Takahashi. Today I'm pleased to extend my greetings to you on behalf of the Federation.

Five years ago, the Tohoku area suffered unprecedented damage from the catastrophic earthquake. Since then, I have visited the Tohoku area, many times, and I am beginning to see the return of hope. Our government will continue to make great efforts to restore the Tohoku area. Some of the major issues Japan is facing are the restoration from the Earthquake, and how to bring about domestic growth and regional revitalization. They are part of my responsibilities in my party.

Education and science and technology are among the most important issues for the growth of Japan and the rest of the world. It is crucial for our country to become increasingly internationalized, to develop the nation from its various regions, to promote science and technology, and to cultivate persons with challenging spirits. The ILC has great potential to fulfill these agendas and to become a model case for resolving issues through internationalization.

Our Federation was founded in 2006 under the leadership of Chairman Kaoru Yosano, initially within the Liberal Democratic Party, and became a multi-party federation in 2008, and has now expanded to about 160 Diet members. When I was Chief Cabinet Secretary under Prime Minister Aso, a meeting of 7 Ministers was held at the Prime Minister's Office to learn about the ILC. Nobel Laureate Prof. Koshiba was invited to the meeting.

Among the members were Hon. Yosano, who was Minister of Finance, Hon. Nakasone, who was Minister of Foreign Affairs and is now working on US-Japan cooperation on ILC as Chairman of the Japan-US Parliamentary League, Hon. Shionoya, who was Minister of Education, Culture, Sports, Science and Technology and is the Director-General of our Federation, as well as Hon. Nikai, who was Minister of Economy, Trade and Industry and is the current Secretary-General of the Liberal Democratic Party. This meeting has triggered the major political involvement for the realization of the ILC.

Eight years ago, I had the opportunity to speak at an international conference for linear colliders in Sendai. We have made major progress since in the



research and technology, and particularly in politics. The Director for Particle and Nuclear Research Promotion from MEXT is joining us today amid the ongoing budget negotiation with the Ministry of Finance. At MEXT and the Ministry of Foreign Affairs, many, including the Ministers, have been working hard to advance the discussions within the Japanese government and between nations.

The official government-level consideration of the ILC began two years ago. This spring, parliamentary and governmental discussions between the U.S. and Japan began as well.

Furthermore, in these two months, we began communication with parliament members from Europe and Asia. Prime Minister Abe, in his speech at the National Diet, referred to accelerators as drivers for innovation, along with the oft-mentioned space and ocean development. The word ILC came up numerous times in the National Diet amid the questions and answers exchanged involving the Prime Minister, MEXT Minister, and others.

In these few years, we are intensifying our efforts to create an international environment suitable for realizing the ILC.

The ILC is an international project which cannot function without the collaboration of many countries. Triggered by the completion of the ILC Technical Design Report at the end of 2012, the Federation responded immediately in January 2013 to strengthen international collaboration. After Prof. Koshihara and Prof. Lyn Evans paid a courtesy visit to Prime Minister Abe, Hon. Shionoya and I visited Washington DC, and there, we had first-time discussions with Congress members and staff about the ILC. This was followed by many discussions with Congress members and high-ranking officials from the US government.

The movement picked up speed last year. In particular, when Prime Minister Abe spoke in a joint session of Congress, which was a first in Japanese history, Hon. Shionoya and I, as well as Hon. Suzuki here travelled to the U.S. to witness this memorable event.

During this period, we held discussions with Dr. John Holdren, senior advisor to President Obama on science and technology, and Dr. Ernest Moniz, Secretary of Energy, as well as Congress members who specialize in science and technology and US-Japan cooperation, about strengthening US-Japan relations in the fields of space, energy, accelerators, and others. In particular, dedicated discussions about the ILC continued in Tokyo and Washington. Come to think of it, I visited Washington in December last year.

In February of this year, Hon. Shionoya, Hon. Suzuki, and Hon. Otsuka visited the U.S. along with a high-ranking officer from MEXT, and held discussions with the Director of Office of Science, Department of Energy, and in May, it was agreed to start the US-Japan joint discussion group about the ILC.

The Federation receives continuous updates from MEXT about the US-Japan discussion group for the ILC. The US-Japan collaboration on cost reduction will start, as the first task towards the realization of the ILC.

Movement also began in Europe and Asia. At the Inter-Parliament Union held in Zambia this year, Hon. Suzuki here met with parliament members from Europe to discuss about the ILC. The results of these efforts became visible in October of this year.

First, a meeting with important members of the German Parliament was held in Tokyo. Then, at the Inter-Parliament Union in Geneva, a meeting took place with a Parliament member of India.

Furthermore, at the IEEE conference in Strasbourg, two members of the Federation, Hon. Ito and Hon. Shina, participated in discussions about efforts in Japan to realize the ILC as well as strategies for cooperation between Europe and Japan. This event was facilitated thanks to many of you in Europe. As there were many participants from Europe, US, Russia, China, and many other countries at IEEE, I am sure many of you here were also present. Among those present include a former minister and former longtime member of the European Parliament, who agreed to help us connect with other Parliament members. This success owes to the cooperation and support of everyone involved.

Starting with the US and Japan, we now have an entry point to the governments and parliaments in Europe and in Asia. But the main part of the battle is just ahead of us. Cost reduction is an especially pressing and challenging issue, which must be surmounted by worldwide efforts.

The ITER project, which I worked on as Minister of MEXT, was realized by significantly reducing the original cost. For Japan and other countries, the lower the costs are, the faster the negotiations would progress and hence the faster the realization. Thus it is of utmost importance to reduce the cost. However, we cannot afford to spend too much time on cost reduction. What will happen next year will be critical. Though many hard decisions will have to be made, it is our hope that prospects and direction will be shown in a timely manner.

It is also important to recognize the significance of fundamental science. And the most important of all is to share that with the society. When the Federation was first established, Prof. Koshihara told us the following: "I am truly grateful to have support for fundamental science from so many Diet members, even though it does not attract money or election votes."

While it is true indeed that fundamental science does not directly produce money, we have come to appreciate through many years of studying that it gives rise to far more valuable things than just money. At present, there are about 160 Diet members involved in this Federation.

It is often difficult to convince the general public about the usefulness of fundamental science. However, we mustn't forget that without fundamental science, there would be no televisions, refrigerators, computers, nor cellular phones, and neither would there be medical technologies.

The ILC is anticipated to give rise to many spinoffs from its accelerator and sensor technologies. However, I think there is something even more important.

Prof. Osumi, recipient of the Nobel Prize in Physiology or Medicine this year, has repeatedly stressed that "Society would fail if it only measured science by its usefulness. I hope for a society which views fundamental science with more room in its heart." I believe his words are directly relevant to the ILC as well.

Though our lives will not be immediately altered by unlocking the mysteries of how our universe came to be, a question common to all humankind, the growth of people and technologies are driven by the very act of taking on this challenge.

The power of science and technology, in particular fundamental science, lies in its ability to shape human history, to cultivate people with inquisitive minds, and give back to the society the knowledge and technologies developed in this process. The greatest value of the ILC lies in this point.

At present, under the steady leadership of Prime Minister Abe, the public and private sectors are working together to take on the challenges of the upcoming Tokyo Olympics, as well as the plans for stability and steady growth after that. Our mindset is to internationalize this country and to grow together with the rest of the world.

We are constantly thinking of what Japan, with its stable political administration, can do to contribute in terms of international cooperation.

I am sure there are many of you here in the audience from the UK or the US. The results of the UK referendum on Brexit and the US presidential election show a global tendency to focus inward, and to shy away from international cooperation. I am much concerned about this.

Behind these issues are conflicts related to immigration and differences in race, religion, or culture – a "Clash of Civilizations" as foreseen by Prof. Samuel Huntington in his book from 1996. There are various civilizations in the world such as the Western, Hindu, Chinese, Islamic, and Latin American civilizations. His book predicted the problems occurring today between the different civilizations. In this book, Japan is described as having its own distinct civilization. We are constantly thinking, from a political viewpoint, of how Japan can help bring harmony to the world.

One answer is to bring harmony to the world through science, a language and culture common to all humankind. This is a new way for Japan to open itself to the world.

Science is indeed the language to bring the world together. At CERN, many scientists come from all corners of the world with political and ideological differences. The fact that they can collaborate is proof that science can bring harmony.

President-Elect Mr. Trump has called for "America First" during his campaign. Now is the time for us in Japan to propose something different: "Science First" – The ILC will be its symbol!

It would be a marvelous thing if Japan could be the place to bring the world together by science. With "Science First" as our slogan, we hope to work with the world to provide a place for science and innovation. As Prof. Huntington said, Japan has its own distinct civilization. And I'm certain that we can play a leading role in this endeavor.

This the very reason why Japan wishes to bring the world together by "Science First". I think the ILC will be at the core of the flow of science through the history of humankind.

You are probably used to thinking that the ILC is where collisions take place. Don't forget that it will also bring harmony to the world.

Harmony is at the heart of the country of the rising sun. Let the ILC be the ray of hope to shine the world.

Thank you, and again, "Science First" with ILC! Thank you very much."

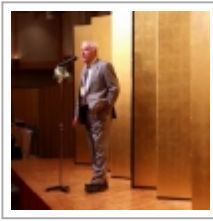
[View more photos and part of slides on LCWS2016 website](#)

[Read original speech in Japanese](#)

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