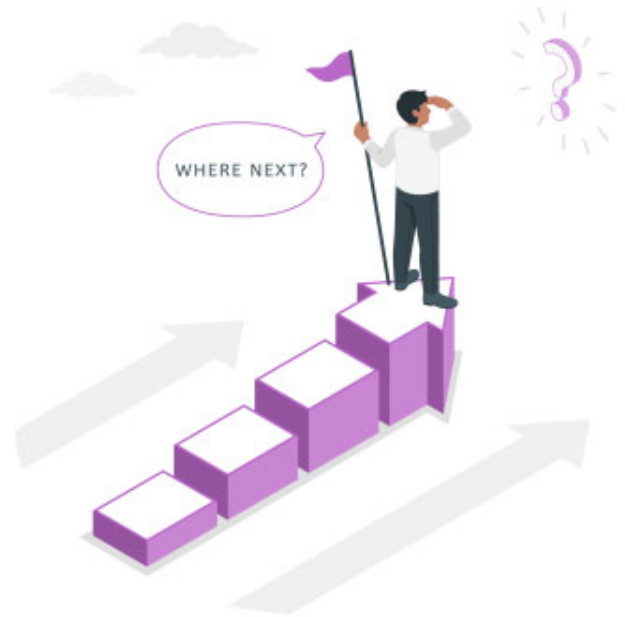


DIRECTOR'S CORNER

ILC expert panel review: hosting is not the problem, says Shoji Asai

by Shoji Asai

The recent recommendations to Japan's science ministry MEXT on the ILC by an expert panel caused worry and confusion in the ILC community. Some even thought it was the project's death sentence. Shoji Asai, chair of ILC-Japan, a new promoting body for the International Linear Collider project, gives his own reading of the report and KEK's reaction to it. He says it's not as bad as it may seem because it tries to move the discussions onto a different diplomatic territory. But researchers need to work together and do their part to make it happen.



AROUND THE WORLD

From KEK: Next step toward the ILC realization: MEXT expert panel publishes recommendations



In response to the recommendation issued by Japan's ILC Advisory Panel which examines the ILC project for MEXT, KEK issued a statement about what steps they will take toward the realisation of the ILC.

FEATURE

IUPAP Statement on the events occurring in Ukraine

by Tatsuya Nakada



The International Development Team shares the statement about the current tragic war situation in Ukraine made by the IUPAP Executive Council, to which IDT is connected.

IN THE NEWS

from *KITAKAMI TIMES*

15 March 2022

Sominsai~An Ancient Winter Rite~

With the Kitakami Times, local governments and foreign residents will bring you articles about ILC awareness events, interviews with local officials, initiatives to “internationalize” the area, and much more. Above all, we’d like to bring researchers and the general public alike a clearer picture of the Tohoku region of Japan.

from *Iwate Nippo*

14 March 2022

首相「なりわい再生支援」 陸前高田市で復興状況視察

戸羽太市長に続き達増知事が高齢者の多い災害公営住宅のコミュニティー形成、移転元地の産業利用支援や、ILCの誘致実現を（岸田首相に）訴えた。(Following Rikuzen-Takata city Mayor Futoshi Toba, Iwate Governor Tasso appealed (to Prime Minister Kishida) to form a community of disaster public housing with many elderly people, support industrial use of the relocation site, and attract ILC.)

from *Tokai Shinpo*

13 March 2022

岸田首相 陸前高田訪問 震災11年で復興状況視察 心のケア支援「後押しする」

岸田文雄首相は12日、陸前高田市の高田松原津波復興祈念公園を訪れ、東日本大震災被災者を追悼—達増知事が—ILC誘致実現に向けた取り組み強化を求めた。Prime Minister Fumio Kishida visited the Takata Matsubara Tsunami Reconstruction Memorial Park in Rikuzentakata City on the 12th to commemorate the victims of the Great East Japan Earthquake— Governor Tasso called for strengthening efforts to attract the ILC.)

from *Iwate Nippo*

10 March 2022

震災11年、被災地の課題解決へ一丸 岸田首相インタビュー

岸田文雄首相は—ILC計画は「重要なプロジェクトであることは間違いない」と意義を認め、国内外の動向を注視して誘致の可否検討を続ける姿勢を示した。(Prime Minister Fumio Kishida acknowledged the significance of the ILC project as “there is no doubt that it is an important project,” and expressed his willingness to continue to consider whether or not to host the project, paying close attention to domestic and international trends.)

from *American Institute of Physics*

7 March 2022

Advisory Panel Deals Blow to International Linear Collider

On Feb. 25, a panel organized by Japan’s Ministry of Education, Culture, Sports, Science and Technology (MEXT) recommended physicists “shelve” discussions on Japan hosting the International Linear Collider, a proposed multibillion-dollar particle physics facility that would be tailored to study the Higgs boson, a particle that was first detected in 2012 at CERN in Switzerland.

from *KITAKAMI TIMES*

7 March 2022

A bizarre festival in the midst of winter

With the Kitakami Times, local governments and foreign residents will bring you articles about ILC awareness events, interviews with local officials, initiatives to “internationalize” the area, and much more. Above all, we’d like to bring researchers and the general public alike a clearer picture of the Tohoku region of Japan.

from *KITAKAMI TIMES*

2 March 2022

Kyassen Ofunato ~Rebuilding of town after the disaster~

With the Kitakami Times, local governments and foreign residents will bring you articles about ILC awareness events, interviews with local officials, initiatives to “internationalize” the area, and much more. Above all, we’d like to bring researchers and the general public alike a clearer picture of the Tohoku region of Japan.

from *Physics World*

1 March 2022

Panel calls on physicists to ‘shelve’ notion of Japan hosting the International Linear Collider

They conclude that it is too early for Japan to proceed towards construction of the ILC and instead call for further research and international support towards the project.

from *World Economic Review*

28 February 2022

LC計画推進にコロナ禍の影響

この計画の学術的な意義は認められるものの現時点での推進決定は時期尚早とし、引き続いて再検討を求めている。その背景には、ホスト国の日本だけでなく推進役の欧州と米国が新型コロナウイルス感染拡大に見舞われ、建設費等財政負担に課題を抱えていることが大きく影響している。(Although the academic significance of ILC is recognized, it is premature to make a to promote it at this time, and further reexamination is requested. The background to this is that not only Japan, the host country, but also Europe and the United States, which are the promoters, have been hit by the spread of the new coronavirus infection, and have problems with financial burdens such as construction costs.)

from Iwate Nippo

19 February 2022

量子技術、AIがILC実験補完 仙台で飯山悠太郎助教講演

ILCの誘致を目指す東北ILC推進協議会は18日、仙台市内のホテルで講演会を開いた。東京大素粒子物理国際研究センターの飯山悠太郎助教が、高速計算が可能な量子コンピューターや人工知能でILC実験を補完できると説いた。(The Tohoku ILC Promotion Council, which aims to attract the ILC, held a lecture at a hotel in Sendai on 18 February. Assistant Professor Yutaro Iiyama of the International Center for Elementary Particle Physics, Tokyo University, explained that ILC experiments can be complemented with quantum computers and artificial intelligence capable of high-speed calculations.)

from Iwate Nippo

17 February 2022

目的達成へしつかり活動 ILC議連新会長・塩谷立氏インタビュー

「(実現への協議を)前に進めるため具体的な動きを打ち出していく必要がある。速やかに予算に反映させたい。国際プロジェクトとして進めるための予算をぜひ取りたい」(It is necessary to take concrete steps to move forward (the discussion for realization). I would like to secure a budget immediately. I definitely want to secure a budget to proceed the ILC as an international project.)

from Iwate Nippo

15 February 2022

準備研究所は「時期尚早」 ILC有識者会議、学術的な意義認める

文部科学省のILCに関する第2期有識者会議は14日、見解を公表した。学術的な意義は「大きい」と評する一方、国際費用分担のめどが立っていないなどとして、日本政府による誘致への関心表明を前提に準備研究所へ移行するのは「時期尚早」とした。(The second meeting of MEXT's ILC experts panel announced its views on the 14th. While it said that the academic significance was "great", it was "premature" to move to the Pre-Lab, saying that there was no prospect of sharing international costs sharing.)

PREPRINTS

ARXIV PREPRINTS

2203.07202

Study of the $h\gamma Z$ coupling at the ILC

2203.07056

Stau study at the ILC and its implication for the muon $g-2$ anomaly

2203.06929

Probing heavy Majorana neutrino pair production at ILC in a $U(1)_{B-L}$ extension of the Standard Model

2203.06819

Measuring the CP properties of the Higgs sector at electron-positron colliders

2203.06776

New approach to DM searches with mono-photon signature

2203.06525

MPGDs for tracking and Muon detection at future high energy physics colliders

2203.06267

MPGDs for TPCs at future lepton colliders

2203.06255

Enabling U.S. participation in Future Higgs Factories

2203.06137

QCD Axion Search with ILC Beam Facility

2202.12097

Distinguishing two dark matter component particles at e^+e^- colliders

2203.03435

TPC development by the LCTPC collaboration for the ILD detector at ILC

2203.01519

Observing Axion Emission from Supernova with Collider Detectors

2203.00404

The influence of the scalar unparticle on the Z-production at high energy e^-e^+ scattering process

2202.13567

Colliding Beam Polarization effect on Higgs production at Lepton Collider

2202.11714

Near or Far Detectors? Optimizing Long-Lived Particle Searches at Electron-Positron Colliders

2202.11638

Confronting dark fermion with a doubly charged Higgs in the left-right symmetric model

2202.11011

Probing Relatively Heavier Right-Handed Selectron at the CEPC, FCCee and ILC

2202.10386

Recent developments of the SDHCAL prototype

2202.08476

High Precision QED Initial State Corrections for $e^+e^- \rightarrow \gamma^*/Z^*$ Annihilation

2202.06703

Heavy neutrinos at future linear e^+e^- colliders

2202.04939

Positron sources: from conventional to advanced accelerator concepts-based colliders

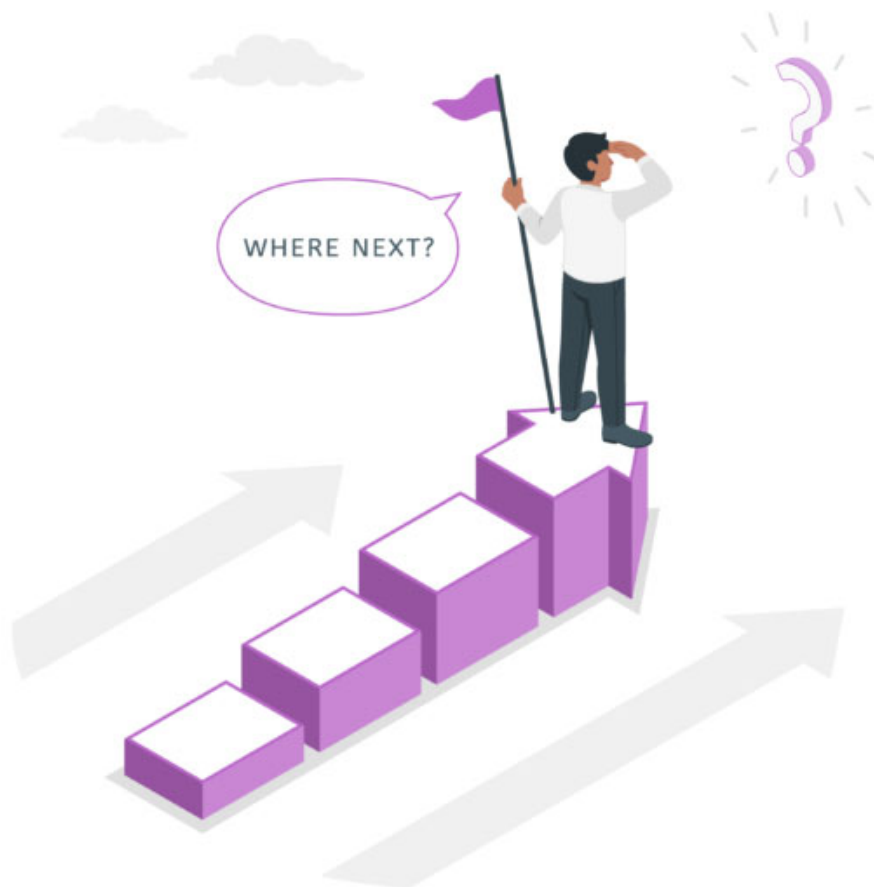
2202.04502

High-energy colliders as a probe of neutrino properties

2202.02222

ILC expert panel review: hosting is not the problem, says Shoji Asai

Shoji Asai | [22 March 2022](#)



Designed by Freepik

Many in the high energy physics community might know that Japan's ILC Advisory Panel which examines the ILC project for the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT), released its recommendation on 14 February. Following that, KEK issued [a statement](#) about what steps they will take in response to the recommendation.

I would like to point out that the Japanese language is rather ambiguous, and various contexts are said only between the lines. I hear that many of you thought it was bad news when you read the English translation of the text. Here, I would like to clarify the meaning of the recommendation. It was not "totally negative", rather, it makes the project move one step ahead.

One of the issues that caused misunderstanding is this expression in the recommendation: "*shelving the question of hosting the ILC*" (as translated in KEK's statement). Some interpreted this statement to mean that Japan is no longer interested in hosting the ILC, but that is not the case. It does not mean that Japan has given up wanting to host the ILC.

The [Proposal for the ILC Preparatory Laboratory \(Pre-lab\)](#) was published by the ILC International Development Team (IDT) in August 2021, and it was submitted to Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT). It stated "Some indication that the Japanese government is moving towards expressing its interest in hosting the ILC in Japan as an international project will be

necessary". What IDT asked for was "some indication", not an official statement to host the ILC or an interest to do so. Yet it is a very delicate and difficult issue for Japan to address. Actually, this has become an obstacle for the fair discussion on the international cost sharing to start, a chicken-and-egg problem. In order for the discussion on international cost-sharing to begin effectively, it is vital to prepare an environment where each partner can be on an equal footing. For this reason, they recommend setting aside the site issue for now, to move the discussion on cost-sharing forward, removing the constraining condition. This is actually a positive move.

It truly is crucial to move the discussion on cost sharing forward for the realisation of the ILC. In the recommendations, the expert panel pointed out that the outlook on such discussion stays uncertain, and it is important to foster an environment where government officials from each country can discuss this subject frankly and constructively. Since 2019, several rounds of discussions have been held, but they did not produce the anticipated results, as pointed out in the recommendations. I believe the reason for this is the lack of an environment which enables discussions among governments, in addition to the chicken-and-egg problem mentioned above. Needless to say, the ILC is an enormous project which will have a very large cost. I'm afraid that the discussion of cost sharing of this magnitude cannot proceed unless a considerable relationship of mutual trust has been established among the governments.

The other part that lead to misunderstanding is the statement "*taking into account the progress in the various studies such as the Future Circular Collider (FCC) and ILC*". Some interpret this line as the recommendation to choose between the ILC and the FCC. It is NOT. There is a clear understanding of the timing difference between the two projects. As I mentioned above, a considerable relationship of mutual trust among the governments is needed to be established to move the discussion on cost-sharing forward. To that end, it is important for the governments to discuss how to advance various large-scale projects globally. In order for the governments to move such discussions forward, we, the researchers ourselves, need to reexamine the medium- to long-term plans for future global particle physics projects, and broaden the understanding on the importance of building the ILC in that global context.

Who will take the initiative in these international discussions is another important point. Since the IDT is an organisation whose mission is to realise the Pre-lab for the ILC to be established in Japan, the Pre-lab proposal stipulated that Japan should take the initiative. We still hope to realise the ILC in Japan, so if possible, we would like Japan to take the initiative. What we researchers can do is to create an environment that makes it easier for Japan to take the initiative. How do we realise fruitful cost sharing negotiations? This is not an issue just for Japan, and I would like to see researchers from relevant countries build relationships with their own governments. I'm hoping that researchers around the world will work with their own funding agency.

It's unfortunate that we couldn't move on to the Pre-lab right away. On the other hand, I would like to emphasise that the panel understands the need for prototype development and engineering demonstration. We believe that the ILC is mature in technology and is ready to move to the Pre-lab phase. In order to prove that the ILC is a feasible project realised by international collaboration, it is important to show the actual components. The recommendation suggested moving high-priority parts of the work packages forward. Once the budget for this activity is approved, we can gain credibility that we can build the actual components, prove that the technology is mature, and the scientists from around the world can work together. And those efforts should be carried out by international cooperation, with each government bearing cost and responsibility. By doing so, we can demonstrate that it is possible to realise the ILC.

Here, I would like to remind you once again that the ILC is an enormous project. Regarding this recommendation, it is easy to react by saying "*ILC is dead*" or criticising "*Japan is not interested*". However, this is not a project that can be talked about in such a simple manner. You need to double down. In the "new normal" with the COVID-19 pandemic, the research environment and the international environment and the situation of national finance are changing dramatically. There is no doubt that the stature of fundamental science is weaker than in the second half of the twentieth century because of the diversity of scientific research. I also think there has been an increase in mistrust of science because of a variety of accidents and disasters. Under such circumstances, it is necessary for stakeholders around the world to calm down and think about how to proceed with the ILC.

[ILC | JAPAN](#)

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AROUND THE WORLD

From KEK: Next step toward the ILC realization: MEXT expert panel publishes recommendations

[22 March 2022](#)

Issued originally on 25 February

KEK has been working on the realization of the International Linear Collider (ILC) in Japan, together with ILC-Japan, a community organization under the Japan Association of High Energy Physicists (JAHEP), the ILC International Development Team (IDT) established by the International Committee for Future Accelerator (ICFA), and other supporting organizations around the world. In June 2021, IDT published the [“Proposal for the ILC Preparatory Laboratory \(Pre-lab\),”](#) which proposes an outline of the organizational framework, an implementation model, work plan and required resources for the preparatory phase of the ILC. At the same time, KEK and JAHEP submitted a report to the Ministry of Education, Culture, Sports, Science and Technology (MEXT) that summarizes progress on ILC activities over the past three years. In response to these developments, MEXT organized an expert panel in July 2021 for discussions to evaluate the progress of the ILC activities. On 14 February, the panel issued their recommendations, pointing out following five main points:

1. The panel recognizes the academic significance of particle physics and the importance of the research activities, including that of a Higgs factory, and understands the value of international collaborative research. However, the panel found that it is still premature to proceed into the ILC Pre-lab phase, which is coupled with an expression of interest to host the ILC by Japan as desired by the research community proposing the project.
2. Given the increasing strain in the financial situation of the related countries, the panel recommends the ILC proponents to reflect upon this fact and to reevaluate the plan. They should reexamine the approach towards a Higgs factory in a global manner taking into account the progress in the various studies such as the Future Circular Collider (FCC) and ILC.
3. The panel recommends that the development work in the key technological issues for the next-generation accelerator should be carried out by further strengthening the international collaboration among institutes and laboratories, shelving the question of hosting the ILC.
4. For realizing a very large project such as the ILC, cultivating a framework where the related countries can exchange information on their situations and discuss required steps would be important.
5. The panel recommends that the research community should continue efforts to expand the broad support from various stakeholders in Japan and abroad by building up trust and mutual understanding through bi-directional communication with the people concerned.

In light of the panel's findings, KEK will make an effort to reexamine the path for realizing the ILC as a Higgs factory, taking into account the progress in various fronts including the FCC feasibility study. In this process, the interaction with the domestic and international research community as well as the opportunities in the exchange of information through ICFA will be crucial. Also, in collaboration with the IDT, KEK will propose a framework to ICFA to address some of the pressing accelerator R&D issues for the Pre-lab, where joint developments will be done by the participating laboratories on the selected subjects. KEK and the Japanese ILC community is committed to further advance important technological and engineering development in the accelerator area and to continue the effort for the realization of the ILC.

Furthermore, KEK, in collaboration with ILC-Japan, will establish a new organization that will centrally manage ILC communications activities. The new organization will strengthen activities to communicate the significance of the ILC to all parties involved, such as the general public, academia, or industry, focusing on communicating the importance to build an international laboratory for basic science, which will contribute greatly to the development of a new generation of scientists and advancement of knowledge, science and technology.

KEK endeavors to promote these activities for the realization of the ILC in the future, maintaining a relationship of trust with related organizations.

[Summary of Discussions on Issues Related to the International Linear Collider \(ILC\) Project \(written in Japanese\)](#)

[JAPAN](#) | [KEK](#) | [MEXT](#)

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FEATURE

IUPAP Statement on the events occurring in Ukraine

[Tatsuya Nakada](#) | [22 March 2022](#)

Through ICFA, the ILC International Development Team is connected to the International Union of Pure and Applied Physics (IUPAP). We would like to share with you the following statement that the IUPAP Executive Council published on [their web page](#) concerning the current tragic war situation in Ukraine:

“We are consternated by the news regarding the Russian military offensive in Ukraine and the terrible consequences that this has on the lives of our colleagues in Ukraine. We extend our deepest sympathy and solidarity to them and to all the Ukrainian people at this difficult time. We praise the large number of Russian colleagues who have expressed their sympathy for their Ukrainian colleagues and demanded peace for their countries (e.g., see <https://trv-science.ru/en/2022/02/we-are-against-war-en/>). In our 100th anniversary this year, we note the critically important historical role that IUPAP has always strived to play in bringing physicists together across political divides even during our most difficult years in the past. IUPAP continues to embrace and promote scientific collaboration across the world as a driver for peace.”

[PEACEFUL COLLABORATION](#) | [SCIENCE FOR PEACE](#)

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