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Ichinoseki Linear Collider Bulletin

English Translation

Ichinoseki Science Café



Special classes about the ILC are being held from this year at junior high schools in Ichinoseki City. They are being held for the students - leaders of the next generation - to learn about the nature of ILC research and its significance, further their interest in science and elementary particle physics, and learn more about the importance of the fundamentals of science. Six classes were held at junior high schools in June and July, presented by Associate Professor Junpei Fujimoto of the Institute of Particle and Nuclear Studies at the High Energy Accelerator Research Association (KEK).

In the classes, Mr Fujimoto dropped a baseball and a marble at the same time to see which would hit the floor first, referring to the famous Galileo Galilei, said to be the first in the world to have carried out such gravity experiments. Mr Fujimoto told the junior high students how Galileo's experiments produced results that differed from theory of the time and what the majority of people believed in, and said: "There are some phenomenon you can't know about without experimenting and confirming with your own eyes." Mr Fujimoto also said: "To learn about nature it's necessary to learn the rules which govern it. The purpose of ILC experiments is to discover the laws governing the particles which make up everything in the universe."

In the second half of the classes, students tried their hand at "cloud chamber" experiments, using dry ice and alcohol to observe movements of particles which can't be seen with the human eye. Students concentrated hard on watching clouds of alcohol vapor created in the path taken by elementary particles.

At the end of classes, Mr Fujimoto said: "The ILC will take about 15 years to build, and would be operating when you guys are about 28 to 30 years old. I hope someone from this class solves the riddles of the universe."

Some comments afterwards from the students included: "The class was easy to understand and very interesting", "I want to learn more about the ILC", "If the globally-contributing ILC is realized, then Ichinoseki will become well-known around the world, which is something to be very proud of."

The special ILC classes will be held at all junior high schools in the city through to January 2017.

First science café of the fiscal year



The 'Ichinoseki Science Cafes' run by the city are a place for people to enjoy and become more familiar with science and the ILC, by chatting with researchers and other experts in an informal setting.

The first Science Cafe for this fiscal year was held on July 31 at the Daito Public Library, where Associate Professor Tomoyuki Sanuki of the Department of Physics, Graduate School of Science at Tohoku University, presented with a title of "Towards realizing the ILC." Some 30 people of various ages attended including junior high and high school students, who learnt more about what the ILC would

research and other topics.

Mr Sanuki talked about the ILC project, how the Kitakami Highlands were chosen as the candidate site for the ILC in Japan, and efforts both in Japan and abroad to realize the ILC. He also spoke about the Tohoku ILC Preparation Office which was established in June, saying: "Activities so far have been focused on bringing the ILC to Japan, but now the candidate site has been decided and the project is technically ready, so it's necessary to prepare for the ILC coming. The Tohoku ILC Preparation Office was set up as an organization to prepare for that, and includes Tohoku University, local governments and institutions. From here in, it's important for each of the parties involved to collaborate and prepare." Mr Sanuki also said: "Researchers overseas also assume the ILC will be built here in the Kitakami Highlands, and are making specific and detailed considerations," emphasizing that moves to realize the ILC are progressing.

In the question and answer time after the presentation, a participant asked: "The plan is to dig a tunnel in a hard, stable bed of granite but is it possible when digging is under way, we find out the rock is not as good as we thought?" Mr Sanuki replied: "It's true that we won't know some things until we start digging, but the chance of running into technical risk is very low, and even if we were to run into such an issue, we believe we can overcome it."

Another participant asked: "Regarding effect on nature and the environment, is there anything to be learnt from the building of the circular accelerator at CERN in Switzerland?" Mr Sanuki answered: "I've been to CERN many times and talked with people there, but I've never heard of any environmental problems. The residents are proud that there is a state-of-the-art research facility in their area," adding: "I hope the ILC becomes a facility that local residents are proud of too."

Details on the second Science Café for this fiscal year, to be held in early September, can be seen in the Notices section at the bottom of this newsletter.

ILC Symposium in Oshu



A symposium about the ILC was held in neighboring Oshu City at the Cultural Hall (Z Hall) on June 11, hosted by the Iwate ILC Accelerator Science Promotion Council and titled "Realization of the ILC and Outlook of the Region."

Dr Atsuto Suzuki, president of Iwate Prefectural University, gave the keynote speech in the first half, titled "The ILC and Regional Creation." In the second half, mayors of cities and towns hosting or near the proposed route for the ILC took part as panelists in a

discussion titled "Future visions of our towns and the ILC." Dr Masakazu Yoshioka, Visiting Professor at Tohoku University and Iwate University, guided the discussion and Mr Osamu Katsube, mayor of Ichinoseki City; Mr Masaki Ozawa, mayor of Oshu City; Mr Yukio Aoki, mayor of the town of Hiraizumi; and Mr Yoshi-ichi Takahashi, mayor of the town of Kanegasaki, spoke about the future vision of their cities and towns with the ILC. Dr Atsuto Suzuki, president of Iwate Prefectural University, and Mr Jun Sasaki, Director of the Science and ILC Promotion Office of Iwate Prefecture, also expressed their opinions.

Ichinoseki mayor Osamu Katsube said: "If we can use local produce at campus restaurants and local timber and other resources in the building of facilities and so on, that would be very good for local farmers and producers," and emphasized that: "I hope to connect the ILC with jobs in the agriculture and forestry industries."

With regard to local preparations for the ILC, Mr Katsube said: "It's not like researchers and their families would come right after the decision by the national government to build the ILC. Infrastructure and preparation needs to be planned out." He also said: "We can't let enthusiasm for the ILC stop at the local level, we have to convey it to Tokyo and the rest of Japan."

Summer camp on ILC accelerator and physics/detectors 2016



Some 70 accelerator scientists and elementary particle/high energy physicists from around Japan gathered at the "Summer camp on ILC accelerator and physics/detectors 2016" held from July 23 to 26 at Itsukushien, a hot spring resort in the west of Ichinoseki City. Presentations about latest research and issues in various fields related to the ILC were held and researchers shared information, with the goal of realizing the ILC and furthering research in elementary particle physics.

A session was held at the city library in central Ichinoseki on July 24 for local junior high and high school students to chat with five of the researchers taking part in the camp. Professor Masao Kuriki of Hiroshima University talked about what led him to become a researcher, and said: "People with good grades aren't necessarily suited to

being a researcher. Rather than learning formulas, I think people that try to understand how the formula works are suited," adding: "I think the first step to becoming a researcher is not just learning the content in textbooks, but asking why, thinking about it, and understanding it."

The researchers then chatted with the students in groups, talking about how they came to be researchers and the path to becoming one. Students made comments afterwards such as: "It was a valuable experience to be able to hear stories from researchers" and "Today will help me when I think of what to do with my future."

News Clippings

The 7th meeting of MEXT Panel of Experts for the ILC

A panel of experts formed to discuss hosting the ILC (chaired by Shinichi Hirano, Professor Emeritus at Nagoya University) held their fifth meeting on July 7, and confirmed content of the report delivered by a working group about human resources necessary for the ILC.

The report stated that at present there is an insufficient supply of personnel domestically both in terms of number and skill for the large demand that would arise during construction of the ILC, and that planned, strategic training of human resources is necessary. The report suggested getting young workers involved in general management and networking between domestic research facilities.

With regard to issues that need to be considered herein, the panel referred to laws and regulations during construction; construction potential using currently-available technology; potential for cost reduction by introducing new construction technology; matters which require international co-operation; consideration of geographical and geological conditions; involvement of local communities and businesses; and that it might be necessary to establish a new working group to consider some of these.

Science day in Sendai

A science day was held by NPO "natural science" on July 17 at Tohoku University in Sendai (capital of Miyagi Prefecture to the south of Iwate Prefecture). The Tohoku ILC Promotion Council, Ichinoseki City and others set up an ILC booth which some 1,000 people visited throughout the day, taking in the picture-story show about the ILC, playing ILC "karuta" card games, trying "cloud chamber" experiments, and so on.

Establishment of the Tohoku Preparation Office

The Tohoku ILC Promotion Council held a general meeting on June 12 and decided to establish the Tohoku ILC Preparation Office, to make preparations ahead of the national government's decision on the project, which is expected sometime in 2017 or 2018.

The office consists of four sections: public relations and communications; regional preparation; industry; and technology. It will work on drafting plans for industry, academia and government to work together on living infrastructure and assisting local businesses.

With regard to management of the Council, Dr Atsuto Suzuki, president of Iwate Prefectural University, was added to the board of directors, and Ichinoseki mayor Osamu Katsube was one of four people added as advisors.

Opening of the ILC Co-ordination office

Following the establishment of the Tohoku ILC Preparation Office, Iwate Prefecture opened the Iwate ILC Co-ordination Office on June 15 inside the Iwate Advanced Science and Technology Center, to collaborate with the Preparation Office and share information with those concerned. It will be used as a place for people to collaborate with regard to preparing for the ILC, and PR activities both in and out of Iwate Prefecture.

Science and Hello Kitty team up to promote the ILC



The Advanced Accelerator Association Promoting Science and Technology (AAA) has formed a collaboration with Sanrio Co., Ltd.'s popular Hello Kitty character to promote the ILC. Goods went on sale in mid-August, and the picture here is of Ichinoseki mayor Osamu Katsube in one of the "Science Kitty" T-shirts.

Ichinoseki Lives Cosmopolitan (introduction of international residents in Ichinoseki)



While working on making the ILC a reality, Ichinoseki is working on making itself a more international city. Here, we introduce international residents active in Ichinoseki. This time it's Terri Lui, who was born in Hong Kong and grew up in Vancouver, Canada. Terri moved to Ichinoseki last year, and teaches English at elementary and junior high schools in the city.

Terri Lui

Q: What are your interests?

A: I love listening to music and playing instruments. This year, I joined the Ichinoseki Symphonic Wind Orchestra as a percussionist. I like Japanese culture, for example archery and traditional food like "kaiseki" cuisine. I'm also interested in the Japanese language, and passed N1 of the Japanese Language Proficiency Test for foreigners last December.

Q: What do you like about Ichinoseki?

A: I like how energetic the children are. Last year was my first year working as an ALT, but on the first day, I was already playing with them! I'm also part of an English play again this year with kids, organized by the Yamanome Civic Center. Some parts are a bit difficult for the kids but they work really hard, and smile in every show we perform.

Q: Is there anything you would like to try with regard to children's English education?

A: If greetings and such in English are incorporated into all classrooms on a daily basis, I think children would become more used to it.

Q: Lastly, a word on making the ILC a reality.

A: I hope Ichinoseki and other local governments can make it happen. The ILC project would not only bring scientists, engineers and their families to the region, but it would also be a good chance to promote the region to the world.