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Ichinoseki Linear Collider Bulletin

English Translation

Junior high students go on excursion to KEK



Junior high school students went on a tour of advanced research facilities such as the High Energy Accelerator Research Organization (also known as KEK) in Tsukuba City, Ibaraki Prefecture, from August 8 to 10. Beginning in 2011, the annual trip is organized by Ichinoseki's Board of Education for junior high school students to learn more about science and to train them to lead the next generation, by listening to researchers and getting up close to state-of-the-art science. This year, 65 third-grade students from 19 junior high schools in Ichinoseki City and the adjacent

town of Hiraizumi took part in the trip. As follow-up work, students submitted reports about what they learnt, and here we will introduce part of the reports by China Onodera, a student at Ichinoseki Junior High, and Nachi Suzuki, a student at Murone Junior High

'Learning about state-of-the-art technology and thinking about science around us'

By China Onodera



At KEK we were able to see accelerators and the people working there, we listened to a seminar about the ILC, and learned about particles, how accelerators work, and the role of the ILC. There was a lot I didn't know and I was surprised. The people looked very serious about their work, but also had a spark in their eyes and looked like they were enjoying it. I thought they were really cool. In the talks, we heard about particles, light and other points such as how all matter is made up of three things, and how there is matter that hasn't been discovered yet and which can't be explained by the Standard Model of particle physics. We also learned how the ILC might be able to find evidence for new particles, by investigating dark matter,

supersymmetric particles, the Higgs particle and the top quark. I think the ILC will be built to find matter yet to be discovered, and I think that colliding electrons and positrons and replicating reactions that occurred just after the universe was born, will be a big step to learning more about the mysteries of our universe. I think it's great that Iwate Prefecture has been chosen as a candidate to host such a large-scale and promising research facility. The ILC might have a big influence on our lives in the future, so I think we should give top priority to consideration of how we get involved. There are various ways to be involved, so I think we need to first learn about the significance of the ILC, and for everyone to think about what they can do. In doing so, plans for the ILC will develop differently I think. By getting up close to state-of-the-art-science on this excursion, I learnt a lot, and became even more interested in science.

Seminar on technology used in the ILC



The visit to KEK was the main goal of our excursion. The national flags of various countries were hung up inside, and I felt this research was important not just for Japan but also for the world. During the seminar about the ILC, what was really good was Associate Professor Junpei Fujimoto's reply to the question: "Do you think science can make people happy?" to which he said: "I think science is the thing which makes people happy." Mr Fujimoto is really well-versed in matters of science and the universe. I think he probably understands more than anyone else about the dangers of science and its bad points. But that was his answer, and it conveyed there are more good points than bad with science.

The theme for my research was "Learning in depth about science and the universe, and what the ILC is." I read up a bit on how the ILC works and other things beforehand, but there were many words in the seminar I hadn't heard of, and many things I didn't know. But that is the breadth and wonder of science. Every place we saw, there were goals and objectives, and each person working there was trying hard each day to achieve them. The thought crossed my mind while walking around, that this might be one of the things about science that makes people happy. There are many things we still don't know about the universe. Most of that is complex and hard to see. But everyone is working together to reveal the hidden principles. I understood how important that is through this excursion. I thought that one of the ways science makes people happy is how the world comes together and grows by learning more about the secrets of the universe and medicine and academics, not by using it for armaments or weapons. I want to think more about this coming together as one, and I think it will come into play in my school life. I also hope to think about Ichinoseki's future with everyone.

Thinking about regional development at an Ichinoseki Science Café



The second "Ichinoseki Science Café" for this year was held at the Kawasaki Civic Center on September 3, where 26 people listened to and chatted with Dr. Masakazu Yoshioka, Visiting Professor at Tohoku University and Iwate University.

Dr. Yoshioka first presented with the title "The ILC and Local Involvement," and spoke about the ILC project and efforts within Japan and abroad to bring it to reality. Dr. Yoshioka said: "the ILC is about more than just physics; the social and economic effects are

the most important things," and mentioned how he had visited companies across the Tohoku region, saying: "there are a lot of companies with very high potential. If we can tie-up technology between companies, there will be more chance of applying it to other product development."

After the presentation, Dr. Yoshioka was asked a question about energy, to which he replied: "The ILC needs a vast amount of power. Development of power-saving technology and the use of renewable energy are being considered." Dr. Yoshioka also mentioned how it is possible to channel thermal energy generated by ILC facilities into local primary industry and other fields, and emphasized the need to consider systems for recycling energy.

Dr. Suzuki speaks about state-of-the-art science



Dr Atsuto Suzuki, president of Iwate Prefectural University, was invited to speak at the Ichinoseki Cultural Center on September 2 in front of some 900 students from Ichinoseki Daiichi Senior High School and its affiliated Junior High School.

Organized by the International Economic Policy Investigation Committee, Dr. Suzuki presented with a title of "Searching for the origins of matter and the universe," speaking about neutrinos – a type of elementary particle – and the basics of elementary particle physics.

A bus trip



A bus tour was held on September 8 for people to learn about the about the ILC and the area around its proposed route of construction. Planned by Tourism Social Net Senmaya, a tour guide association based in Ichinoseki's east, and carried out by the Ichinoseki Tourism Association, 22 people took part in the tour, which stopped at a handful of places including the remains of the Yanomori gold mine that supported the neighboring town of Hiraizumi in its golden age, and the ILC display at the Daito Public Library..

Filming an episode of 'ILC Scouts' in Ichinoseki



Tokyo Cable Network and the Advanced Accelerator Association Promoting Science and Technology (AAA), producers of the "ILC Scouts" program, filmed an episode in Ichinoseki on August 18 for the second season of the show. It is being aired on the Ichinoseki Cable Network, and can also be seen on YouTube at the following link (content is in Japanese):<https://www.youtube.com/watch?v=cDNaW4QqF-M>.

Promoting the ILC around the city



The ILC Promotion Division makes use of various events throughout the city to further understanding about the ILC and keep up momentum for turning the project into a reality.

A booth introducing the ILC was set up at the Ichinoseki City Fair held at Nanohana Plaza on August 28, at which international residents chatted with adults and kids stopping by at the booth.

An ILC workshop was held at a festival at the Ichinoseki College of the National Institute of Technology on October 29, and another workshop was held on October 30 at a multicultural festival run by the city, along with a display of ILC illustrations.

Ichinoseki can send city employees to speak about the ILC at seminars and other events run by local associations and organizations, and also assist in arranging talks by staff from the High Energy Accelerator Research Organization (KEK), or the ILC Caravan run by Iwate Prefecture. Please feel free to enquire via the contact details at the bottom of this newsletter.

News Clippings

Large-scale replica of ILC on display in Tokyo



A 15-meter long replica of the ILC, or a scale of 1:2000, was on display at Tokyo Midtown from October 28 to November 6, organized by the Salone in Roppongi executive committee. Students and others in Tokyo spent two days making the replica, forming it with "rammed earth." The display was made to raise awareness of the ILC by utilizing the power of design, and it caught the attention of many people walking by.

Seminars about accelerator technology

The Iwate Accelerator-Related Industry Research Group is holding seminars to encourage local companies to enter accelerator-related industries. The first seminar was held in Morioka City on August 24, and the second was held in Kitakami City on October 19. Participants listened to talks by staff from the High Energy Accelerator Research Organization (KEK) and others, learning more about technology needed in the ILC. The third seminar is scheduled for January 12, to be held at the Ichinoseki Cultural Center. e.

Five junior high school students from Switzerland make trip to Switzerland

Five junior high school students in Iwate Prefecture, including Kotomi Sato, a second-grade student at Hanaizumi Junior High in the south of Ichinoseki City, are taking part in the "Iwate ILC 2030" project run by the Iwate Nippo newspaper. From August 5 to 8, the students went to Switzerland to visit state-of-the-art particle research facilities at CERN and learn more about the ILC, and also visited the United Nations office and other places in the cosmopolitan city. The students are scheduled to make presentations about their experiences at the linear collider workshop in early December (see "International Workshop on Future Linear Colliders to be held in Morioka" further down below).

Seminars about accelerator technologies

The third "Ichinoseki Science Cafe" for the 2016 fiscal year was held on November 25 in Senmaya in the east of Ichinoseki City. 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". The session was attended by 41 people of various ages, including junior high and high school students.

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 Sean Ringkamp, from Pennsylvania in the U.S., who lives in central Ichinoseki and teaches English at elementary and junior high schools.

Q: What are your interests?

A: I like music, traveling and food. I like to try food I haven't eaten before, and my favorite Japanese foods are tempura and sushi.

Q: What do you like about Ichinoseki?

A: I like the scenery and the kind people. Taking part in cutting the rice fields at the Honedera Village Estate in September was a valuable experience.

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

A: It would be good for children to have more chances to learn English, such as the play run by the Yamanome Civic Center.

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

A: It was fun chatting with local residents at the ILC booth at the city fair in August, and at the ILC Caravan at the multicultural festival in October. I think everyone should get together to support the ILC, that in itself is another opportunity for international exchange.