

KEK News



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Congratulations to Prof. Koshiwa for his being awarded a Nobel prize



High Energy Accelerator Research Organization

Internationalizing KEK: The Early Days

In recent times, the number of foreign researchers and the level of international activity at KEK is rather high. This has not always been the case. In 1982, when I first came to KEK started in 1982 for a year-long sabbatical leave, there were three foreign researchers at KEK, and not many more in all of Tsukuba. (In 1982, seeing a foreigner in Tsukuba was a rare event; when we came across each other we either already knew each other or, if not, introduced ourselves.) During this visit, I shared an office with Steve Schnetzer, who, at the time, was a KEK post-doc working on a PS experiment. Steve's PS experiment finished and my attempts to work with one of the emerging TRISTAN experiments was not very successful. We, therefore, decided to pursue some ideas for a TRISTAN experiment that resulted in the Letter of Intent for the AMY experiment. Our ideas must have been pretty good, because the KEK program committee gave us some kind of a tentative approval--with a condition that we find some collaborators. Our LOI had only six names on it, all from the US. When our efforts to find collaborators in Japan failed, we looked elsewhere. Our first success happened in 1983, when Steve Schnetzer, while touring in China, presented himself at the guardhouse of IHEP in Beijing and asked to see the laboratory. After some scrambling, Zheng Zhi-Peng, was given the task of dealing with the crazy foreigner at the front gate. As it turned out, Steve and Zhi-Peng got on famously and, by the time Steve's tour of IHEP was over, Zhi-Peng was enthusiastic about joining AMY. After some correspondence, we happily added IHEP to the collaboration list that was part of the full AMY proposal that was submitted in Fall 1983.

The next big breakthrough occurred when attempts by a group of Korean physicists to join one of the two approved TRISTAN experiments were not successful. When this happened (by then, I was back in the US), I was encouraged by Satoshi Ozaki to call Joo Sang Kang of Korea University and, as a result of this conversation, I visited Seoul in January 1984 and gave a talk at Korea University (where, in the audience, were such future high energy physics luminaries as Young Kee Kim and Sun Kee Kim). Soon afterwards, the Korea University group joined AMY.

The international structure of the AMY group became complete when Aki Maki returned to KEK after a stint at Fermilab. Aki was enthusiastic about AMY physics and, with enthusiastic encouragement from Kasuke Takahashi ("AMY's Godfather"), recruited a highly talented KEK-based group that became the core element of the team that presented itself to the KEK program committee in March 1984.

After lengthy discussions, and in spite of grumbling from some committee members that we were a "bunch of amateurs," KEK Director-General Nishikawa decided to take a chance on us and approved the AMY experiment.

We did our best to not disappoint Professor Nishikawa. Although our high hopes for discover-



Amy-chan, the author's next-door neighbor in 1982 was the inspiration for the name of the AMY experiment.



The first AMY summer picnic in 1985 was a chance for all the KEK staff to enjoy good fellowship with visitors from China, Korea and the US.

like AMY, a majority of the researchers are at foreign institutions. Also, like AMY, this environment of multiple backgrounds and viewpoints has proven to be extremely invigorating. In spite of a much smaller contingent of researchers and, until very recently, considerably less integrated luminosity than our competing experiment, the Belle group has more than held its own and has produced a large number of results, including some discoveries of profound importance.

The exciting and vibrant intellectual working environment that we experienced in AMY is the reason many of us continued on in Belle. This despite a number of what I consider to be serious hurdles for foreigners working at KEK and in Japan. These include the poor long-term employment prospects for foreigners in Japan, the abundant red-tape involved in living in Japan and working at KEK, and the exclusion of the foreign researchers from major decision-making at KEK.

Today, internationalization is central to virtually all of KEK's programs. In particular, the collaborations with China and Korea that started with AMY have become deep and lasting relations between the communities that encompass almost all of the laboratory's activities. Moreover, collaborations with other national communities have proven to be similarly productive and valuable. KEK is truly an exciting cosmopolitan place to work. Interestingly, this all started with collaborations that were initiated by foreigners and done externally to KEK: with Steve Schnetzer and Zhi-Peng Zheng's chance encounter at IHEP in 1983 and my call from the US to Joo Sang Kang in Seoul, about six months later.

ing the top-quark or a new heavy lepton were not to be, we did our best to make a productive physics program from what we had. For some reason---I personally think that it was the healthy mix of different backgrounds and viewpoints---AMY was particularly successful: of the ten most highly cited papers from TRISTAN, seven were produced by AMY. Not bad for a bunch of amateurs!

After the end of the TRISTAN program, this high degree of internationalization and excellent productivity was successfully transferred to Belle. In Belle,



The author of this article, **Stephan L. Olsen** is a Professor and the Principal Investigator of the University of Hawaii High Energy Physics Laboratory. He has been doing research at KEK for twenty years. He was spokesperson of the AMY experiment and is now a co-spokesperson of Belle.

Cultural differences you would encounter in Japan

KEK has been at the forefront of high energy physics research for several decades already, but right now is an especially exciting time, both in neutrino physics and in the physics of the beauty quark (beauty factory), and this is attracting many foreign physicists to KEK. However, foreign visitors to Japan should beware of cultural differences, both in the scientific and research environment and in everyday life.

Japan was virtually isolated from the rest of the world for most of its history, and the result is that it has a most unique culture. However, at the first glance, life at KEK is not very different from life at any other high energy physics research institute elsewhere in the world. And inside the laboratory, the knowledge of English, but not Japanese, is sufficient. However, there are, when one understands the situation better, very significant differences. The following come to mind:

1. Seniority is more important at KEK, and there is more respect for the hierarchy,
2. At KEK decisions are made preferably by consensus, and
3. Team work plays a more important role.

But there is more to the experience of working at KEK than just the research itself; there is also the chance to enjoy the unique culture of Japan, which is an added bonus for those who like to take advantage of such chances, e.g., the unique character of visiting the Japanese temples and shrines with Shinto and Buddhist flavor and unique Japanese touch.

Foreign visitors may also take part in traditional Japanese activities like the first shrine visit on New Year's Day, the flower-viewing parties at cherry blossom time or Japanese fireworks during summer months, just to name a few examples.

Outside the laboratory, the most common mistake of western visitors is to assume that things and procedures are more or less the same as in their home country. E.g., the authors have knowledge of a person who miserably failed to meet his friends



in a major Tokyo train station because he assumed that train stations in Japanese cities are of moderate size (like in his own country) and realized too late that this station is in fact a large city in itself!

Another frequent mistake is to assume that everybody speaks English and to underestimate the problems caused by signs and instructions being written only in Japanese. E.g., it happens rather often, when visitors come to Japan for the first time, and the signs are only in Japanese that they choose the inappropriate restroom.

Here life is considerably easier if you do know some Japanese. The good news is that it is rather easy to acquire sufficient Japanese for basic survival. For those who like languages in addition to physics, learning Japanese is fascinating.

KEK is located in a very unique part of Japan. About 30 years ago, the Japanese government decided to form a new city for science and technology in this area which was then largely undeveloped, containing mostly rice farms and a golf course. Tsukuba Science City is a hybrid between the rest of Japan and a typical California town.

The resulting unique flavor probably makes life more comfortable for foreign visitors, e.g., the streets are broad and have a regular pattern, not narrow and haphazard like in most of the rest of Japan, and the bureaucracy in Tsukuba is more accustomed to dealing with foreigners than is the

case elsewhere in Japan.



The safest option for coping with life in Japan outside of KEK is, until you know how it really is in Japan, to assume that it is different from what you are used to. After you have some experience living in Japan, it is the uniqueness of the culture, its difference from other cultures, which, in addition to the physics, will provide the real charm of participating in the experiment in Japan.



The authors of this article: **Jimmy MacNaughton** (left) is a staff member of the Institute for High Energy Physics of the Austrian Academy of Sciences, currently participating in KEK's BELLE experiment. He has lived in Japan for a total of about 4 years out of which he spent 3 years at KEK working on various experiments.

Christoph Schwanda (right) is a fellow of the Japan Society for the Promotion of Science, working for the Belle experiment at KEK. He has obtained his Ph. D. at the Delphi experiment at CERN and has been living in Japan for about one year.

Child Education in Japan

We have visited KEK, Tsukuba for one year assignment from August 2000 along with our two young daughters age 6 years and 3 years. This was our first visit to Japan and none of us knew even a little bit of Japanese language. Since our elder daughter was not 6 years old on April 2000, she could not be admitted to an elementary school (Sho-Gakko). We wanted to get a real Japanese exposure for our daughters and for ourselves during our stay in Japan.

We requested our Japanese host Prof. Yamazaki-san to help us in identifying and getting them admitted in to a kindergarten (Yochien). In the third week of August we visited one of the best Yochien of Tsukuba. Most of the schools open after the vacation in September.

It would have been impossible without the help of the Prof. Yamazaki-san to complete all the necessary admission formalities of Yochien, which were in Japanese. He also gave us the basics survival tips for the initial days. Yochien had three age groups for the children from 3 to 4 years, 4 to 5 years and 5 to 6 years. This Yochien has a bus facility to pick up the children from near KEK main gate. The children are accompanied & escorted by one of their



teachers in bus to school. A couple of initial weeks were difficult for us and for our daughter because of our inability to read, speak and understand the Japanese language. As truly said that children do not need any language to become friends. Our daughter started to enjoy the Yochien by the end of the first month. We also started getting educated about Japanese life & customs through them. We also learned then how to write our names in Katakana. The student's name is to be written on all her articles. In Yochien they have a lot of activities including games, physical exercises, and out door activities like picnics and forming for the young children. Parents are called every month to witness the school activity and get a feed back from the school. A good amount of participation is expected from the parent side. It has also helped us in making friends with some of the other parents. From the Yochien, we used to get almost every other day a written notice, mostly information about their schedule activities. Reading and understanding of the

notices was just impossible for us. We were ashamed to trouble our local host every now and then, but thanks to some of our friends like Onishi-san, Shibasaki-san and the most friendly person in KEK Prof. Ohska-san who made our life much easier. By the end of March the education in Yochien was completed and we witnessed a memorable and emotional send off party of the final year students of Yochien. Meantime we received a letter from the Tsukuba City office to contact Oho Sho-Gakko for the admissions of our elder daughter in class I in April. By this time our daughter was able to speak and understand Japanese language reasonably well and then she played, very proudly, a role of our interpreter in Japan. In elementary school one of the teachers could speak English therefore the admission formalities were not difficult. As usual we approached to dear Ohska-san to help us in completing all the paper work required for the admission. There is no bus facility in the elementary school and all the children are supposed to come on their own to school. There is no dress code in the elementary school except on the day of physical education class. We observed an affectionate relationship between teacher and her student. The teacher is like a mother in Japanese Sho-Gakko. She loves and cares for every student and appreciates and motivates children to become a good person. We saw the development of living together spirit in the school. The Japanese school system must have played a very important role in shaping the society and the famous work culture of Japan. Our daughter was very happy to go to elementary school right from day one and enjoyed her education. We used to get notices in English from the school sometime and happy that school understands the problem of non-Japanese parents. It was a difficult moment for her and for all of us to bid Sayonara in July just before our departure to India. We must confess that it would have been incomplete during our stay of one year to learn about Japan, its custom and the Japanese people if we had not put our kids to the Japanese schools. It had given us an opportunity to experience life similar to Japanese parents.



Our daughter, Ananya with her Japanese class mate.



The authors of this article: **Abha & Satish**

Satish Chandra Joshi, a scientist from Centre for Advanced Technology, Indore India visited KEK to work on JHF Project from August 2000 to July 2001. Satish was accompanied by his wife, Dr. Abha and two daughters, Ananya and Soumya age 6 years and 3 years. During the one year stay the family stayed in the on-site apartment of KEK.

Living in Japan

We have been coming to work at KEK for more than ten years now. Our select group from SLAC works very well with the designers, builders and operators of the KEK Accelerator Test Facility (ATF). Usually we work at KEK for a two or three week stretch every three months, and then return to SLAC for re-thinking and preparation for the next trip. It is hard work with long hours, but we do not come close to matching the effort of the KEK ATF group. The development of the ATF, unique among linear collider accelerator RD test facilities in that it is focused on the generation of low emittance electron beams, has been a path of steady progress. Now our collaboration is quite close to the goal performance.

More so than any other large scientific project, physicists and engineers working on the electron-positron linear collider have come to embrace internationalism. The linear collider will be a truly international project, with strong support and management from each of the high energy physics centers. It is entirely appropriate therefore, that the group really get to know each other and each other's cultural background.

During the last ten years, the SLAC group has come to know and appreciate some of the wonders of Japan, especially of Ibaraki and Tokyo. For many of us, the most exciting part of learning about Japan has been living in a Japanese house near the lab.

It is a real Japanese house with tatami and o-furo. It was a challenge to outfit it and arrange things so that complete novices feel at 'home'. Furnishings and all the necessities of a home take time to find and understand. With very busy KEK partners and poor kanji reading skills, the task can seem impossible.

Our next challenge was the cold. We rented and moved into our house in the early fall, near the equinox holiday. The heat was utterly unbearable. About 6 weeks later, our colleagues landed at Narita and headed straight for the new house. It was extremely cold, or at least it seemed so. With only 3 kilowatts of electricity service and



little experience with kerosene heaters, we had to learn quickly. By carefully looking over the homes visited in Yamagata, where it is quite a bit colder than Tsukuba, it was possible to pick out the most important devices for staying warm, the kotatsu, electric carpet, electric blanket and the hot bath.

Home delivery was required for some major purchases. How could we describe the location of our house to someone, in a language we don't know, if we hardly know how to find it ourselves? Fortunately, using a team of helpers, one standing in front of the house, one on a cell phone and a third giving directions, we were able to succeed.

My visits with a family in Yamagata helped me experience life in Japan a whole new way. During one of those interminable flights across the ocean, I met Miki – a young activist on her way to a summer in Berkeley. A year or so later I visited her family and husband in the northern town of Yamagata. Their hospitality and the wonders of Japan's mountains are truly amazing. Among other things, I could see first hand how a Japanese house works. Our families continue to exchange visits and I am now learning how to prepare some of the interesting foods I see in the grocery store. I was extremely lucky to meet and visit a Japanese family, just by chance, and take the opportunity to explore all the trappings of a real home.

Of course, one can never lose one's own cultural bias and background. It is impossible to imagine becoming Japanese. But to know a bit and be comfortable in your host's environment makes a huge difference. Doing this will ease the construction of our project, the linear collider. Perhaps more importantly, working effectively in a different environment, in a different culture, has helped us to understand how to better function in our own land.



The author of this article, **Marc Ross**, works on the linear collider project at SLAC and KEK. His area of expertise is beam instrumentation and tuning. For more than 10 years, Marc and his colleagues have been working with the ATF project at KEK.

Congratulations to Prof. Koshiba

Announcement of the Nobel prize award for Professor Koshiba on the 8th of October was a delight for me and am very proud of being one who studied under him. After the discovery of neutrinos from the supernova in 1987, we have been hoping for this to happen. It's been a long time since then. Unfortunately, I was in CERN so that I could not visit and directly congratulate him on the day. Nobel Foundation states the reason clearly that "With another gigantic detector, called Kamiokande, a group of researchers led by Masatoshi Koshiba was able to confirm Davis' results. They were also able, on 23 February 1987, to detect neutrinos from a distant supernova explosion. They captured twelve of the total of 10^{16} neutrinos that passed through the detector. The work of Davis and Koshiba has led to unexpected discoveries and a new, intensive field of research, "neutrino-astronomy". (<http://www.nobel.se/physics/laureates/2002/index.html>) I am very happy to be included in "a group of researchers" in the statement.



Professor Koshiba is a very well known person, but I would like to mention a few things about him. His motto "Do what others do not do" and its supplement "Construct devices others do not have" are quite important for experimentalists who have to make their own detectors. One should note that what people do not do is often due to its uselessness. Professor Koshiba is outstanding in that he discovers important and unnoticed research subjects by his instinct. I have been hoping to acquire such instinct myself. Professor Koshiba has many friends from very wide range of fields that are unrelated to garden variety physicists. He used to host a gathering called "Gathering of Quarks" at the beginning of each year. Among the participants of the gathering were prominent government officials and politicians, musicians, novelists, key persons in business world and in academic world whom one would only find in books. How he got acquainted with these people and how he became good friend with them is a mystery for me.

Professor Koshiba speaks up to anyone straight, including to his students. We would counter-attack when we feel something is wrong in his statements. However, we often end up to find that there were far more story behind it and that often turned out to be something very important. So, we always listen carefully to what he says.

I am happy because the award is the recognition of his great achievement. Making use of his years of experience, his keen sense as a scientist, broad knowledge and insight, he comes up with interesting theme and creates detectors others never thought of. He is also excellent in getting people organized and push them for it, which is not something everyone can do.

When I learned about the Kamiokande project, some of us studying under him were in DESY. He proposed us to search for the proton decay after showing us the result of simulation. My first impression was it is too far beyond to make use of thousands of tons of water to detect Cherenkov light from the decay. By the time when I came back to Japan in 1981, R&D for the 50cm-diameter photomultiplier, R3600, was under way. It is a typical of his products as no one ever produced such thing before, and the tube was the key to the success for the result that followed, thanks to their outstanding efficiency to collect light. After number of improvements over the original phototube design, the phototubes are still used.

I would like to point out one more thing. Theorists predicted that the major decay mode of proton was “positron + neutral pi meson” which could be searched for with phototubes of 13 cm in diameter. However, that size phototube would not be useful to search for the decay mode “neutrino + charged K meson”. Professor Koshihira wanted to look at such difficult decay mode when others would not. His far sight, which otherwise would appear to be an over-done design, played the key role for the starting of neutrino-astrophysics. We, the experimental physicists, should keep this in mind.

The Kamiokande detector was succeeded by the Super-Kamiokande detector which discovered the atmospheric neutrino oscillation in 1998, which then get combined with the data from SNO experiment in 2001 proved the solar neutrino oscillation. We started to generate man-made neutrinos at KEK, that is 250 km away from the Super-Kamiokande, in 1999 to verify the experimental proof for the atmospheric neutrino oscillation. We are at 99% confidence level for the atmospheric neutrino oscillation. This experiment will be continued. In 2002, KamLAND experiment started which detects anti-neutrinos from nuclear power station to experimentally verify solar neutrino oscillation. We expect the first result from them in December this year.

As you can see, the students of Professor Koshihira are succeeding the neutrino research. I am sure that Professor Koshihira is happy about the success of his followers. However, we will have great competitors, as many prominent laboratories started research directly competing with us. Japanese would start good projects but often overtaken by western laboratories. We are pushing for the project at the high intensity proton accelerator complex (JHF) at Tokaimura to produce lots of neutrinos to be measured at the Super-Kamiokande 295 km away. In a future, we would be constructing “Hyper-Kamiokande” which would be 20 times larger than the Super-Kamiokande. We, having Professor Koshihira being the creator of the neutrino astrophysics, would like to stay in the leading role in this field. The finite mass of neutrino learned from the result of neutrino oscillation indicates that we are nearing the dream Professor Koshihira have, which is to see the proton decay. I would think that the Hyper-Kamiokande would finally see this. We hope his research activity with us will further continue.



The author of this article, Professor **Yoji Totsuka**, is the next Director General of KEK starting April 2003. He was a professor of Institute for Cosmic Ray Research, The University of Tokyo until September, 2002. He was also the spokesperson of Kamiokande (1987-1996) and Super-Kamiokande (1996-2002).

The sophisticated taste of Japan

Food of a country is part of culture of the country, as it takes centuries to find out the best possible ways to prepare dishes. It reflects what has been available in that country for food and what kinds of life style people have been leading.

In this respect, Japanese cooking has been developed to enhance the taste of rice, which is the building ground of Japanese cooking. There are many Japanese dishes highly regarded for its great matching with cooked rice.

One should note that Japanese are lucky to be surrounded by oceans that provide fresh sea food, to be in a semi-tropical climate that provides plenty of tasty vegetables. As Japanese food materials are very tasty as they are, cooking style has been to enhance the goodness of original flavor, rather than modify it with all sorts of seasonings to make it fit to eat. This resulted Japanese dishes to be rather plain simple taste. Those who are accustomed to spicy and/or butter- and cream-rich food may find it too bland, until they get out of the habit to eating spicy flavorful food. Then, they will understand and start appreciating the way of life in Japan, in addition to the taste of Japan itself. Another distinctive feature of Japanese dishes is that chefs make a big effort to select a plate for each dish to make the visual presentation more appealing. They collect lots of plates, cups, bowls and so forth in all sorts of colors and design to achieve this. Japanese chefs have to have an artistic talent.

Being a chef is somewhat like a singer before recording technology was invented. A good singer can bring down the house with his/her great performance, but nothing except for the fame remains after the concert. A chef may produce great dishes, but there won't be any of his/her art left after the dining, except for



appreciation for the great taste. A chef can produce fantastic taste or awful taste using the same materials or recipe. A little bit of something really makes a big difference in taste. Hence it is an art, a volatile art. Here, it is more difficult to keep the tradition, as one can not leave the physical something for successors to learn from.

Mr. Kozo SATOH has been a chef for 40 years. He serves Kaiseki Ryori, a classic Japanese full course dinner, in his own small restaurant in Tokyo. He is very serious as a professional chef. He would refuse a customer if the customer turned out to be incapable of distinguishing a good food from a junk food. However, he is a delightful person to be with once you are admitted in.

Mr. Satoh is not a copycat of past culinary tradition of Japan. In fact, he is extremely creative and liberally use foreign food materials and spices that interest him. Under his orchestration, great taste suddenly emerges like a magic. However, his dishes are the traditional Japanese dishes in its spirit and that fundamental baseline is to enhance the taste of rice and sake, the Japanese rice wine.



He has been a great teacher to bring up his successors, telling all of his secrets to his students. His former students are working at various places, including Toronto in Canada. Three years ago, he was asked to do a cooking demonstration at a cooking school in Perigueux in France when he was a tourist to the town and his dishes were so much praised, the Mayor named him to be an honorary citizen of Perigueux and presented him the honor to be the Knight of Pâté de foie gras. He demonstrates Japanese cooking by requests as far as in Athen, Paris and St. Benedetto in Italy. He teaches cooking (and all sorts of other things as well) as he feels it is important to keep the cooking culture alive and being inherited by the next generations. This way, the culture will be kept alive beyond his life span even if diners would not leave a smudge of food for future references. (TKO)

Pictures show the series of dishes in a Kaiseki-Ryori dinner

- The first dish : Tuna with avocado
- The second dish : Noodle soup with roasted eggplant
- The third dish : Kamo-nasu eggplant combination dish
- The forth dish : Tokobushi (kind of abalone) with mini-sushi decoration in a form of morning glory buds.
- Last dish : Shrimp sushi



February 13-16

The 7th Accelerator and Particle Physics Institute (APPI02) was held in the town of Appi located north of Honshu. Participants were 12 from overseas, 22 from Japan.

March 6

Professor Sheldon Lee Glashow gave a talk at KEK Colloquium titled as "Elementary particles and the Universe".

March 7-9

International Workshop on Future Muon Science was held to understand the present activities and future perspectives in the fields of muon-related science. Participants were 70 from Japan and 21 from overseas.

March 18

KEK celebrated the 20th year of KEK Photon Factory. The celebration Party was followed by series of talks.

March 28-29

The 2nd Korea-Japan meeting on Neutron Science to promote collaborations were held in KEK. Participants were 11 from overseas, 35 from Japan.

June 6

The KEK-JAERI Joint Project on High Intensity Proton Accelerators entered into the construction stage. A small Japanese Shinto style ground breaking ceremony was held at the Tokai site.



June 10-12

The 13th Summer School of the Graduate University for Advanced Studies was held in KEK. (65 participants)

July 18

Annual KEK Summer Beer Party was very lively with over a 1000 participants. Authentic Indian curries cooked by people from India were very popular. They tasted great!



September 1

Annual KEK Open House was visited by over 2300 visitors.

October 8

Among the announced 2002 Nobel prize winners was Prof. Masatoshi Koshiba for his great contribution to neutrino astrophysics. (See page 9-10)

October 9

Prof. Gerardus t'Hooft gave a talk at KEK, after attending "International Conference on Particle and Nuclei (PANIC02)" held at Osaka University.

October 19-28

Asian Science Seminar "Synchrotron Radiation Science", sponsored by JSPS, and jointly organized by KEK and Al-Balqa' Applied Univ. of Jordan was held at the latter location to introduce the Photon Factory (SEMAMI) in the Middle East. (101 participants)

October 29

Prof. Burton Richter gave a talk titled as "Living with the Devil: Reconciling Increased Energy Demand and Global Warning".

October 26

KEK B-factory achieved the luminosity of 100 inv. fb which is a record for collider-type accelerators. It was celebrated at a party on the 28th with Dr. Burton Richter and Prof. Masatoshi Koshihara attending. (picture below)



November 5

As a part for KEK Art Festival, a concert by Mr. Tei Hou (BandNeon) and Mr. Gentaro Takada (guitar) charmed the audience. The concert was titled as "From Classic Tango to Piazzolla".



November 3

Prof. Yoji Totsuka received the Cultural Merit award from the Emperor for his outstanding work on neutrino astrophysics field.

Pictures on the front cover show what you would encounter in Japan when you come to KEK. I am sure that many of you out there could identify some of the pictures with nice memories.

Picture on the back cover

Not only collaborations for physics are going well around here. Here is another example. A physicist from Austria got married with a Japanese girl some years ago. He was interested in Japanese culture so that they wore traditional Japanese wedding garments for their marriage ceremony. She wanted to get married in church. Both conditions were met perfectly well.



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