



Meeting Prof. Shin-ichi Kurokawa: “Accelerator” of Scientific Cooperation between Japan and China

By XIN Ling (Staff Reporter)



Prof. Shin-ichi Kurokawa.

Grey hair, stringed glasses, warm smile and typical Japanese modesty: Prof. Shin-ichi Kurokawa is a distinguished expert in accelerator science, laureate of Rolf Wideröe Prize — the highest award in his field, and winner of the Award for International Scientific Cooperation of the Chinese Academy of Sciences for 2011. Since the 1980s, he has visited China for nearly 60 times and initiated various collaborations between his institute — the High Energy Accelerator Research Organization (KEK) of Japan and CAS organizations including the Institute of High Energy Physics (IHEP), the Shanghai Institute of Applied Physics, the University of Science and Technology of China as well as the Institute of Modern Physics. His role is fundamental and pioneer in fostering Sino-Japanese relationship in accelerator science and technology, and his tireless efforts helped build a sturdy bridge of understanding and friendship between the two sides. In February 2012, Prof. Kurokawa answered some questions for our magazine.

BCAS: First of all, congratulations to your winning the CAS Award for International Scientific Cooperation! You have used your outstanding leadership to boost Sino-Japanese cooperation in accelerator science for more than twenty-five years. What do you think is the strategic significance of this cooperation, and what is the key to a win-win relationship for researchers of both sides?

Prof. Kurokawa: Thank you for your congratulations. Firstly, let me state that my award is not only for myself but also for my Chinese and Japanese colleagues who have been working very hard to promote Sino-Japanese cooperation with great enthusiasm and sustained efforts. My function is like a catalyzer.

Secondly, I would like to point out three things that we researchers should clearly understand: the first one is the fact that science itself and its fruits are not assets of one country but those of all human beings; the second

one is that international cooperation is one of the most important factors for the advancement of sciences; and the third one is the fact that 21st century is the century of Asia. The conclusion we can draw from these is quite clear: China and Japan should cooperate and if we cooperate successfully we will have a win-win relation.

BCAS: During your many visits to CAS institutes in Beijing, Shanghai, Lanzhou and Hefei, you have given invaluable help to the design and construction of their accelerators. Would you like to recall the most impressive collaborative experiences and friendship with CAS colleagues?

Prof. Kurokawa: When I organized the first Asian Accelerator School in Beijing in 1999 for two weeks, I was quite confident that superconducting technologies (superconducting cavities and magnets) would become

of vital importance for future accelerators in China. I, therefore, decided to devote more than half of the time of the school for superconducting technologies with hands-on training. Indeed it was a large scale school and we Japanese sent four sets of winding machines and a test superconducting cavity to China. CAS colleagues were quite enthusiastic and worked hard to set up these pieces of equipment. This was my first trial to transfer superconducting technologies from Japan to China, and from then we have been cooperating continuously in this field. Now it is my great pleasure to see two superconducting cavities are successfully running at BEPC-II of IHEP and also last September IHEP people had completed by themselves a splendid spare superconducting cavity.

BCAS: You initiated the “Japan-China Core University Collaboration on Accelerator Science” between the Japan Society for the Promotion of Science and CAS in 2000. The program was completed in 2010 with fruitful results, including more than 800 scientific visits, numerous co-authored publications and many joint conferences and workshops. What are your plans for future cooperation between Japan and China in this field or related scientific fields?

Prof. Kurokawa: In science including the field of accelerator sciences, China and Japan are two of major players in the world. This means that cooperation between China and Japan has become much more important. Now the size and cost of future accelerators for high-energy physics will become so large that one country cannot construct or operate such facilities and truly global cooperation is mandatory. This is the place where China and Japan should cooperate, and I am willing to work toward this goal.

BCAS: You said that you once “faced difficulties to deal with the difference between the two countries”. So, in your eyes, what are the major differences between Japan and China in their scientific research systems and research cultures? What are your suggestions for foreign scientists to better adapt to research and life in China?

Prof. Kurokawa: Exactly speaking it was not difficulties but some height of hurdles that we should have cleared. Each country has its own culture and we behave and think unconsciously adhering to our own culture.



Prof. Shin-ichi Kurokawa in front of the IHEP spare superconducting cavity when he visited the institute in November 2011.

One example is that we Japanese tend to avoid straight forward “No”, but Chinese do not. At the same time we are human beings; we are fundamentally equal, and we can communicate each other. If foreign scientists do not forget this simple principle, they do not encounter any fundamental problems.

BCAS: It is reported that you were born in northeastern China and have been a fan of Chinese culture. Has this affection played a role in your intimate collaborative relationship with China? Which parts of the Chinese culture have inspired your personal outlook on scientific research and international cooperation?

Prof. Kurokawa: I think that in order to make good cooperation, surely this kind of affection helps me much and was one of the driving forces of my willingness to cooperate with Chinese scientists. Since we Japanese have not abandoned the use of Chinese characters, I can identify the meaning of almost all of Chinese characters. This has helped me also very much. For example, I have never learned modern Chinese; however, I can understand 90% of written Chinese.

I like to read Confucius Analects and Chinese poems. From the former, I learned the importance of learning. Every time I read his Analects I am reminded that the inventor of international cooperation was Confucius. The second sentence of his Analects reads: “How delightful it is to have friends coming from afar!” Indeed this is the essence of international cooperation. From Chinese poems I have learned lofty aspiration of Chinese intellectuals. By reading their poems, every time I am inspired very much.