Emerging particle physics in China

Traditionally, the big five particle physics laboratories have been Fermilab and SLAC in the United States, CERN in Switzerland, DESY in Germany, and KEK in Japan. However, a changing world economy is bringing new players into the game. China, in particular, is currently investing rapidly in basic science research, including particle physics.

During my recent trip to Beijing, I was impressed by the Institute of High Energy Physics' dedication to building a rich, long-term particle physics research program. The Chinese realize that they must grow their program over time through domestic investments and international collaboration. One such collaboration is described in this issue of *symmetry*. If funded, the Daya Bay neutrino experiment would be a world-class experiment led by Chinese and US physicists, and the largest scientific collaboration ever between these two countries. Domestically, new facilities at IHEP will make a significant contribution to particle physics, commensurate with a relatively young program.

Meanwhile, expatriate scientists are beginning to return to China to work in an expanding research effort. More foreign scientists are visiting China, and the Americans and Europeans with whom I spoke were all enthusiastic about working on the new Chinese experiments.

Support for basic science in China is currently very strong. During conversations, I was astounded to hear that ex-scientists and engineers make up about two thirds of the Chinese government. I am sure this is helping drive investment in basic research, but that interest in science is also reflected in many other ways. The English-language Chinese newspaper available in the guest house at IHEP featured a research science story on the front page every day I was there, something unheard of in US newspapers.

Chinese particle physics research is going through a rapid transition, leading to a more elaborate and serious program. Leading Chinese scientists acknowledge that it will take perhaps 15 years or more to reach the upper tier of global particle physics programs, but they will make valuable contributions in selected areas before then. The international community should support and include China: Its programs will enhance the global particle physics effort and bring rewards beyond the scientific results.

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