Teamwork Key to CAS Reform

In September, soon after the reform plan was released, *BCAS* had the honor to invite Dr. POO Muming, director of the Institute of Neuroscience, who is also heading the CAS Center of Excellence in Brain Science, one of the first inaugurated centers of excellence in the Academy's new structural landscape, to interpret the rationale and prospect of such a major initiative. The following is a Q&A between *BCAS* and Dr. Poo.

1. What are the major changes brought to the Institute of Neuroscience by CAS's reform? How is a 'Center for Excellence and Innovation' different from a research institute?

The goal of the CAS Center for Excellence in Brain Science (CEBS) is to set up an infrastructure for organizing the best CAS neuroscience labs in various CAS institutes as well as labs in other disciplines that may contribute to neuroscience. The goal is to provide a platform for these labs to work together to solve major problems that cannot be solved by individual laboratories.

The Institute of Neuroscience of CAS will continue to exist as an instittute for high-quality small laboratories, where individual PIs are free to pursue their own scientific interests. Joining CEBS signifies commitment of the PI to put major research effort into the team work and to be responsible for a defined component of a project.

The Center is not just a loose "program project" for grouping scientists by funding. It calls for much more integration of scientists in their major research activities. In its multi-institutional structure, this can be compared with HHMI, but there is a major difference — the research of the investigators to a large extent is no longer free individual exploration, but collective work with a clearly defined common goal. It is important to note, however, being a component of the team work is not necessarily incompatible with individual scientist's own research interest. The Center is in fact an excellent platform for promoting synergistic interaction that benefits all PIs.

2. What do you think is the basic rationale and goal of the reform?

China is aiming at becoming not just a major economic power, but also a major contributor to innovative breakthroughs in science and technology. Although the investment in scientific research over the past two decades has elevated the overall quality of scientists and laboratories, the current CAS system, with exception in a few areas, is not conducive to solving major problems in S & T. In biological sciences, for example, each laboratory is based on one PI and a small group students and postdocs, and mostly not equipped with the capability of making breakthroughs in major frontier problems in neuroscience. Furthermore, CAS views its mission to be distinctly different from that of universities, i.e. to be country's leading driving force for making breakthroughs in S & T, especially those requiring team work. The current reform aims to accomplish institutional restructuring that would help to fulfill its mission.

3. As far as you know, how is the reform plan received among scientists? How do they feel about it? What are the main concerns?

Understandably, scientists who are not selected or do not wish to participate in the four categories of the new institutional system fear that they may be left out of the mainstream of CAS, and probably will receive lower research support and salary. Others may be pessimistic about the prospect of the reform, viewing it as a top-down effort that eventually will fall short of reaching its goal. Personally, however, I think this CAS reform is inevitable and timely. It reflects directly the resolve of the government in carrying out reform in all sectors of Chinese society. Like all reform, institutional structural reform is not sufficient by itself.

4. Besides restructuring the institutes into four functional categories, what other measures do you think are the key to the success of reform?

The success of the new system critically depends on effective team work. There must be commensurate changes in the current practice in the evaluation of a scientist's accomplishment by our institutions and funding agencies — a scientist is often devalued when the published work results from collaboration. In some institutions, the contribution is even quantified based on the authorship order in the publications. This overemphasis on the independence of scientific work as a prime criterion for promotion, funding, and various honors and prizes has seriously eroded the spirit of collaboration, and will continue to be the main stumbling block to team work.

5. How do you envision the development trend of CAS, as well as that of the entire S&T system in China, implied by this reform?

This is most drastic structural reform of CAS in its 60-year history; it is a direct response to Presidential Xi's call for national reform of scientific institutions. Successful implementation of the CAS reform will greatly affect the reform in universities and other academic institutions.