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Special Issue: The Academician System and Its Reform

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Academician System in China

The 17th General Assembly of the Academicians (Members) of the Chinese Academy of Sciences (CAS) and the 12th General Assembly of the Academicians (Members) of the Chinese Academy of Engineering (CAE) jointly opened in Beijing on June 9. President Xi Jinping and Premier Li Keqiang attended the opening ceremony of the event.

In his remarks, President Xi, on behalf of the Party Central Committee and the State Council, expressed his congratulations on the opening of the assemblies, extended greetings to the academicians and all those who are working in the science and technology community, and welcomed foreign members and delegations. President Xi noted that the academicians of CAS and

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CAE are outstanding representatives of the science and engineering community, intellectual wealth of the country and pride of the people. Academicians of the two academies have long been devoted to meeting the strategic needs of the country and exploring the scientific frontiers. They have made world renowned achievements and outstanding contributions to the country's development in areas such as science and technology, national economy, people's well-being, national defense and the decision-making of the government. Professor Bai Chunli, President of CAS, chaired the assemblies and Professor Zhou Ji, President of CAE, delivered an opening speech. More than 1,300 academicians of the two academies, officials from governmental agencies, fellows of Beijing-based research institutes and representatives from higher education institutions attended the event.

The current "academician" system in China can be dated back to the system of "academic divisions committee" in CAS, which was founded in 1955. And in 1993, upon the approval of the State Council, members of CAS Academic Divisions Committee were bestowed the title of "academician". Since CAE was founded in 1994, the title has also been conferred to CAE members.

As role models of the Chinese science community, the academicians have been playing an important role in the scientific and economic development of the country. For example, most of the 23 medalists for the development of defense technologies in missile, nuclear and satellite technology are academicians, and all the 24 laureates of State Preeminent Science and Technology Prize are also academicians. There is no doubt that the academicians of the two national academies are active contributors to major scientific and technological achievements in China.

Apart from playing a leading role in scientific research and talent development, academicians also serve as a role of think-tank in natural sciences and engineering sciences, providing their ideas for national decision-making on major issues.

In May 1981, 86 members of the Academic Divisions Committee of CAS jointly proposed to set up a CAS Science Foundation to fund nation-wide basic research. Following this foundation, the National Natural Science Foundation of China (NSFC) was built up later.

In March 1986, Wang Daheng and three other members of CAS Academic Divisions Committee proposed the *Advice on Tracking and Studying the International Development of Strategic High-Technology,* to the top leaders of the country which resulted in the initiation of the National Hi-Tech Research and Development Program (also known as the 863 Program).

In 1999, CAE launched the "Strategic Study on Sustainable Development of Water Resources in China", under which Academician Qian Zhengying led a series of strategic consultancy projects on water resource and regional development, providing intellectual support to country's eco-development.

In 2008 after the Wenchuan Earthquake on May 12, the two academies submitted 10 reports and some suggestions to the State Council on post-quake reconstruction and regional recovery. The two academies have conducted forward-looking strategic studies on science and engineering topics crucial to the economic and social development. The policy suggestions provide strong support for government decision-making at the top level, and contributions made by the two academies are highly spoken and confirmed by the top leadership and the public.

(Source: Science and Technology Daily 2014 June 12 Issue)

CAS President Talks about the Reform of Academician System

At the General Assembly of the Academicians of the Chinese Academy of Sciences (CAS), President Bai Chunli said in his report that the role of responsibility and academic performance should be reinforced in the election of new academicians.

President Bai noted that the election of new academicians is an important process of membership building. It has a bearing on the overall quality, capability and reputation of academicians and the long-term development of the academic divisions within CAS and the scientific and technological progress in China. It draws a great deal of emphasis from the government and extensive attention from the public. In the 2013 election, responsibilities of recommending academicians and organizations are highlighted and the candidates were encouraged to be recommended from a single channel, so that the regional or departmental interests do not have a substantial influence on the election results. With the concerted efforts of the entire membership, the election concluded successfully and 53 new Chinese academicians and 9 foreign academicians were elected. The average age of these new academicians is 54 years old and 85 percent of them are at or under the age of 60, showing a better age structure.

(Source: Science and Technology Daily, 2014 June 10 Issue)

CAE President Talks about the Reform of Academician System

At the General Assembly of the Members of the Chinese Academy of Engineering (CAE), CAE President Zhou Ji said that since its inception two decades ago, 936 academicians and 56 foreign academicians have been elected to the membership of CAE, and today the membership consists of 802 Chinese academicians and 42 foreign academicians. It has become an influential group in academia with rich expertise and good virtue. President Zhou noted, from manned space flight, manned submersible and lunar probing to the Three Gorges Project and high-speed railway, from West-East Gas Pipeline, ultra-high power transmission and ultra super-critical power generation to high performance computer, from next generation Internet, super hybrid rice to critical illness prevention and treatment, there would be no major scientific innovations achieved in the field of engineering science and technology without the wisdom and efforts of the academicians at CAE.

President Zhou reviewed the work of membership building over the past four years at CAE, including improving institutional set-up and electing new academicians, strengthening scientific integrity, focusing on infrastructure and providing broad services, enhancing organizational building, and improving the academician system. In March 2014, CAE submitted *Tentative Program on Reforming and Improving the Academician System* to the State Council.

(Source: Science and Technology Daily, 2014 June 10 Issue)

CAS Amends Regulations on Academician Selection and Exit

On June 12 at the General Assembly of the Chinese Academy of Sciences (CAS), members voted to pass a new charter, adding regulations governing the selection and exit of academicians.

Since its adoption in 1992, *The Charter for Members of the Chinese Academy of Sciences*, has been amended seven times. The newly amended charter abolished the provision that "any domestic research organizations related to science and technology, institutions of higher learning, and Class A societies of the China Association for Science and Technology (CAST) may nominate candidates", and a new provision was added which stipulates that "a new academician is elected after voting by all academicians with the right to vote".

The new Charter stressed that an academician whose behaviors constitute ethical misconducts in science and severely undermine the reputation of the entire membership and the academic divisions should be persuaded to relinquishing his or her membership. For those whose miscounts compromise the national interests or even violate national laws, their membership should be revoked.

CAS will revise and issue detailed implementation rules based on the new charter.

According to CAS, the academic and honorary nature of the title of academician is tainted by external elements, and the election of new academicians is affected by non-academic factors. The CAS charter has been newly amended to provide a basis for reforming the academician election system, optimizing the disciplinary distribution and age structure of the membership and improving the exit mechanism.

(Source: Science and Technology Daily, 2014 June 12 Issue)

CAS Proposes Further Reform on Academician System

On August 19, the Chinese Academy of Sciences (CAS) released an action plan named "Take the Lead" in a press conference. This "Take the Lead" Action Plan—CAS Program for Comprehensively Deepening Reform stated the development goals and reform plans for CAS in the next quarter-century, aiming to achieve the four "take the lead" as required by Chinese President Xi Jinping.

On July 17, 2013, during his visit to CAS, President Xi urged the largest R&D institution to take the lead in developing science and technology by leaps and bounds, take the lead in attracting innovative talent from across the country, take the lead in becoming a prestigious national science and technology think-tank, and take the lead in building itself into a top international research institute. On July 7, 2014, the National Leading Group for Deepening Reform of Scientific and Technological System and Building Innovation System reviewed and approved the plan.

In this plan, CAS brought up the topic of academician system reform in the chapter titled "Deepening the Reform of Personnel System and Becoming a National Innovative Talent Pool", which stated that it should push forward the reform of the academician election and management system to maintain the academic and

honorary nature of the "academician" title. CAS noted that it should improve the recommendation (nomination) process for candidates, better the election mechanism for new academicians, enhance the responsibilities of those providing recommendations and strengthen the review from within the academia. The exit system for academicians should be improved by implementing the retirement regulation in line with administrative requirements and the regulations on academicians holding concurrent positions, and related remunerations should be strengthened as well. Academicians should play a bigger part as a pioneer in academic morality and effectively perform their role in advising on decision-making, providing reviews and appraisals, advocating scientific education and disseminating knowledge.

The reform of academician system is a requirement brought up at the Third Plenum of the 18th CPC Central Committee. In June 2014, CAS amended its charter at its 17th General Assembly to improve the regulations on the election of new academicians. Based on the amendment, CAS may persuade academicians with misconducts to quit membership or revoke their titles. In the "Take the Lead" plan, CAS once again stated the direction of the academician system reform.

By implementing "Take the Lead", CAS strives to achieve the four "take the lead" by 2020 and meet the goal comprehensively by 2030, said Profession Bai Chunli, President of CAS at the press conference.

(Source: Science and Technology Daily, August 20, 2014)

New Regulations Added to CAE Charter

Academicians attending the 12th General Assembly of the Members of the Chinese Academy of Engineering (CAE) voted to pass an amendment to the Charter for the Members of the Chinese Academy of Engineering. The newly amended charter changed certain regulations on the selection of academician candidates and the expelling of academicians with misconducts through persuasion.

Provided by the new charter, a candidate for academician can be nominated: First, directly by members of CAE. Second, by learned societies commissioned by CAE after a recommendation and selection process following certain procedures. The CAE Presidium believed that by so doing the academic merit of the candidates would be highlighted and the administrative interference minimized.

In the election of new academicians, as stipulated by the amended charter, all CAE members with the right to vote should vote on the election, and only a candidate having a majority is elected.

The new charter added that "an academician whose behaviors constitute ethical misconducts in science and severely undermine the reputation of the entire membership and should be persuaded to relinquish his or her tile of academician". The Presidium stressed that the procedures of expelling through persuasion and title revoking will be detailed and specified in related regulations after a thorough study.

(Source: Science and Technology Daily, June 11, 2014)

2,685 Academician and Expert Workstations Established in China within a Decade

According to the statistics from the China Association for Science and Technology (CAST), by the end of 2012, 2,685 Academician and Expert Workstations (AEWs) had been set up across the country.

Academician and Expert Workstations were launched by CAST. The purpose of these AEWs was to invite external academicians and experts to help enterprises to solve a certain or a certain type of technological problems. The first AEW was born in Shenyang in 2003. After a decade of efforts, AEWs have been playing an important part in pressing ahead innovations in the enterprises. In September 2010, CAST released the *Guiding Opinions on Developing Academician and Expert Workstations*, which met with active response from regional government authorities. They implemented a series of policy actions regarding AEWs, and an explosive growth had been witnessed since then.

By the end of 2012, 2,685 AEWs had been established in 30 provinces, autonomous regions and municipalities among which 592 were located within Hi-Tech Parks and Economic and Technological Development Zones. The academicians and experts paid a total 27,531 visits to these AEWs. The AEWs play a big role in pooling high-caliber innovative talent, solving technological problems, increasing the core competitiveness of the businesses and nurturing talent.

(Source: Science and Technology Daily, December 21, 2013)

An Introduction of CAS

The Chinese Academy of Sciences (CAS) was founded in 1949. It is the most prestigious academy for natural sciences, the highest level advisory body for science and technology and a comprehensive research and development center for natural sciences and high technology. Since its inception, it has produced 737 Chinese members, and 71 foreign members. Today the Academy has 229 Chinese members and 54 foreign members. Devoting itself to serving the strategic needs of the country and its economic development, CAS has always conducted scientific research crucial to China's modernization drive. It has produced a great number of pioneering results and laid down the foundation for scientific development of New China. Today, CAS has independently developed a series of strategic high technology areas, forging a scientific and technological research system with Chinese characteristics. It also brings along and underpins the construction of China's industrial technological system, national defense technology system and regional innovation system.

The Academic Divisions of CAS was established in 1955 as the most senior advisory body in the country on issues related to science and technology. It advises on the country's plans and programs and major decision-making concerning the development of science and technology. It publishes research reports on important issues stemming from the national economy and social development, provides suggestions on the strategies and medium- to long-term goals of discipline development and reviews and guides the academic issues in key research fields and institutes. The members of CAS, or the academicians are selected from the most outstanding scientists of the country and new academicians are elected to CAS membership biennially. The General Assembly of the Members of CAS is the supreme authority and the permanent leading body is the Presidium of CAS, which is presided over by the CAS President. Currently, CAS has six academic divisions: Division of Mathematics and Physics, Division of Chemistry, Division of Life Sciences and Medical Sciences, Division of Earth Sciences, Division of Information Technical Sciences and Division of Technological Science.

CAS has developed a strategic research system of academic divisions and entities where academies, institutes, academic divisions and educational institutions interact with one another to become a dynamic whole. It follows the strategy that relies on academic democracy, openness and talent to administer and develop the academy. Today, the CAS system comprises 12 regional branches, over 100 research institutes, three universities, more than 130 national key laboratories and engineering centers, and over 210 observatories. It builds and operates more than 20 national key science facilities. CAS has 68,000 staff members and 52,000 graduate students. The scientific research of CAS covers the extensive disciplines in natural sciences. Its research capabilities in physics, chemistry, material science, mathematics, environmental science, ecology and earth science are among the leading ranks of the world. The Academic Divisions and academicians at CAS, leading scientists nationwide, advise on and review major issues stemming from national economy, social development, national security, and scientific and technological progress. They have provided strong intellectual support for the decision-making at the national level and perform the role of CAS as the highest level advisory body in science and technology in the country.

(Source: CAS website)

An Introduction of CAE

The Chinese Academy of Engineering (CAE) was founded in 1994. It is the most honorable academy and advisory body in China in engineering and technological sciences. CAE is composed of elected members. It initiates and conducts strategic studies, provides consultancy services for decision-making on key issues in engineering and technological sciences and promotes the development of engineering and technological sciences in China. The mission of CAE is to promote cooperation in the community so as to increase the level of engineering and technological sciences in China, improve the S&T talent pool, and contribute to the development of the national economy. CAE's supreme authority is the General Assembly of the Members, and a permanent presidium is in charge of daily operation when the general assembly is not in session. The main activities of CAE include:

1) Bring into full play the advantages of multi-disciplinary, inter-agency and cross-sector membership to take part in the decision-making for the national and regional economic development and social progress, organize the studies, consultancy and evaluation of strategies for the construction of key projects and high-tech industries; provides central and local governments with suggestions for priority fields and the direction of key investment;

2) Organize studies on issues concerning the trends and frontiers of engineering and technological sciences; enhances the innovative capabilities and managerial skills in engineering and technology;

3) Carry out extensive academic exchanges and cooperation in various forms at home and abroad at all levels and; creates an open environment for the healthy growth of talented young and middle-aged experts;

4) Popularize science knowledge and enhance science and technology publication; contribute to the promotion of the level of engineering science and technology and the scientific and cultural literacy of officials at all levels and people from all walk of life;

5) Safeguard the scientific ethics and spread the spirit of science; promote the socialist intellectual and moral qualities of the whole society;

6) Complete work assigned by the State Council.

(Source: CAE Website)