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CONFERENCE REPORT

Review of National Conference on the Theoretical Study of Science Popularization: Theoretical and Practical Studies of Science Popularization

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Introduction

Ever since modern science was introduced into China, Chinese progressive intellectuals began to actively communicate science, hoping to raise and improve the vision and quality of Chinese society. With the constant development of China's popular science career and innovating popular science practices, the demand for theoretical research in science popularization is constantly increasing. Meanwhile, the abundant practice and study has formed a certain paradox with the research on science communication lagging behind. Thus, the need of the hour is to have a strong base for theoretical research (Chuanhong, 2010).

In order to bring in and introduce the advanced concepts, adopting the successful examples from the international academic field of science popularization, persistently promote the influence of science popularization study in China and steadily propel the theoretical construction and practical development of science popularization, the National Conference on the Theoretical Study of Science Popularization has been developed and gradually became the landmark conference for science popularization research in China. The event is sponsored by the China Association for Science and Technology (CAST) and organized by China Research Institute for Science Popularization (CRISP).

Origin of National Conference on the Theoretical Study of Science Popularization

Since China's economy is opening up, with the accelerated development in Science & Technology sector, science popularization has ushered in new opportunities and challenges. The implementation of science popularization needs theoretical support as the demands for communication and discussion about research and practice of science popularization are essential. Under these circumstances, China Association for Science and Technology entrusted the China Research Institute for Science Popularization the responsibility of organizing the first National Conference on the Theoretical Study of Science Popularization in 1991. The conference aimed at providing opportunities and platform for China's science popularization theory guiding practices and practice checking theory through international discussions on the strategic status of general science, current condition and problems of science popularization and its developing trend with special emphasis on China (Zhenyu, 1991). The first conference began with in-depth discussion on how to adapt China's science popularization *vis-a-vis* the world technological development conditions; how to strengthen the construction of science popularization theory to obtain favorable result. The second and third conferences were held in 1992 and 1993 respectively. Since 1991, the conference is organized almost each year, and in continuity the 20th conference was held in 2013.

Characteristics of National Conference on the Theoretical Study of Science Popularization

Since the beginning, the main aim of the National Conference on the Theoretical Study of Science Popularization was to build a strong research base in science communication and popularization keeping in mind the Chinese scientific culture. The conference invited national and international researchers working in the area of science communication and popularization to exchange fervently, discuss and raise many beneficial thoughts during presentations and discussion, which contribute to the development of science popularization theory and the scope of science popularization.

The history of the conference depicts the following trends in terms of conference scale, number of participants, and issues discussed during the conference that followed with the development of China's science communication.

Participants are mainly people who are engaged in science popularization research or science communication, including experts and scholars in science popularization/communication from China and other countries. Participants from China included researchers in science popularization theory, science communicators and science popularization managers from each province of the country.

The scope of the conference was to discuss theoretical and practical aspects of science communication and popularization. The conference consisted of discussion in small groups, plenary sessions and symposium. Conference presentations were published formally with selective articles on science communication and popularization.

Besides, the conference integrated emerging situations and demands with development of China's science popularization programme and in-depth discussion on theoretical issues, like the demarcation and divergence of science popularization, spreading popular science, and improving public understanding of science or scientific literacy of the public.

During recent years, in view of the constant development and expansion of science popularization in China, vis-à-vis research in science communication all over the world, formulation of Chinese science popularization policy is underway. There is pressure of carrying out research for science popularization. Accordingly, the conferences on Theoretical Study of Science Popularization, in recent years, take lessons from the international research in science communication and take steps to shape science popularization theory research.

There have been efforts to attract more and more experts and scholars from other countries working in the area of science communication/popularization. Taking cognizance of it, the conference was named as 'the International Forum on PCST Studies' in 2010 and subsequently in 2011, the 17th National Conference on the Theoretical Study of Science Popularization'

was termed as 'Citizens Scientific Literacy Construction Forum' (CRISP, 2011). Further, the 19th National Conference on the Theoretical Study of Science Popularization was coined as 'International Forum on Science Communication in Asian and Pacific Rim' (CRISP, 2013).

During the four conferences organized from 2010 to 2013, 28 international experts and scholars from Britain, Ireland, France, Hungary, the United States, Canada, Mexico, Australia, New Zealand, South Korea, Japan, India and Indonesia made presentations during plenary sessions. A large number of active science communicators in the country shared and discussed their experiences including problems in science communication with the participants. The participants discussed all aspects of science popularization ranging from infrastructure needed for popular science to methodology of popularizing science. These conferences provide precious experience and practical knowledge for exploring the developmental road of science popularization with a China perspective.

With the framing of the *National Action Scheme of Scientific Literacy for All Chinese Citizens* (2006-2010-2020), the discussion on 'Scientific Literacy of Chinese Citizens' was carried out at CAST. *Outline of Scientific Literacy* was issued by State Councils of China in 2006, which put forward the major tasks, targets and measures of national scientific action scheme for all Chinese citizens during the 'Eleventh Five-Year Plan'. Under the guidance of '*Outline of Scientific Literacy'*, the scientific literacy level of Chinese citizens was improved during the 'Eleventh Five-Year', based on the eighth sample survey of scientific literacy of Chinese citizens, in 2010. The analysis showed that the proportion of Chinese citizens who possess basic scientific literacy increased from 1.6 percent to 3.27 percent (Hongbin, 2011). Based on that, The General Office of State Council of PRC issued *Implementation Plan of National Action Scheme of Scientific Literacy for All Chinese Citizens* (2011-2015) in 2011. It was also proposed that by 2015, the proportion of Chinese citizens, who possess basic scientific literacy, will surpass 5%. Many provinces in China brought the relevant requirements of the *Implementation Plan* integrated with Party Committee and government departments. In order to realize the

goal of citizen scientific literacy, the 19th and 20th conference especially set up an Apex Body (Forum of Chairman) to share experiences and analyze problems through research and discussion at local levels.

In addition to the basic achievements like conference proceedings, summaries and media reports, the committee also regarded the conference achievements as the reference point for latest situation in understanding the research and development of popularizing science. In recent years, the conference committee not only published conference proceedings, it also developed and analyzed the studies on current science popularization, so as to anticipate trends of science popularization in the future. It provides suggestions to the development of China's science popularization programme. These documents provide potent reference basis for relevant departments in order to understand the general condition of science popularization in China.

Case Study: 20th National Conference on the Theoretical Study of Science Popularization

In 2013, the 20th National Conference on the Theoretical Study of Science Popularization was held in Beijing with the theme 'science popularization benefits people with responsibility and undertakings'. Nearly 300 participants from China and abroad, which included leaders, experts and scholars from various institutions like science associations, universities, colleges, research institutes and media, participated in the conference.

The conference was divided into plenary and sub-sessions. During the plenary session, experts and scholars from a specific research area presented analysis of the current developmental conditions vis-à-vis problems of China's science popularization programmes.

The theme included ubiquitous learning and science popularization innovation in the background of Mobile Internet; enforcing science popularization to benefit farmers — idea of constructing service system of popular science, and Association on Diderot Encyclopedia — explore the creation theory of science popularization.

New prospects of science and technology communication that were explored included strengthening the scientific literacy of citizens for regional development; consideration of science popularization at basic level; systematic thought on personnel training of science popularization; analyzing science popularization of national science society in historical perspective.

The sub-sessions were targeted on the following seven issues:

- Sub-session for chairmen of local associations for science and technology in order to discuss 'establishing the co-construction mechanism for citizen's scientific literacy'
- Sub-session for relevant research on infrastructure of science popularization and science museum system
- Sub-session for theory creation and practical research of science popularization
- Sub-session for relevant issues of scientific research combined with science outreach activities
- Sub-session for relevant issues on science popularization of basic level
- Sub-session for research of science popularization staff and science popularization industry
- Sub-session for research on media science popularization

In order to establish co-construction mechanism for citizen's scientific literacy, the China Research Institute for Science Popularization (CRISP) organized a sub-session of Chairmen of local science associations during the 20th National Conference (CRISP, 2013). During the deliberations over 60 participants were invited which included Chairmen of local association for science and technology, heads of science popularization departments and science popularization workers. The participants were introduced to the local specific operations and strategies, and raised problems that demanded prompt solutions.

The consensus in the conference includes: construction and quantification of scientific literacy for citizens, activating local situations of science popularization and giving them the opportunity to be part of national development strategy.

Meanwhile, based on variation of science popularization situations and the practical works, the conference put forward suggestions on rethinking science popularization theory based on the new situations of constructing scientific literacy.

During the deliberations of sub-session on research on infrastructure of science popularization and science museum, participants discussed and analyzed the current developments of infrastructure of science popularization in China. The participants raised countermeasures and suggestions were also made to strengthen the layout and quality in construction of science museum in terms of strengthening the capacity building of science popularization infrastructure combining the existing problems in China's science popularization infrastructure. Emphasis was given to reinforce the business guidance and training on science popularization, and to specify and guide the development of science popularization with a better direction.

As for the sub-session for theory and practical research of science popularization creation, several eminent authors of science popularization shared and discussed their acquisitions and inspirations with the participants. Three themes were identified for discussion during the session; the first is 'scientific spirit', which is the soul of science popularization works; the second is 'science popularization works', further clearing up on the concept and connotation of science popularization works; and the third is 'readers' awareness', the starting point and main objective of science popularization.

The sub-session on relevant problems of scientific research and science popularization, discussed the latest progress made for scientific research and science popularization in China and abroad. Efforts were made to analyze correlation between popularization of science and technological innovation and the connotation of the concept. The participants discussed the significance of the origin and development of scientific spreading in EU framework plan of science and technology combining it with Chinese S&T development and science popularization. During the discussion issues were raised for countermeasures and suggestions on strengthening popularization of technological resources.

During the sub-session on relevant problems on science popularization at basic level, the participants analyzed the current developmental conditions and modes of science popularization at basic level in parts of various provinces. The participants discussed science popularization in rural as well as urban areas of the country with more emphasis on understanding concepts of science.

The discussion on research of science popularization organization analyzed the current conditions and problems on science popularization with respect to staff training and development of science popularization industry. Discussants suggested the exploration and innovation of three modes for science popularization staff training in universities and also analyzed opportunities and challenges that science popularization organization is facing.

In order to study the functions of mass media, new media and media convergence in science popularization, the 20th conference first regarded 'relevant research on media science popularization' as a special sub-session. The sub-session included the applicability of quantitative method in scientific awareness and experimental analysis of science popularization network. The session also analyzed the features and developing trend of 'scientific awareness under the virtual social perspective' and the applications of relevant works of science popularization animation and science popularization movie were also discussed during the session. Research on practical exploration included the creation and spreading of science popularization micro-films, cloud-science and science popularization application and development in the future.

The conference proceedings contained all the papers presented during the conference, themes of articles corresponding with topics of each sub-session, reflecting the highly active academic thought. Besides, the research team of China Research Institute for Science Popularization extracted the discussion content of the conference, and summarized the main content, ideas and thoughts of the conference.

The issues discussed during the conference will provide a basis for researchers, workers in science popularization field and

personnel interested in a career in science popularization. It will also help the relevant departments to comprehensively and systematically understand the developmental conditions and latest trends of current science popularization in China.

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