

Dr. QIN Dahe is the world well-known glaciologist and climatologist. He is an academician of the Chinese Academy of Sciences and an Academician of the Third World Academy of Sciences. Dr. QIN is the former Administrator of the China Meteorological Administration and the former Permanent Representative of China with the World Meteorological Organization (WMO).

His major achievements in the fields of glaciology and climatology are summarized hereunder:

### **1. Remarkable Achievements in Cryospheric and Climatological Studies**

Dr. QIN Dahe has involved in the research on cryosphere and global changes for decades, and he has participated in or led multiple scientific expeditions and relevant studies in Antarctic, Arctic, Qinghai-Tibetan Plateau and Western China, having achieved a large number of innovative research findings. He has made systematic studies on snow “metamorphose” process in the Antarctic ice sheet, starting from quantitative analyses, based on which he has made a conclusive summary on the regionalization of the snow-to-glacier evolving processes. Dr. QIN has also made in-depth studies on the relationship between the physical/chemical processes in the Antarctic surface snow layer and the records of the climatological environment. His findings on the distribution of stable isotope ratio in precipitation in relation to temperature, and his findings on sources of water vapour & multiple substances and their transport pathways represent the most extensive and comprehensive research on Antarctic surface snow layer and ice sheet internationally up to present day, which have been widely recognized by both national and international scientific communities, hence making the Antarctic glaciological studies in China stand in the world advanced rank.

He took the lead in making experimental and observational studies of the contemporary snow-ice processes and snow-ice biogeochemical cycles in western China, having demonstrated the applicability of climatic and environmental indicators derived from the ice cores drilled on mountain glaciers in China. He made a comprehensive study of changing glaciers, environment evolution and the ice cores in the Mount Qomolangma (Everest) region and he led the mapping of the Himalayan Glacier Resources, which reveals the characteristics of climatic and environmental changes in a zone of the Earth's highest elevation in modern times. He founded the top State Laboratory on Climate and Cryosphere in China and led the research on the Dynamic Process of Cryosphere in China and Its Impact on Climate, Hydrology, Ecology and Adaptation Response Strategies - a project that was listed in the National Priority Basic Theoretical Research and Development Programme (Project 973). The study focuses on the impact mechanisms of the changing cryosphere in 3 aspects, i.e. water resources, ecology and climate to build up scientific knowledge for the advances of relevant disciplines in the high-land Asian zones, where cryosphere plays a role; and it renders a scientific basis and responsive recommendations to China as well as its neighboring countries in the effort for sustainable use of water resources, and ecological conservation and management in cold and dry areas and sustainable socio-economic development.

As a well-known scholar in both cryospheric science and global change research at international level, Dr. Qin Dahe, an academician of high visibility, plays an active role in many relevant international organizations as well. He has made important contributions to the implementation of many international scientific programs such as the International Trans-Antarctic Scientific Expedition (ITASE).

## **2. Involvement in Successfully Organizing the IPCC Scientific Assessments and Promoting Climate Change Studies Nationally and Internationally**

Dr. QIN Dahe has involved himself in the preparation of IPCC Assessment Reports within the framework of the United Nations for a long time. As the Co-Chair of the Working Group I of the Fourth Assessment Report of IPCC (2002-2008), he organized successfully the IPCC scientific assessment activities, and he strongly supported and recommended the scientists including young scientists from the developing countries to participate in contributing to the IPCC Assessment Report. His endeavour as such has made a substantial contribution to establishing and communicating the important scientific findings and conclusions concerning the impacts of human activities on climate, thus having laid a solid foundation for necessary actions that must be taken by the mankind in active response to climate change, eventually facilitating IPCC to become a 2007 Nobel Peace Prize laureate. He steered the researches on the following topics, e.g. *“Climate and Environmental Evolutions in China”*, *“Environmental Evolutions and Assessment in Western China”*, *“National Assessment Report on Climate Change”*, etc. Dr. QIN launched the “International Symposiums on Climate System and Climate Change” and a scientific journal entitled *“Advances in Climate Change Research”*, having made an outstanding contribution to making continual progress in climate change studies both in China and at international level, and to pushing forward the international cooperation in the field of the global climate change.

## **3. Prominent Contribution of Dr. QIN to the Meteorological Services in China and to the International Meteorological Cooperation**

In his approximately 7-year tenure of office as the Administrator of the China Meteorological Administration (CMA), by advocating that meteorological services should be oriented to the national demands and the forefronts in science and technology worldwide, Dr. QIN mapped out and actively organized the implementation of the 3 major strategies – i.e. developing meteorology via science and technology, expanding the scope of meteorological services, and enhancing CMA’s capacity by developing and attracting human resources. To achieve this, he masterplanned the “Research on Meteorological Development Strategies in China”, which led to his overarching concepts for developing “public meteorology, security- and resource-oriented meteorology”. Those concepts have laid a robust basis for achieving the sustainable meteorological development in China. With his thrusts, an important document titled “Some Comments Made by the State Council of the People’s Republic of China on Accelerating the Development of the Chinese Meteorological Service” was formulated, issued and implemented, which greatly facilitated the institutional reform of CMA’s operational and technical systems, expansion of its meteorological service scope, acceleration of its meteorological modernization process and scientific & technological innovation system, as well as its improved accuracy of weather forecasts. This has also effectively promoted the reform and development of meteorological service and substantially increased the visibility and profile of meteorological sector in China. Moreover, Dr. QIN strongly initiated the crosscutting interactions among different disciplines and cooperation among government agencies and institutions. To this end, he took the lead to implement the policy of the scientific data access and share, a move that was highly recognized and welcomed by governmental agencies and social communities.

Dr. QIN Dahe always attaches great importance to the international meteorological cooperation, and he has actively participated in various WMO programmes and activities, with his special attention given to the education and training programmes that are required by other developing countries, technical cooperation programmes and bilateral meteorological cooperation between China and other countries in the world. During this period, as the chairman of WMO EC Working Group on Antarctic Meteorology, a member of EC Advisory Group on Technical Cooperation, EC Advisory Group on Climate and Environment, and WMO Audit Committee, the Scientific Steering Group of World Climate Research Program - Climate and Cryosphere (CliC), WMO/ICSU Joint Committee for the International Polar Year 2007-2008, as well as the chairman of WMO Inter-committee Working Group on International Polar Year 2007-2008, Dr. QIN earnestly discharged his responsibilities and duties, having made important contributions to the international meteorological development and international cooperation in meteorology.