



A High-quality Peer-review Process Incredibly Important

By Lonnie G. Thompson
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First let me say that I am honored to be asked for advice and suggestions as a Foreign Member of the Chinese Academy of Sciences.

I have been working in China since 1984, first with the Institute of Glaciology and Geocryology located in Lanzhou and more recently with the Institute of Tibetan Plateau Research in Beijing. I think the Chinese Academy of Sciences should be commended on its recognition of the importance of science and scientists to the future well being and development of Chinese Society. Your investments in both institutions and infrastructure have truly been impressive.

As we move into the 21st century this becomes even more important and, I believe, is indeed a requirement for the future development for all countries as it is only through education and research that we can build the capacity for our collective future. I believe the key challenges we face are centered on the ever increasing environmental changes that place stress on our local, regional, national and international global support system. This system now supports 7 billion people but by 2050 it will be required to support at least 9 billion people. We must appreciate that we all share a common humanity.

I have had the opportunity to travel and work in many countries and learn from many people and cultures. We have worked together under the best of conditions and under the worst, most extreme conditions. In this lies my abiding belief in the goodness and greatness of the human

spirit. We live in a world where people live separate lives, in separate cultures, and with different belief systems, but we are bound together in a common humanity. We are truly a global community and the problems of one are the problems of all! Education is an essential key to raising the standards of living and hopes of all humanity.

In this era of increasing international uncertainty we must all make an increased effort to get to know the citizens of our world community. This is the best way to build understanding, trust and a sense of community. This is an absolute requirement for combating what will, in my opinion, be the greatest challenge ever faced by humanity and that is dealing with mitigation, adaption and suffering brought about by climate change. Having spent a lifetime studying glaciers and the climate history stored in these archives, I have become more and more concerned about the reality of climate change as well as the inability of nations to make any real progress on this serious and long-term problem. There is a growing recognition of these issues and the impacts on the Third Pole Environment. I am very pleased to have had the opportunity to sustain my long collaboration in China with Professor YAO Tandong. He and I have now joined with Professor Volker Mosbrugger of Germany to help organize and launch a program to develop the scientific knowledge, cultivate the scientific talents, develop new technology and make suggestions for adaptation strategies for the sustainable development of the Third Pole region as it confronts global environmental

* This is a letter from Lonnie G. Thompson, a Research Scientist with the Byrd Polar Research Center, Ohio State University, Foreign Member of CAS and Laureate of the International Scientific Cooperation Award of CAS in 2011. He was writing to accommodate a request for recommendations on the development of CAS. The title of this article is added by the editor.



Lonnie Thompson (left) and YAO Tandong (right) in field work.

changes. Some of the goals center around improving our understanding of the Third Pole environmental systems, improving our ability to forecast future conditions and directions, creating an infrastructure for data capture, storage and retrieval, developing institutional structures that facilitate cooperation amongst researchers and putting this information in the hands of decision-makers. While it will be a challenge to bring together the 10 countries that share this region, ultimately this is what will be needed if we are to confront these regional and global scale environmental changes. Success will be achieved only if we all work hand in hand on these challenges.

Ultimately, we can only achieve the goals through high quality, peer-reviewed science. I am a firm believer in a competitive review process both in the way we decide what programs to fund and in the establishment of the “gold standard for science” which is peer-reviewed, published research. It is incredibly important that we ensure that the review process is conducted with well established and informed scientists from the various disciplines under review. Resources must go to support our best scientists

and institutions, but this must be done in open system so everyone understands the basis on which such decisions are made. Only in this way can we build the science-based platforms that we will need to deal with the challenges of the 21st century.

Having said this, our world is changing faster than at any time in our history and it's difficult to know what the future holds. A few of my favorite quotes will serve to make the point. In 1943, Thomas Watson, Chairman of IBM stated “I think there is a world market for maybe five computers” and more recently in 1981 Bill Gates stated “640 k (memory) ought to be enough for anybody”. In closing, let me say that I think Robert H. Goddard, the father of modern rocket propulsion and for whom the Goddard Space Flight Center is named, was right on target when he said: “It is difficult to say what is impossible, for the dream of yesterday is the hope of today and the reality of tomorrow”. I think we are very fortunate to live in a magnificent world but we are all going to need to find a way to work together to protect both our own and our children's future.