Editorial

Report of the Fifth Symposium on Emerging Viral Diseases

Bo Zhang¹ and Pei-Yong Shi² ✉

1. State Key Laboratory of Virology, Wuhan Institute of Virology, Chinese Academy of Sciences, Wuhan 430071, China;

2. Novartis Institute for Tropical Diseases, 10 Biopolis Road, 05-01 Chromos, Singapore

Emerging viral diseases pose global threat to public health. It is essential to build capacity to response and counteract against emerging viral diseases. Towards achieving this important goal of public health, the State Key Laboratory of Virology of China has organized the International Symposium on Emerging Viral Diseases since 2004. This symposium series has been held every two years at Wuhan Institute of Virology. The fifth symposium was held from October 24 to 27, 2012. More than 200 participants attended this symposium, including 100 scientists (from public health sectors, academia, and industry) and >100 graduate students (Fig.1). The fifth symposium focused on four related scientific topics: (i) viral replication and pathogenesis, (ii) antiviral and vaccine development, (iii) virus and host interaction, and (iv) pathogen discovery. The organizing committee of the symposium had invited an excellent panel of international and local speakers, including a number of world renowned virologists who have dedicated their careers to the field of virology (e.g., Adolfo Garcia-Sastre, Richard Kuhn, Peter Rottier, Christopher Broder, Linfa Wang, Fengyong Liu, Zhen Fu, Dimiter Dimitrov, Lijun Rong, Sina Bavari, Ernest Gould, and Yiling Lin) as well as young investigators who have recently made significant contributions to the selected topics (e.g., Yuntao Wu, Peng Gong, Chengfeng Qin, Jens Kuhn, Yu Cheng, and Sheli Radoshitzky). The high standard of each presentation had ensured the success of symposium.

The symposium aimed to achieve three objectives. The first objective was to present cutting-edge science on selected topics related to emerging viral diseases.

The second objective was to foster collaborations between the Chinese virologists and the international virology community. The third objective was for educational purpose – to allow local graduate students to learn and interact with leading experts in the field of virology. The high quality of each presentation laid the scientific foundation to achieve the objectives of this symposium. In addition, the symposium was organized in a “relaxed” way with sufficient time for discussion after every presentation; this allowed participants, including students, to interact with each other, making the symposium very engaging. As an extension of this symposium, Virologica Sinica, the only virology journal published in English in China, is dedicating this special issue to anthologize articles from the invited speakers and selected poster presenters.

We live in an era of rapid change of global landscape and local environments. The environment contains numerous repositories of viruses that are in a constant state of change. When these viruses come in contact with new host, a new equilibrium is likely to be established, resulting in the selection for changes in viral tropism, replication ability, and evasion of host immune response. These newly emerged viruses have the potential to cause profound morbidity and mortality. Some prominent examples of emerging and re-emerging viruses that caused significant human diseases include influenza virus, dengue virus, SARS (severe acute respiratory syndrome) coronavirus, enterovirus-71, Nipah virus, hantavirus, Ebola virus, and chikungunya virus. Six major factors have contributed to the emerging viral diseases: (i) economic growth in developing countries, (ii) population growth in developing countries, (iii) unprecedented urbane growth, (iv) increased movement of people, animals, commodities, and pathogens,

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✉ Corresponding author.

Phone: +65-67222909, Fax: +65-67222916,
Email: pei_yong.shi@novartis.com

(v) globalization with modern transportation, and (vi) deterioration or lack of public health infrastructure.

As emphasized at the symposium, collaborative efforts are essential to respond and counteract against emerging viral diseases. The collaboration requires not only scientists from different geographic regions, but

also scientists with different expertise to work together. We expect that scientific conference, such as the Fifth Symposium on Emerging Viral Diseases, has and will continue to serve its critical role in capacity building – knowledge dissemination, student training, education, and networking.

Fig. 1. Group photo of participants at the 5th International Symposium on Emerging Viral Diseases Control. Photo credit: Wuhan Institute of Virology.