

INTRODUCTION

On behalf of the Organizing Committee of 15th International Symposium on Bioluminescence & Chemiluminescence, held May 13-17, 2008, I would like to thank the International Society of Bioluminescence and Chemiluminescence (ISBC) for their trust and support to host this exciting meeting. The symposium brought scientists from different parts of the world to Shanghai, China's most comprehensive industrial and commercial city. Since the first symposium was held in 1978 in Brussels, Belgium, the symposium has subsequently been held every two years in Europe, America and Japan. This is the first time that this symposium has been held in China. Thus, it gave Chinese scientists, interested in bioluminescence and chemiluminescence, an opportunity, to interact closely with the international bioluminescence and chemiluminescence community. It also gave the scientists from Europe, America and other parts of Asia an opportunity to learn that Chinese scientists are catching up the world in all aspects of science, including research and application of bioluminescence and chemiluminescence.

In the last decade, great advances have been made in fundamental research and in the applications of bioluminescence and chemiluminescence. Bioluminescence imaging has emerged as a powerful new optical imaging technique. It offers real-time monitoring of spatial and temporal progression of biological processes in living animals. The bioluminescence resonance energy transfer (BRET) methodology has also emerged as a powerful technique for the study of protein-protein interactions. Luciferase reporter gene technology represents one of the major recent achievements of molecular biology. Luciferase genes can be artificially introduced into a cell to monitor gene expression and used to explore molecular mechanisms in the regulation of gene expression. Furthermore, chemiluminescence detection and analysis have been more and more applied to life science research. For example, chemiluminescent labels and substrates have been widely used to replace radioisotope-labeling and have become the most efficient and sensitive method for detecting proteins in various immunoassays. In this symposium, five outstanding experts delivered keynote lectures describing recent advances in molecular imaging using bioluminescence, chemical mechanisms involved in squid bioluminescence, novel applications of electrochemiluminescence, luminescence-based point-of-care testing devices in biomedical diagnostics, and molecular imprinted chemiluminescence imaging sensors. In the final plenary session, Professor J. Woodland Hastings, the world renowned pioneer in understanding bioluminescence, reviewed the history of the discoveries in bioluminescence and its applications.

We were fortunate to have oral and poster presentations given by scientists from 19 countries, as well as active participation from industrial exhibitors. The sessions included luciferase-based bioluminescence, photoprotein-based bioluminescence, fundamental aspects and applications of chemiluminescence, luminescence imaging, fluorescence quantum dots and other inorganic fluorescent materials, phosphorescence and ultraweak luminescence, instrumentation and new methods.

On May 12, 2008, just one day before the symposium, a major earthquake measuring 8.0 on the Richter scale hit Wenchuan County in southwest China's Sichuan province. It is the biggest disaster in Chinese history. As many as 70,000 people died, 20,000 people were missing and millions of people became homeless. To express our sympathy and help the people in the earthquake area, the symposium participants benevolently donated more than 1200 US dollars during the symposium. On behalf of the Organizing Committee, I would like to thank all of the donors for their kind support to the people in earthquake area.

The organizers and I are grateful to all the generous sponsors for their financial support of the symposium. Special thanks are owed to the China Association for Science and Technology and the National Natural Science Foundation of China for their sponsorship, and Promega Corporation and China Medical Technologies for their financial support. I would like to thank my co-organizers, Drs. Xiaoping Yang, Zong Jie Cui, Xinrong Zhang, Yaning Liu and all my competent and friendly staff, Shunyi Wei, Yue Wang and Wenli Xu, who aided the participants of the 15th International Symposium. In particular, I would like to thank Dr. Larry J. Kricka for his great effort in editing the manuscripts. Without them, this symposium would not be so successful.

Cordially,

Xun Shen

President

The 15th International Symposium on Bioluminescence and Chemiluminescence