Preface

Before starting regular preface for the ICR Annual Report 2011, I wish to express our deepest sympathy to all those who have been affected by the destructive earthquake and tsunami which struck the Pacific coast of the northeastern region of Japan on March 11, 2011.

The Institute for Chemical Research (ICR) dates back to 1915, when the Specialized Center for Chemical Research was founded at the Faculty of Science, Kyoto Imperial University. The formation of the Specialized Center was greatly influenced by historical events. In 1910, Dr. Sahachiro Hata developed Salvarsan, a highly effective drug for syphilis, while conducting research with Dr. Paul Ehrlich. The effectiveness of this compound eventually became widely recognized, and its commercial production began in Germany. Japan was depending at that time on foreign deliveries of this drug, but the outbreak of World War I made further importation impossible. Forced by these unfortunate circumstances, the Japanese government requested the University of Tokyo and Kyoto University to produce Salvarsan. The fourth Chancellor of Kyoto University, Professor Mitsuru Kuhara, who also happened to be a chemist, received this request. Facilities for Salvarsan production were built with an investment of 20,000 yen, which is equivalent to about 200 million yen in today's market. Production went well, and as income was generated, faculty members with a passion for research in chemistry gathered from across the University to form the Specialized Center for Chemical Research, which was later expanded and renamed as the Institute for Chemical Research (ICR) in 1926. The newly established ICR soon began to produce outstanding research achievements: research on accelerators by Professor Bunsaku Arakatsu; research on synthesized petroleum oil production; and the development of vinylon, which was Japan's first synthetic fiber. Almost all professors at the institute, including the aforementioned, were also professors at the Faculty of Engineering or Science. However, over time, the University began to recognize the importance of having professors dedicated solely to the ICR in order to operate the ICR with a clear mission, as well as the importance of the institute's contribution in training researchers by providing guidance to graduate students. Thus, the ICR began accepting graduate students in 1962, and the reorganization in 1964 saw the installation of the research division system where each division was led by a dedicated professor. Since the founding of the ICR in 1926, our basic principle has been to excel in the investigation of basic principles of chemistry and their applications.

After several reorganizations, the ICR currently consists of the following five research divisions: Division of Synthetic Chemistry, Division of Materials Chemistry, Division of Biochemistry, Division of Environmental Chemistry, and Division of Multidisciplinary Chemistry complemented by the following three research centers: Advanced Research Center for Beam Science, International Research Center for Elements Science (IRCELS), and Bioinformatics Center. Today, the ICR spans 32 research fields (laboratories) with 102 faculty members and about 210 graduate students. Each laboratory belongs to one of the seven graduate schools which encompass science, engineering, agriculture, pharmaceutical science, medicine, informatics, and human and environmental studies. Our laboratories and the graduate schools work closely together to provide excellent graduate education. The ICR strives to be the "central research center in chemistry" by achieving outstanding results in chemistry and related fields, and attracting motivated researchers in these fields. Chemistry is a fundamental science, which deals with materials, and its importance, including its contribution to physics and biology, cannot be overemphasized. One of our major strengths is our breadth and depth. In other words, the ICR is multidimensional, and is constantly widening and deepening its research activities. We intend to use our strengths to contribute to pioneering research, as well as to expand the boundaries of chemistry-related fields and to promote research collaborations, which are not easy in conventional graduate schools. Moreover, we aim to utilize our strengths as an outstanding center in education in order to produce excellent scientists and engineers who can actively contribute to our global society on the basis of their broad and profound perspective.

The ICR has executed three Global COE Programs in collaboration with the Graduate school of Engineering, the Graduate school of Science and the Graduate school of Informatics. These Programs include the "International Center for Integrated Research and Advanced Education in Material Science (2007-2011)" encompassing chemistry and materials science fields, the "Center of Excellence for Education and Research on Photonics and Electronics Science and Engineering (2007-2011)" involving information science, electrical engineering, and electronics fields, and "The Next Generation of Physics, Spun from Universality & Emergence Developing Independent Researchers to Explore New Frontiers (2008-2012)" covering physics, astronomy, and materials chemistry fields.

In addition, the ICR is making enthusiastic contribution to the MEXT Project of Integrated Research on Chemical Synthesis (2010-2016)", in collaboration with the Catalysis Research Center at Hokkaido University, the Research Center for Materials Science at Nagoya University and the Institute for Materials Chemistry and Engineering at Kyushu University. This is the second stage of the project supported by MEXT through the Research and Education Funding for Inter-University Research Projects. Furthermore, the ICR is currently collaborating with domestic/oversea universities and research organizations (with 54 official international collaboration agreements) and has been functioning as a Joint Usage/Research Center supported by MEXT, "Frontier/ Interdisciplinary Research Core in ICR for Deepening Investigation and Promoting Cooperation in Chemistry-Oriented Fields" (since 2010). The strong network of collaborations constructed inside and outside the ICR ensures that our institute serves as the center of global research propellers in chemistry-oriented fields. We are happy that, the recent years have seen the successful construction of a new lecture hall "Uji Obaku Plaza" (2009) and the completion of the four year long earthquake-proof renovation of the main buildings in the Uji campus (2010). With these highly improved research/education facilities, we are bringing ourselves closer to attain our founding philosophy. Thus, we respectfully request your continued support and encouragement.

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Director