

**Organizer: Hiromu Sakurai (Kyoto Pharmaceutical University)**

The discovery that some metal elements are essential to human life was one of the most important findings of the 20th century. The development of analytical methods for trace elements and their application for the measurement of biometals in humans, determining the roles of metal ions as nutrients and in gene functions, the relationship between the structure and function of metalloproteins and metalloenzymes, metal deficiency syndromes and development of therapeutic strategies, the roles of metal ions in the formation and scavenging of reactive oxygen species in organs and tissues, and development of metal-containing therapeutics have been reported. Many researchers in the field of pharmaceutical sciences have contributed to those findings. In the 4th year of the 21st century, we must consider what we can do to improve the understanding of metals and life. This symposium with presentations by five researchers in the field of pharmaceutical sciences and medicine is organized to outline the prospects for future research in the 21st century as well as for discussions among all participants involved.