



Preface

The National Institute of Radiological Sciences (NIRS) was founded in 1957 to promote comprehensive research in science and technology related to radiation and human health. This Annual Report summarizes our research activities and major advances performed during the fiscal year 2008 (April 2008 to March 2009).

NIRS continued research activities according to the second mid-term plan (2006 to 2010). This year, we started the International Open Laboratory in order to promote cutting-edge research in basic radiation sciences. We selected three research units, Particle Therapy Model, Molecular Particle Radiation Biology, and Space Radiation, for this purpose, and invited top scientists worldwide to lead the research activities through a global collaboration.

The charged particle therapy for cancer treatment continues to be the major topic in the clinical research. The patients treated with this modern technology exceeded 4,500 cases over the past 15 years. In addition to the excellent clinical outcome in patients with radio-resistant or non-operative tumors, it is now possible to treat the early stage of common cancers in a shorter treatment period than conventional radiotherapy. We started to construct a new building for the advanced treatment with spot-scanning. Important progress was made in the molecular imaging research program in collaboration with other institutions. Molecular imaging is now being actively applied in neuroscience and oncology, demonstrating the significant value of this technique in early diagnosis as well as in understanding the molecular and biological mechanism of the diseases.

The activities in radiation protection and preparation for possible accidents need to be strengthened in collaboration with national regulatory agencies and international organizations, such as UNSCEAR, ICRP, IAEA and WHO. In order to establish an efficient system to prepare for emergency radiation accidents, we started an international framework to work with Asian countries in collaboration with IAEA, WHO and the Nuclear Safety Commission of Japan.

It is our desire that NIRS continues to make significant contributions to society. We sincerely ask your support to accomplish our mission and we acknowledge with deep appreciate your critiques and constructive comments about our activities.

Yoshiharu Yonekura, M.D., Ph.D.

President