PREFACE

The Ninth World Conference on Earthquake Engineering was held at the New Otani Hotel, Tokyo, from August 2 to 6, 1988, and at the Kyoto International Conference Hall, Kyoto, from August 7 to 9, 1988, under the sponsorship of the International Association for Earthquake Engineering (IAEE). The conference was hosted by the Science Council of Japan with the cooperation of Japan Association for Earthquake Disaster Prevention, Architectural Institute of Japan, Japan Society of Civil Engineers, the Japan Society of Mechanical Engineers, Japan Society of Soil Mechanics and Foundation Engineering, and Seismological Society of Japan. More than 1740 technical participants and nearly 140 accompanying persons attended the Conference from 53 countries.

The Scientific Program of the Conference covered the following 13 topics:

- 1. Earthquake damage
- 2. Seismicity and seismic risk
- 3. Ground motion and local effects
- 4. Dynamic properties and stability of soils
- 5. Soil-structure interaction and foundations
- 6. Experimental methods and testing of structures and elements
- 7. Response of structures
- 8. Seismic design methodology and seismic codes for structures
- 9. Buildings, building elements and equipment
- 10. Civil engineering structures and industrial facilities
- 11. Lifeline systems
- 12. Seismic capacity assessment, repair, and strengthening of structures
- 13. Urban seismic risk mitigation, socio-economic aspects, and human behavior

Keynote lectures were presented by three invited speakers. Approximately 700 technical papers were read in the conventional oral presentation format during the Technical Sessions in Tokyo. Approximately 130 technical papers were presented in the display format during the Poster Sessions in Kyoto. Twenty state-of-the-art reports, one introductory report and 130 technical papers were presented in the Special Theme Sessions in Kyoto. The Abstract Volume, which included one-page abstracts of all papers accepted for the Conference, was published at the Conference.

The Proceedings, which are intended as a formal record of the Conference, include all official reports, Keynote Lectures, State-of-the-art Reports and Summary Reports of Special Theme Sessions and technical papers presented at the Conference. We thank the authors of the papers included in the Proceedings for their important contributions. It is hoped that the Proceedings will contribute to enhance the international development of scientific and technical knowledge and serve to reduce earthquake hazards through practical application.

We appreciate the strong support given by many governmental agencies, private firms, research institutes, engineers and scientists for the success of the Conference.

Keizaburo Kubo

Chairman,

9WCEE Organizing Committee

K. Kubo