

FOREWORD

In addition to September 1 (1923 Great Kanto earthquake) and January 17 (1995 Kobe earthquake), March 11 became an unforgettable day for Japanese due to the extensive damage caused by the 2011 Great East Japan earthquake. The damage due to tsunami, ground motions and liquefaction was destructive over an extensive area. Fire also resulted in extensive damage. The Great East Japan earthquake revealed the fact that an infrequent and high consequence event can cause unforeseeable damage once it happened. A serious accident at Fukushima Dai-ichi Nuclear Power Station made the problem complex. We have to learn as many lessons as possible from this larger than expected earthquake. Furthermore, destructive damage occurred in recent earthquakes not only in Japan but also in Chile, China, Indonesia, Italy, New Zealand, Taiwan, Thailand and Turkey.

Thus it is essential to offer a platform to bring together experts and relevant engineers who are interested in earthquake disaster mitigation worldwide (1) to identify and exchange views on damage and risk in light of the recent earthquakes, and (2) to identify future need and opportunities for joint research, cooperation among specialists, and exchange of data, information and research resources. For such purposes, the International Symposium on Engineering Lessons Learned from the 2011 Great East Japan Earthquake was jointly organized by the Japan Association for Earthquake Engineering (JAEE), Architectural Institute of Japan (AIJ), Japan Society of Civil Engineers (JSCE), the Japanese Geotechnical Society (JGS), the Japan Society of Mechanical Engineers (JSME) and Seismological Society of Japan (SSJ) on March 1-4, 2012 in Tokyo, Japan. It was expected that the Symposium contribute to the advancement of short and long term objectives in earthquake disaster mitigation.

The following proceedings document the papers presented at the International Symposium. The Symposium topics were fault mechanism, ground motions, tsunami, soil liquefaction, fire, damage of geotechnical structures, damage of buildings, damage of transportation facilities, damage of lifeline facilities, damage of machineries and power generation facilities, damage of nuclear power stations, evacuation, repair & restoration, recent earthquakes worldwide and recommendations for future risk mitigation.

On behalf of the six organizing societies and the organizing committee of the Symposium, I express my profound gratitude and sincere appreciation to all participants of the Symposium for their active presentations and discussions. Sincere appreciation is extended to our colleagues in JAEE, AIJ, JSCE, JGS, JSME and SSJ who have eagerly contributed to the organization and operation of the Symposium.

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Kazuhiko Kawashima
Chairman of the Symposium