EARTHQUAKE GEOTECHNICAL ENGINEERING
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Volume 6

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EARTHQUAKE GEOTECHNICAL ENGINEERING

4th International Conference on Earthquake Geotechnical Engineering-Invited Lectures

edited by

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PREFACE

Geotechnical Earthquake Engineering and Soil Dynamics, as well as their interface with Engineering Seismology, Geophysics and Seismology, have all made important progress over the past 15 years, mainly due to the development of instrumented large scale experimental facilities, to the increase in the quantity and quality of recorded earthquake data, to the numerous well-documented case studies from recent strong earthquakes as well as enhanced computer capabilities. One of the major factors contributing to the aforementioned progress is the increasing social need for a safe urban environment, large infrastructures and essential facilities. The advances achieved are also confirmed by the increasing number of scientific journals and publications which are relevant to the field of Geotechnical Earthquake Engineering.

The successful International Conferences on Geotechnical Earthquake Engineering organized every 4 years by the Technical Committee of Earthquake Engineering of the International Society of Soil Mechanics and Geotechnical Engineering constitute irrefutable evidence as to the growing interest taken by the scientific and engineering community in Geotechnical Earthquake Engineering.

This book contains the full papers of the invited keynote and theme lectures, including the 2nd Ishihara lecture, given during the 4th International Conference on Geotechnical Earthquake Engineering (4ICEGE) held in June 2006 in Thessaloniki, Greece. It provides a thorough presentation of state-of-the-art topics related to Earthquake Geotechnical Engineering and Soil Dynamics and their interface with Engineering Seismology, Geophysics and Seismology. Interdisciplinary topics such as vulnerability assessment and seismic risk management of geotechnical structures and lifelines are also addressed and discussed. A comprehensive overview of the possibilities offered by the recent worldwide developments in large scale testing facilities and strong ground motion arrays is also illustrated.

The nineteen chapters of this book, prepared by distinguished scientists and experts, provide a panorama of recent achievements in Geotechnical Earthquake Engineering. Certain unresolved engineering issues are also highlighted and some speculations and ideas for the future are mentioned.

The main scope of the book is to provide the engineering society, including geotechnical and structural engineers, geologists and seismologists as well as risk managing scientists, with the most recent advances and developments in the study of soil dynamics, earthquake geotechnical engineering, seismology and risk assessment and management.

Kyriazis Pitilakis
Professor of Aristotle University, Chairman of 4ICEGE

Editor
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