GEOTECHNICAL SPECIAL PUBLICATION NO. 181

GEOTECHNICAL EARTHQUAKE ENGINEERING AND SOIL DYNAMICS IV

PROCEEDINGS OF THE CONFERENCE

May 18–22, 2008
Sacramento, California

SPONSORED BY
The Geo-Institute of the American Society of Civil Engineers

EDITED BY
David Zeng
Majid T. Manzari
Dennis R. Hiltunen

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ISBN: 978-0-7844-0975-6

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Preface

The papers contained in this publication were prepared for presentation in GEESD IV, the 4th decennial Geotechnical Earthquake Engineering and Soil Dynamics Conference organized by the EESD Committee of the ASCE Geo-Institute. GEESD IV follows the highly successful GEESD conferences in Seattle, Washington (1998); Park City, Utah (1988); and Pasadena, California (1978). The conference covers a broad field of topics in soil dynamics and geotechnical earthquake engineering, including engineering seismology, dynamic material properties, geophysical methods, SASW benchmarking, site response, liquefaction, ground improvement, embankment dams, tailings dams, landfills, levees, lifelines and networks, mapping and zoning, NEESR research, numerical modeling, piers and wharves, retaining structures, foundation dynamics, soil-structure interaction, stability of natural slopes, and surface fault rupture.

The organizing committee invited nine outstanding keynote speakers and ten theme lecturers to present papers on developments in important areas of geotechnical earthquake engineering. The committee reviewed over 400 abstracts and 260 papers. The papers received undergo a peer review before being accepted. The standards for the peer review followed those required for ASCE Geotechnical Special Publications. Each paper must receive two positive reviews to be accepted and must be revised to conform to the mandatory revisions of the reviewers. Due to a tight schedule, there was not enough time for more than one cycle of review and revision. In the end, 234 papers were accepted for publication. All the papers are eligible for discussion in the ASCE Journal of Geotechnical and Geoenvironmental Engineering and for ASCE awards.

The paper review would have been impossible without the help of a group of lead reviewers, who, on behalf of the Proceedings and Publications Committee, organized and in some cases conducted the review of a group of papers. The editors would like to acknowledge the invaluable contribution of the following lead reviewers:

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Jinxing Zha
Jie Zhang

The editors would like to thank the conference chairman, Ross Boulanger, for his tireless efforts and invaluable contribution. Also, we would like to acknowledge the significant assistance by Ms. Sheana Singletary, Program Administrator of ASCE Conference and Meetings Services.

Finally, we would like to express our sincere appreciation to all the authors for their significant contributions to the success of the conference.

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University of Florida

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Shake-Table Testing and FLAC Modeling of Liquefaction-Induced Slope Failure and Damage to Buried Pipelines
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Full-Scale Lateral Pile Load Test in Rock Fill
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Geotechnical Considerations and Soil-Structure Interaction: Proposed ASCE Standards for Seismic Design of Piers and Wharves
Arul K. Arulmoli, Gayle S. Johnson, Peter Yin, Omar A. Jaradat, and Timothy W. Mays

Integrating Soil-Structure Interaction Analyses of Pile-Supported Wharfs in Seismic Risk Management of Port Systems
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Seismic Retrofit and Improvement of Alpha-Bravo Wharves in Guam
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Bruce L. Kutter, Jui-Ching Chou, and Thaleia Travasarou

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Damage of New Sanyi Railway Tunnel during the 1999 Chi-Chi Earthquake
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Seismic Analyses of the Bay Tunnel
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Seismic Response Analyses for the Silicon Valley Rapid Transit Project
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Development and Verification of a Pseudo-Static Solution for Evaluation of Seismic-Induced Deformations of Rectangular Tunnels
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Steven L. Kramer

Full-Scale Laboratory Tests Using a Shape-Acceleration Array System
T. Abdoun, V. Bennett, R. Dobry, S. Thevanayagam, and L. Danisch

Recent Improvements in MOC for Earthquake Response
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Some Characteristics of Ground Vibration as Induced by High-Speed Trains
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