American Society of Civil Engineers

Dynamic Response and Soil Properties 2007

Geotechnical Special Publication No. 160

February 18-21, 2007 Denver, Colorado, USA

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 www.proceedings.com

ISBN: 978-1-60423-771-9

Some format issues inherent in the e-media version may also appear in this print version.

Notices

Any statements expressed in these materials are those of the individual authors and do not necessarily represent the views of ASCE, which takes no responsibility for any statement made herein. No reference made in this publication to any specific method, product, process or service constitutes or implies an endorsement, recommendation, or warranty thereof by ASCE. The materials are for general information only and do not represent a standard of ASCE, nor are they intended as a reference in purchase specifications, contracts, regulations, statutes, or any other legal document.

ASCE makes no representation or warranty of any kind, whether express or implied, concerning the accuracy, completeness, suitability, or utility of any information, apparatus, product, or process discussed in this publication, and assumes no liability therefore. This information should not be used without first securing competent advice with respect to its suitability for any general or specific application. Anyone utilizing this information assumes all liability arising from such use, including but not limited to infringement of any patent or patents.

Copyright © 2007 by the American Society of Civil Engineers. All Rights Reserved.

Manufactured in the United States of America.

American Society of Civil Engineers ASCE International Headquarters 1801 Alexander Bell Drive Reston, VA 20191-4400 USA

Call Toll-Free in the U.S.: 1-800-548-2723 (ASCE) Call from anywhere in the world: 1-703-295-6300

Internet: http://www.pubs.asce.org

American Society of Civil Engineers

Dynamic Response and Soil Properties Geotechnical Special Publication No. 160 2007

TABLE OF CONTENTS

A Site-Specific Comparison of Simplified Procedures for Evaluating Cyclic Resistance of Non-Plastic Silt	1
Liquefaction Potential Assessment of Gravelly Foundation Soils at Clearwater	11
Jeffrey Dingrando	
Modeling and Simulation of Saturated Geomaterials	21
Pre- and Post-Liquefaction Response of Sand in Cyclic Simple Shear Daniela Porcino	31
Uncertainties in Paleoliquefaction Analysis: Preliminary Findings	41
Variability of LPI Across Geologic Units for Regional Liquefaction Mapping Jennifer Lenz	51
Effect of Existing Dams on Liquefaction Potential Analysis of Foundation Soils	61
Post Earthquake Evaluation of Higashi Takezawa Landslide Located at Niigata Prefecture of Japan	71
Wave Propagation due to Sinusoidal Excitation in Nonlinear One-Dimensional Soil Column	81
Benefits and Detriments of Soil Foundation Structure Interaction}	91
Foundations for Seismic Loads	101
Ground Vibration Mitigation Measures for the Passage of High-Speed Trains on Soft Ground	111
Measurement of Static and Dynamic Soil Stress and Strain using In-ground Instrumentation	121
Small-Strain Shear Moduli of Transparent Soil	131
Passive Source Material Attenuation Estimates from Seismic Measurements with a Two-Dimensional Array of Sensors	140

Effect of Underground Structures in Earthquake Resistant Design of Surface Structures	147
Paraskevi Yiouta-Mitra	
Author Index	