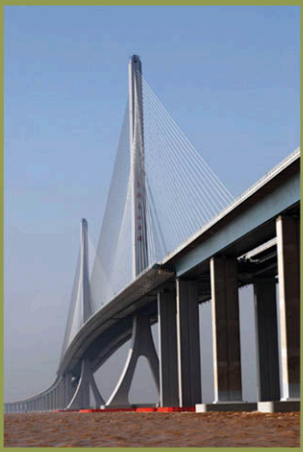
Deep Foundations and Geotechnical In Situ Testing



Geotechnical Special Publication No. 205

Edited by *Robert Y. Liang*
Feng Zhang
Ke Yang

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DEEP FOUNDATIONS AND GEOTECHNICAL IN SITU TESTING

PROCEEDINGS OF SESSIONS OF GEOSHANGHAI 2010

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HOSTED BY
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Shanghai Society of Civil Engineering, China
Chinese Institution of Soil Mechanics and Geotechnical Engineering, China

IN COOPERATION WITH
Alaska University Transportation Center, USA
ASCE Geo-Institute, USA
Deep Foundation Institute, USA
East China Architectural Design & Research Institute Company, China
Georgia Institute of Technology, USA
Nagoya Institute of Technology, Japan
Transportation Research Board (TRB), USA
The University of Newcastle, Australia
The University of Illinois at Urbana-Champaign, USA
The University of Kansas, USA
The University of Tennessee, USA
Vienna University of Natural Resources and Applied Life Sciences, Austria

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Preface

This Geotechnical Special Publication (GSP) contains 49 technical papers in the area of deep foundations (traditional driven piles and drilled shafts as well as innovative deep foundation construction technologies) and in situ geotechnical testing and monitoring techniques. An invited keynote paper, prepared by Professor Maosong Huang of Tongji University and Mr. Weidong Wang of East China Architectural Design and Research Institute, presented recent advances in theory and analysis methods for characterizing load carrying capacity and deformation behavior of uplift piles in soft ground. The remaining 48 technical papers are grouped into four sections. The "Piled Raft System and Soil-Structure Interaction" section contains ten papers focusing on analytical study and field monitoring of piled raft foundation system and analysis techniques for soil-foundation-structure interactions. The "Deep Foundations" section contains eighteen papers on the topics related to traditional drilled shafts and driven piles. Twelve technical papers in the "Innovative Foundations" section cover a wide range of non-traditional foundation system, such as anchor piles, rammed concrete piles, SDCM piles, cast-in-place concrete pipe piles, and jacked piles, among others. Eight technical papers in the "In-Situ Testing" section present recent research findings and case studies on in-situ geotechnical testing techniques.

Each paper published in the ASCE Geotechnical Special Publication was peer reviewed in accordance with the standards of practice of the Geo-Institute of the American Society of Civil Engineers. Each paper in this GSP was evaluated by at least two anonymous, qualified, technical reviewers and selected for publication by the proceedings editors. The authors of the accepted papers have addressed the reviewers' comments to the satisfaction of the editors. All published papers are eligible for discussion in the ASCE Journal of Geotechnical and Geoenvironmental Engineering and are also eligible for ASCE awards.

We are thankful to Prof. Yongsheng Li, Chair of GeoShanghai, and Professors Maosong Huang and Imad Al Qadi, Co-chairs, and Professor Baoshan Huang and Dr. Xian Liu, General Secretaries, for their leadership in organizing this conference, and the local organizing committee for their diligent and tireless work for this conference.

The papers in this publication were presented during the GeoShanghai 2010 Conference held in Shanghai, China on June 3 to June 5, 2010. This conference was host by Tongji University, Chinese Institution of Soil Mechanics and Geotechnical Engineering, and Shanghai Society of Civil Engineering. The cooperating agencies include: ASCE Geo-Institute, Transportation Research Board (TRB) of the National Academies, East China Architectural Design and Research Institute Co., Ltd., Deep Foundation Institute, The University of Kansas, University of Illinois at Urbana-

Champaign, Vienna University of Natural Resources and Applied Life Sciences, Nagoya Institute of Technology, University of Newcastle, Alaska University Transportation Center, and University of Tennessee.

The editors wish to thank the following individuals who reviewed one or more papers for this GSP. For those reviewers whose names were inadvertently missed, we offer our sincere apologies. This list is arranged in alphabetical order, by last name:

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