

# **Advances in Deep Foundations 2005**

Held at GeoFrontiers 2005

Geotechnical Special Publication Number 132

Austin, Texas, USA  
24 – 26 January 2005

## **Editors:**

**C Vipulanandan  
F. C. Townsend**

ISBN: 978-1-7138-5264-3

**Printed from e-media with permission by:**

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



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

Copyright© (2005) by American Society of Civil Engineers  
All rights reserved.

Printed with permission by Curran Associates, Inc. (2022)

For permission requests, please contact American Society of Civil Engineers  
at the address below.

American Society of Civil Engineers  
1801 Alexander Bell Drive  
Reston, VA 20191  
USA

Phone: (800) 548-2723  
Fax: (703) 295-6333

[www.asce.org](http://www.asce.org)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2633  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

Practical Considerations in the Selection and Use of Continuous Flight Auger and Drilled Displacement Piles .....	1
<i>Dan A. Brown</i>	
Advances in Auger Pressure Grouted Piles: Design, Construction and Testing.....	12
<i>Tracy Brettmann, Willie NeSmith</i>	
Axial Compression Behavior of Augered Cast-In-Place (ACIP) Piles in Cohesionless Soils.....	25
<i>Fred H. Kulhawy, Jie-Ru Chen</i>	
Behavior of ACIP Piles Socketed in Clay-Shale .....	40
<i>C. Vipulanandan, Swapnil Kaulgud</i>	
Construction Effects on ACIP Pile Behavior in Texas Coastal Soils .....	57
<i>E. A. Sellountou, M. W. O'Neill, C. Vipulanandan</i>	
Use of in Situ Tests to Design Drilled Shafts in Dense and Cemented Soils .....	74
<i>Naresh C. Samtani, Jiann-Jong Liu</i>	
Performance of PHPA Polymer Slurries for Applications in Missouri Shale .....	89
<i>William J. Likos, Kiranmayee Akunuri, J. Erik Loehr</i>	
Comparison of Measured and Predicted Skin Friction Values for Axially Loaded Drilled Shaft Foundations in Gravelly Soils .....	101
<i>Abdalla M. Harraz, William N. Houston, Kenneth D. Walsh, Courtland R. Perry, Sandra L. Houston</i>	
Wear of Sandstone Surfaces During Direct Shear Testing of Sandstone/Concrete Joints.....	113
<i>Xue F. Gu, Julian P. Seidel, Chris M. Haberfield, Abdelmalek Bouazza</i>	
Potential Squeeze of Open Drilled Shafts in Soft Clay .....	127
<i>Jeff Budiman, Tony A. Kiefer, Clyde N. Baker, Jr.</i>	
Lessons Learned from Pile Driving at the Central Artery/Tunnel Project.....	142
<i>A. S. Bradshaw, C. D. P. Baxter, P. Osborn</i>	
Reliability Based Calibration of Resistance Factors for Axial Capacity of Driven Piles .....	157
<i>K. J. Kim, M. S. Rahman, M. A. Gabr, R. Z. Sarica, M. S. Hossain</i>	
Recent Advances in the Design of Axially-Loaded Piles in Sandy Soils .....	169
<i>D. Basu, R. Salgado, M. Prezzi, J. Lee, K. Paik</i>	
A Simple Approach to Predict the Load Settlement Behavior of Precast Driven Piles with Due Consideration of the Driving Process .....	182
<i>Melanie Witzel, Hans-Georg Kempfert</i>	
Comparison Between Model and Full Scale Pile Capacity Gain in the Boston Area.....	193
<i>Samuel G. Paikowsky, Edward L. Hajduk, Leo J. Hart</i>	
Mechanical Behavior of Model Pile with Multiple Stepped Two Diameters .....	209
<i>K. Uchida, T. Kawabata, D. Shoda, M. Imai, H. Nakase</i>	

Pile Foundation Response to Lateral Ground Movement.....	219
<i>Debanik Chaudhuri</i>	
Three Dimensional Numerical Investigations of the Influence of Sleeved Piles on the Stability of Retailing Wall.....	234
<i>Ivy Y. M. Chung, Charles W. W. Ng</i>	
Analysis of Laterally Loaded Pile Groups with Partial Pile Head Fixity .....	243
<i>J. Michael Duncan, Michael D. Robinette, Robert L. Mokwa</i>	
Behaviour of Piled Rafts with Piles of Different Lengths and Diameters Under Vertical Loading .....	259
<i>H. S. W. Chow, J. C. Small</i>	
Response of Single Pile in Sand to Seismic Excitation Using a Coupled P-Y and T-Z Approach.....	274
<i>N. Allotey</i>	
Performance of Oil Tank Foundation.....	287
<i>S. C. Lee, C. F. Leung, Y. K. Chow</i>	
Research on the Additional Stress and Deformation in the Soil of Composite Pile Foundation Under Vertically Uniform Loads.....	297
<i>C. Yu, J.-M. Zai, S.-Y. Liu, Z.-S. Hong</i>	
Elastic Analysis of Single Pile-Rigid Circular Raft Systems in Layered Soils .....	307
<i>Z. Y. Ai, J. Han, Y. Yan</i>	
Mobilization of Component Interface Stresses Between Soil and Pile Under Lateral Loading .....	321
<i>Matthew J. Whelan, Kerop D. Janoyan</i>	
Effects of Pile Cap in Single Pile and Lateral Capacity of Pile Group.....	331
<i>Jeff Budiman, Kwangkuk Ahn</i>	

**Author Index**