



**Pile Driving Contractors Association
and
Pile Dynamics, Inc.**

Present

**a Seminar and Workshop on
Deep Foundation Dynamic Testing and Analysis**

March 5th, 6th and 7th (Mon – Wed), 2012



**at the
DoubleTree by Hilton Tampa Airport-Westshore
4500 West Cypress Street
Tampa, Florida
(813)-879-4800**

Monday, March 5, 7:30am – 5:00pm

Seminar on Deep Foundation Integrity Testing and Wave Equation Analysis

Who should attend: Geotechnical, structural and construction engineers; owners, contractors and other professionals involved in the design, construction and specification of deep foundations.

- This seminar is suitable for those new to the field of Foundation Testing and Analysis, and includes an overview of non-destructive testing methods (integrity and load testing) and their applications.
- It is suitable also for those specifying the testing to gain basic understanding for assessing the results presented in reports.
- This seminar is suitable for those needing an understanding of wave equation analysis methods.
- **Those attending the Workshop that follows this Seminar are strongly encouraged to attend this review of wave equation background materials.**

Learning objectives: At the end of the seminar, attendees will be able to:

- Select an appropriate method of integrity assessment of deep foundations for a particular application.
- Review reports of integrity and dynamic load testing of deep foundations conducted by others.
- Run a basic wave equation analysis of pile driving.

Program (subject to change)

7:30 Registration
8:30 Wave Mechanics - Basics
9:30 Non-destructive testing – High and Low Strain
10:15 Break
10:15 Non-destructive testing – Crosshole Sonic Logging and Thermal Integrity Profiling

12:00 Lunch
1:00 Wave Equation Background
2:00 Wave Equation Hammer and Soil Models
4:00 Break
4:15 Wave Equation – Examples
5:00 Adjourn

Attendees are encouraged to follow the Wave Equation Models and Wave Equation Examples portion of the Seminar on their laptops. Software will be provided.

Tuesday, March 6, 7:30am – 5:00pm

High Strain Dynamic Foundation Testing (PDA and CAPWAP®) Workshop part 1

Who should attend:

- Pile Driving Analyzer® (PDA) and CAPWAP users interested in sharpening their skills
- Engineers, foundation testing professionals, students and professors already familiar with the basic concepts of deep foundation dynamic testing and analysis.
- Professionals who desire to have a basic understanding of the dynamic test results being presented to them.
- Those interested in taking the **Dynamic Measurement and Analysis Proficiency Test***

Learning objectives:

At the end of this two day workshop attendees will be able to:

- Operate the PDA in a manner conducive to acquiring good quality data
- Assess pile bearing capacity, pile driving stresses, hammer performance and pile integrity by various methods
- Avoid pitfalls when analyzing PDA data with the CAPWAP software
- Interpret PDA testing and CAPWAP software results
- Describe the soil-model used in CAPWAP
- Prepare the input for CAPWAP
- Review options for CAPWAP analysis and output
- Calculate bearing capacity and its distribution for driven piles from impact records

Program (subject to change)

7:30 Registration
8:30 Wave Mechanics - Applied
10:30 Break
10:45 PDA Testing – Proper Practices
12:30 Lunch
1:30 PDA Testing – Proper Practices (cont.)
2:00 PDA Data Quality – Examples
2:30 PDA Workshop: Capacity Calculation
3:15 Break
3:30 PDA Workshop: Integrity, Stresses, Energy
4:30 Dynamic Testing of Drilled Shafts and Augered Cast-in-place Piles
5:00 Adjourn

Wednesday, March 7, 8:30am – 5:00pm
High Strain Dynamic Foundation Testing (PDA and CAPWAP®) Workshop part 2

Program (subject to change)

8:30 Remote Testing with Demo
9:30 CAPWAP Background
10:15 Break
10:45 CAPWAP Workshop: Basic Examples
11:30 iCAP®™ – Instant Signal Matching
12:00 Lunch
1:00 CAPWAP Workshop: Advanced Examples
3:15 Break
3:30 **Dynamic Measurement and Analysis Proficiency Test ***
5:00 Adjourn

*At the end of the High Strain Dynamic Foundation Testing Workshop, participants may take a multiple choice **Dynamic Measurement and Analysis Proficiency Test** which will take less than 1-½ hours to complete. The test will cover the theory of Wave Mechanics, data quality assessment, data interpretation, applications, and basic CAPWAP analysis. The workshop will provide a preparation for this test, however those taking the test are also advised to study the “Appendix A” and “Helpful Hints” of the PDA manual, review some of the EXAMPLE data provided with the PDA, and read the CAPWAP background material. See the Proficiency Test website for additional study suggestions and to learn more about this test. www.PDAProficiencyTest.com

Please bring a calculator to the test. (Cell phone and tablet calculator apps are NOT permitted).

A Certificate of Proficiency in High Strain Dynamic Pile Testing will be awarded to those who pass the test. The Level indicated on the Certificate is dependent on the score achieved on the test. Those who do not pass the test will receive full credit of test registration fee to be applied towards retaking the test at the next opportunity.

Workshop and Seminar Lecturers

Frank Rausche, PhD., P.E., is a principal of both Pile Dynamics, Inc. (PDI) and GRL Engineers, Inc. (GRL). He has been involved in the research and development of dynamic testing and analysis methods since his mid-1960s work at Case Western Reserve University, where he derived the Case Method equations for dynamic pile testing and developed the CAPWAP® and GRLWEAP software. Frank has numerous published papers, lectures frequently and is still actively engaged in dynamic testing.

Garland Likins, P.E.: Garland is the president of (PDI) and a principal of GRL. During his 40 years since participating in the original dynamic pile testing research at Case Western Reserve University, Garland has directed the development and improvement of multiple testing systems for deep foundations. He has numerous published papers, is active in several code and professional societies, and is a frequent lecturer.

Mohamad Hussein, P.E. has been associated with the original inventors and developers of modern dynamic pile testing methods and equipment for 30 years. He is Vice President of GRL , and a Partner in PDI. His dynamic pile testing experience covers thousands of projects in 30 States in the USA and 15 countries. He was the past Chairman of the American Society of Civil Engineers' (ASCE) Deep Foundations Committee, is currently the Director and an Instructor of the ASCE's Deep Foundations continuing education class, and is the PDCA's Education Committee Chairman. He has over 80 technical publications on deep foundations dynamic testing, and has presented on the topic in numerous universities and conferences. Mr. Hussein holds the Expert Level Certificate for dynamic pile testing.

Hotel Reservations

Individuals are responsible for making their own reservations. To do so, please contact the hotel directly: **(813)-879-4800**

**DoubleTree by Hilton Tampa Airport-Westshore
4500 West Cypress Street
Tampa, Florida 33607**

Room block will be held until Monday, February 20, 2012.

Reservations: Identify yourself as **Pile Driving Contractors Association – PDCA** to receive the discounted room rate.

Per night of: \$119.00 (Single or Double), \$129.00 (Triple), \$139.00 (Quad)

Registration

For online Registration go to the **PDCA website**, or Mail, Fax, or Email this completed registration form by **Friday March 2** to:

Pile Driving Contractors Association
1857 Wells Road, Suite 215
Orange Park, FL 32073
Fax: 904-215-2977
Lori@piledrivers.org

Early Bird Deadline – February 6, 2012

For more information contact Lori Schneider from PDCA: 888-311-7322 lori@piledrivers.org

Name(s): _____

Organization: _____

Address: _____

City: _____ State/Province: _____ Postal Code: _____ Country: _____

Phone: _____ Fax: _____ Email: _____

Registration Fees (includes, course notes, AM/PM breaks and lunch):

- Seminar on Deep Foundation Integrity Testing and Wave Equation Analysis **March 5 \$250.00**
- High Strain Dynamic Foundation Testing Workshop **March 6&7 \$500.00**
- Dynamic Measurement and Analysis Proficiency Test (No Discounts) **\$200.00**

- \$50 discount on each workshop for Early Bird registration prior to **February 6, 2012**
- Government Employees - \$50.00 discount on each workshop

Amount: Program total \$ _____

Discount (if applicable) subtract \$ _____

Grand total \$ _____

CREDIT CARD INFORMATION

I am paying by: ___ VISA ___ MasterCard ___ American Express ___ Check

Name (as on credit card): _____

Account no.: _____ Expiration date: ___/___ Verification code: _____

Statement Billing Address: _____

City _____ State _____ Zip _____

Signature _____