



**Quality Control/Quality Assurance of Deep Foundations  
AND  
PDA Training and Proficiency Test**

**AUGUST 27-29, 2018  
9:00 – 18:00 Daily**



**THE PARK  
#14/7  
MG Road, Shanthala Nagar, Ashok Narar  
Bengaluru, Karnataka  
Pine code: 560042  
INDIA**

## Who should attend:

Day 1: This one-day seminar is suitable for those in the field of deep foundation testing and analysis, and includes an overview of recent advances in non-destructive testing methods (load testing and integrity testing) of bored piles and driven piles. It is also suitable for:

- Consultants, owners, contractors and governmental officials who specify testing of deep foundations
- Geotechnical, structural and construction engineers
- Student and professors involved in the design, construction and specification of deep foundations

Day 2 & 3:

- Users of the Pile Driving Analyzer® (PDA) system and CAPWAP® software 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\***
- **Those attending the two-day workshop are strongly encouraged to review the wave equation background materials.**

## Learning objectives:

Day 1: At the end of the one-day seminar, attendees should be able to:

- Understand basic concepts of various field testing applications including static tests, dynamic tests and other NDT methods (e.g. crosshole sonic logging, low strain integrity testing, thermal integrity profiling, calipers, and other inspection devices)
- Learn the advantages and limitations of various integrity and capacity methods in assessing bored piles and driven piles and choose the appropriate methods for analysis.
- Understand basic concepts of PDA testing and advancements in dynamic load testing of bored and driven piles.

Day 2 & 3: At the end of the 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

### Day 1: QA/QC for Deep Foundations

09:00	Registration
09:30	QA/QC of Deep Foundations (pre- or during installation) Introduction - Why do we test? SQUID - testing of bottom cleanliness SHAPE – electronic calipers QA/QC of Deep Foundations (post installation) PIT, CSL and PDI-TOMO
11:00	Break
11:15	Thermal Integrity Profiling Introduction and Theory TIP Examples and TIP-Reporter
12:15	Static Load Testing and the GRL-Cell
12:45	Break/Lunch
13:45	Load Testing of Deep Foundations Dynamic Testing Economics of Testing/Codes and Standards
15:00	Break
15:15	Basic Wave Mechanics and PIT Software
16:45	Break
17:00	CLS Training
18:00	Adjourn

### Day 2: Training

09:00	Wave Mechanics for PDA Testers
11:00	Break
11:15	Integrity, Stresses, Energy
12:00	Capacity Calculation
12:45	Break/Lunch
13:45	PDA Testing – Proper Practices
15:45	Break
16:00	PDA Testing – Proper Practices continued Dynamic Testing of Drilled Shafts and Augered Piles
18:00	Adjourn

### Day 3: Training

09:00	CAPWAP Theory
10:30	CAPWAP Examples
11:00	Break
11:15	CAPWAP Examples
12:45	Lunch
13:45	PDA Examples
15:45	Break
16:30	Dynamic Measurement and Analysis Proficiency Test*
18:00	Adjourn

A Certificate of Participation documenting the number of hours of instruction (PDH) will be provided. Check with your engineering board of registration for their continuing education requirements.

\* At the end of the 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, Case Method (PDA) equations, data quality assessment, data interpretation and basic CAPWAP

analysis. The test is designed for those with experience in using the Pile Driving Analyzer® system and CAPWAP to perform High Strain Dynamic Foundation Tests. The best preparation for the test is work experience following an initial PDA training. The workshop will refresh the participant's theoretical background and be a reminder of some important points. Those taking the test are advised to study "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. These materials are supplied with PDA purchases. Those without access to the manuals and examples should please contact [softwaresales@pile.com](mailto:softwaresales@pile.com) in advance of the test date. For more information about the Proficiency Test website: [www.PDAProficiencyTest.com](http://www.PDAProficiencyTest.com).

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.

**\*Please note it will take up to two weeks to receive your exam results\***

### **Workshop and Seminar Lecturers**

**Brent Robinson, PhD, P.E.**, joined PDI in 1999 as a research engineer. In addition to his R&D activities in high and low strain foundation testing, Brent has tested and analyzed the foundations of multiple bridges, stadiums, offshore oil platforms and other structures, and frequently trains new users of equipment manufactured by Pile Dynamics, Inc. Brent holds a BS in Civil Engineering from Case Western Reserve University, and a MS and PhD in Civil Engineering from North Carolina State University. Brent is a member of the American Society of Civil Engineers and of its Geo-Institute, and a past chair of the Geotechnical Committee of the Cleveland Section of ASCE, which recognized him with its President's Award. He is the author of multiple peer reviewed papers and FHWA publications, having received the Transportation Research Board Best Paper Award in Soil Mechanics in 2010. Brent has achieved Expert level on the PDCA/PDI Dynamic Measurement and Analysis Proficiency Test and on the Foundation QA High Strain Dynamic Testing Examination.

**Anna Sellountou, PhD, P.E.** received her five-year Civil Engineering Degree from the National Technical University of Athens, Greece in 1999, and her PhD from University of Houston in 2004, under the supervision of Professor M.W. O'Neill, one of the worlds' leading experts in Deep Foundations. She began her career at Fugro in Houston, Texas, where she worked on diverse domestic and international projects (with an emphasis on deep foundations testing) including numerous LNGs and Bridges. In 2012, she joined Pile Dynamics Inc. in Cleveland, Ohio, where she got involved with R&D and product development for deep foundation testing. Anna is in charge of business development and technical operations in Europe, the Middle East and Africa, in collaboration with local PDI representation. Anna serves in various committees in DFI, ACI, PDCA, ASTM, where she is highly involved with specifications and codes revision activities.

**Hotel Reservations** – Attendees should make their own hotel reservations.

**Registration**

Limited number of participant, please fill out the below registration form and return via email to workshop@sarathygeotech.com by **August 17, 2018.**

**REFUND POLICY:** cancellations prior to three weeks before the event would receive a 50% refund.

**For more information contact:**

COMPANY NAME: SARATHY GEOTECH & ENGINEERING SERVICES PVT LTD.

CONTACT PERSONS: DILIP N & ARVIND T M

MOBILE: +91-8123456312

LANDLINE: +91 80 42850202

EMAIL ID: workshop@sarathygeotech.com

Name(s): \_\_\_\_\_

Organization: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State/Province: \_\_\_\_\_ Postal Code: \_\_\_\_\_ Country: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

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

- One-Day Seminar (August 27, 2018) 6000 INR  
*(includes 18% GST)*
- Full Workshop (August 27 - 29, 2018) 18000 INR  
*(includes 18% GST)*
- Dynamic Measurement and Analysis Proficiency Test\* 18000 INR  
*(includes 18% GST, transaction fee & conversion fee)*

*\*If you do not pass the test you are allowed one (1) retake of the test at no additional charge at the next course*

Amount: Program total \$ \_\_\_\_\_

Discount (if applicable) subtract \$ \_\_\_\_\_

**Grand total** \$ \_\_\_\_\_