



Quality Control/Quality Assurance of
Deep Foundations
One-day Seminar



PDA Training and Proficiency Test

Two-day Workshop



16-18 October, 2018
Dubai, UAE

Who Should Attend?

Day One

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

Days Two & Three

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 Outcomes

Day One

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, callipers, 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.

Days Two & Three

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 analysing 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



Patrick Hannigan, P.E., is a Senior Engineer and Director with Pile Dynamics, Inc. He has a BS in Civil Engineering from the University of Notre Dame, and a MS in Civil Engineering from the University of Missouri-Rolla. He has published in numerous journals and was the Principal Investigator for both the 1995 and the 2006 editions of the Federal Highway Administration manual "Design and Construction of Driven Pile Foundations". Pat is a Co-Principal Investigator for the National Cooperative Highway Research to incorporate specifications into AASHTO code. He is a Licensed Professional Engineer in 17 states. Hannigan has achieved Expert level on the PDCA/PDI Dynamic Measurement and Analysis Proficiency Test. He is a member of the American Society of Civil Engineers, Deep Foundations Institute and Pile Driving Contractors Association.



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. Since November of 2016, Anna has supported PDI's technical and business-related activities in Europe, Middle East and Africa from her base office in Greece. Anna serves in various committees in DFI, ACI, PDCA, ASTM, where she is highly involved with specifications and codes revision activities.



Hazem Sarhan, Ph.D., P.E., is a Projects Director with 20 years' experience in projects in maritime, oil and gas, power generation, petrochemicals, industrial and liquefied natural gas plants. Dr. Sarhan graduated with Honors from Cairo University, and earned his Ph.D. in Geotechnical Engineering from the University of Houston, Texas specializing in Deep Foundation testing. He worked in Bechtel Oil and Gas hub in Houston on a multitude of engineering and challenging construction assignments in North America, West Africa, Egypt and Trinidad & Tobago. Dr. Sarhan joined Artelia in 2007, working and managing projects in maritime, ports, and oil and gas industries in the Middle East. Dr. Sarhan combines strong technical aptitude with a seasoned experience in design, construction and management of large, multidisciplinary and complex projects. He has a proven record of coordinating and motivating the efforts of diverse engineering teams to deliver solutions for challenging assignments.



Agenda

Day One - QA/QC for Deep Foundations

08.00	Registration
08.30	QA/QC of Deep Foundations (pre- or during installation) Overview - Why do we test? Shaft Quantitative Inspection Device (SQUID) Shaft Area Profile Evaluator (SHAPE) Pile Installation Recorder (PIR) Pile Integrity Tester (PIT)
10.00	Break
10.15	QA/QC of Deep Foundations (post installation) Crosshole Sonic Logging (CSL) Thermal Integrity Profiling (TIP) Wave Equation Analysis with GRLWEAP
12.30	Lunch
13.15	Static Load Testing and the Static Load Tester (SLT) System High Strain Dynamic Pile Testing with the Pile Driving Analyzer®
15.45	Break
16.00	High Strain Dynamic Load Testing of Drilled Shafts with the PDA-DLT Codes and Economics of Dynamic Testing Q&A
17.00	Adjourn

Day Two - PDA Training

08.30	Wave Mechanics for PDA Testers
10.00	Break
10.15	PDA-8G and PDA-S
12.15	Lunch
13.00	PDA Testing – Proper Practices
15.15	Break
15.30	Dynamic Testing of Drilled Shafts and Augered Piles
17.00	Adjourn

Day Three - PDA Training

08.15	Integrity, Stresses, Energy
09.00	Capacity Calculation
09.45	CAPWAP Background
11.15	Break
11.30	CAPWAP Examples
13.00	Lunch
13.45	Case Histories / Hands On Training
14.15	PDA Data Quality Examples
15.15	Break
15.30	Dynamic Measurement and Analysis Proficiency Test*
17.00	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 1.5 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 in advance of the test date. For more information about the Proficiency Test website: 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



Registration

Limited number of participants. Please complete the below registration and return via email to registration2@pile.com by **Friday, September 21, 2018**.

Registration Form

Name(s)	
Organisation	
Address	
City	
State/Province	
Postal Code	
Country	
Phone	
Fax	
Email	

Registration Fees (includes course notes, breakfast, AM/PM breaks and lunch):	Cost	Selection
One-Day Seminar	\$240	<input type="checkbox"/>
Two-Day Workshop	\$660	<input type="checkbox"/>
One-Day Seminar plus Two-Day Workshop	\$780	<input type="checkbox"/>
Dynamic Measurement and Analysis Proficiency Test	\$200	<input type="checkbox"/>
Amount: Programme total	€/\$	

If you do not pass the test you are allowed one (1) retake the test at no additional charge at the next workshop.

Additional Information

Hotel Reservations: Attendees should make their own hotel reservations.

Refund Policy: Cancellations prior to three weeks before the event would receive a 50% refund.

For more information, including any technical information please contact info@pile.com

Registration Deadline: September 21, 2018

