

11TH INTERNATIONAL
STRESS WAVE
CONFERENCE 2022

Rotterdam, the Netherlands
September 20-23, 2022

Tuesday 20th September

Parallel Session: Offshore and Renewables

13:00 – 14:30 & 16:30 – 18:00 (Parallel session with Load Testing)

Session lead: Ken Gavin (TU Delft) / Sylvie Raymackers (DEME)

Presented papers:

Numerical FE-based approach to identify the axial bearing capacity of piles. Presented by : E. Heins
Investigating vibro-driven monopile installation into sand in a geotechnical centrifuge. Presented by : J. Mazutti
Pile Installation Optimisation in Calcareous Clays. Presented by : Z. Delimi
Numerical simulation of the vibratory and impact installation of monopiles in saturated sand. Presented by : H. Eiesland
Designing PULSE and BLUE blow generators for experimental research in the geotechnical centrifuge. Presented by : T. Quinten
Impact and vibratory driven pipe piles: the difference in soil stresses and bearing capacities due to the installation method. Presented by : J. Fischer
An assessment of pile driveability analyses for monopile foundations. Presented by : Y. Kourelis
Drivability aspects of tubular piles in chalk. Presented by : R. Brouwer
Vibro driving testing in confined space for offshore wind farm application. Presented by : A. Ta
Finite element simulation of high-strain dynamic testing of open-toe, steel pipe piles for estimation of geotechnical axial resistance. Presented by : Carvajal/Tara
Modelling and simulation of vibratory driven sheet piles – development of a stop criterion. Presented by : Andersson
Offshore Installation of Piles in Egypt – Presented by : A. El-kadi

[Download Abstracts of offshore and renewables here.](#)

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Parallel session Load Testing

Session lead: Maarten Profittlich (FUGRO) / Rodrigo Salgado

13:00 – 14:30 & 16:30 – 18:00 (Parallel session with offshore and Renewables)

Presented papers:

In-situ vertical load test of piled raft foundation and corresponding simulation using 3D finite element analysis. Presented by : H. Numoto
Evaluation of Vertical Bearing Capacity for H section Steel Pile with Soil cement Ground Improvement. Presented by : S. Koga
The Increase in Pile Capacity with Time for Heavily Overconsolidated Clays. Presented by : B. Stevens
Static Axial Reciprocal Load Test of Soil-Cement Mixing Pile Applying as Permanent Pile. Presented by : K. Watanabe
Data processing of fibre-optic strain gauge data for axial pile load testing. Presented by : M. Dekker
Calibration Test Results of Rapid Load Test on Bored Piles Embedded in Sedimentary Rock Formation in Singapore. Presented by : Oh
A Review of International Standards' Guidance on High-Strain Dynamic Testing and Signal Matching of Pile Stress Wave Data. Presented by : D. Tara
Static and Dynamic Load Tests of Driven Precast Piles. Presented by : C. Fernández Tadeo
Hollow precast driven pile extended by a micropile: dynamic load tests and modelling. Presented by : Rafael Gil LaBlanca
An Improved Efficiency of Free Fall Hammer in High Strain Dynamic Load Test. Presented by : Z. Eng
Load-transfer curves from field data to engineering values. Presented by : R. van der Salm
Rapid Load Testing on piles instrumented with glass fibre optics in Rotterdam. Presented by : R. van Dorp
Validated Signal Matching. Presented by : N. Moscoso
Evaluation of penetration resistance and bearing capacity of a small-diameter spiral pile by similitude model tests using seepage force. Presented by : K. Yoshida
Understanding the Trends behind Load-Displacement Results from Rapid Load Tests. Presented by : Chew
CORRELATING RAPID AND STATIC LOAD TEST RESULTS OF BORED PILES IN SINGAPORE. Presented by : Nagatie
Finite element simulation of the high-strain dynamic test and the static load test performed on the test pile of the George Massey Tunnel Replacement project. Presented by : Carvajal / Tara

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Wednesday 21st september

Parallel session Quality Assurance

Session Lead Paul Holscher (DELTARES) / Cihan Cengiz (DELTARES)

11:15 – 12:45

Presented papers:

Validity of Dynamic Load Test (DLT) on H-piles. Presented by : T. Nguyen

Advantages in Using Thermal Integrity Profiling Stress Wave Paper 2022. Presented by : G. Pisciak

Improved interpretation of high strain dynamic test results using high frequency displacement monitoring of closed ended piles. Presented by : R. Damen

Case study of three bidirectional static load tests for bored piles at Sabana Costa Rica. Presented by : Millan / Coto

Validity of the Beta Method to determine pile damage. Presented by : G. Verbeek

Integrity of Bored Piles Under Tension. Presented by : O. İnanir

Case Study of Using Static and Dynamic Pile Load Tests as Quality Assurance of Existing Piles for SRT Red Line Project, Thailand. Presented by : P. Kitiyodom

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Wednesday 21st september

Parallel session Wave Mechanics Applications

Session lead Andrei Metrikine / Evangelos Kementzidis

15:00 – 16:30

Presented papers:

A case study of using VCPTu for drivability analysis of vibratory pile driving. Presented by : M. Fetрати

Enhanced Stress Wave Analysis of Scaled Monopiles in Glacial Till at Cowden. Presented by : S. Martin

IMPACT: cloud-based software for stress-wave and drivability analysis of driven piles. Presented by : J. Doherty

The use of pile velocity in verification of untested piles – a sensitivity study. Presented by : Denes

Probability theory applied to pile driveability predictions based on the wave equation. Presented by : J. Sinke

A novel anvil modelling approach for pile driveability prediction, validated with PDA measurements. Presented by : J. Ligthart

Post Driveability Study for Caesar's Rhine Bridge 55 B.C. Presented by : P. Middendorp

What happens in the soil during pile driving? – G. de Josselin de Jong Presented by : G. Verbeek

The rebirth of traditional SIT interpretation methods to incorporate engineering judgement in present day data analysis Presented by : M. van Delft

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Thursday 22nd September

Parallel session Soil-structure Interaction

Session lead Monica Prezzi / Barry Lehane

11:15 – 12:45 & 14:30 – 16:00 (Parallel session with Case studies)

Presented papers:

Evaluation of monopile embedment using frequency, damping and modal shape analysis. Presented by : M. Maron

Experimental and numerical study on behaviour of three types of model pile foundations subjected to vertical and horizontal loading. Presented by : Xiong

Flaw detection threshold of thermal integrity testing. Presented by : Amir

T-BAGS seismic base isolation system for earthquake energy dissipation. Presented by : A. Vakilzadsarabi

Residual stress measurement of driven precast piles using distributed fibre optic sensors. Presented by : K. Duffy

Environmental vibrations due to installation at high frequency. Presented by : P. Hölscher

Laboratory study on vertical and horizontal resistance of the pile installed by various displacement pile installation methods. Presented by : S. Moriyasu

Independent assessment of toe and skin capacities in near real-time using top and toe instrumentation. Presented by : P. Arumughan

Friction fatigue in soft rock and soft, non-cohesive soils: a physical model for the role of abrasive wear in skin friction reduction. Presented by : J. van Wijk

RLT on prefab concrete piles of wind turbine foundations in tidal sands in the Netherlands . Presented by : F. van Dijck

PDA measurements, fact or fiction. Presented by : Orlando

Numerical modelling of vibropiling at the test site Altenwalde. Presented by : T. Pein

Development of jet-gun and fluidization enhanced pile installation tools. Presented by : B. Arntz

Parametric numerical study on deformation of the Tender Net Foundation subjected to vertical loading. Presented by : Vo Cong

A proposed model for ground vibration induced by a statnamic test. Presented by : Z. Eng

Influence of grout injection parameters on shaft bearing capacity of screw displacement piles. Presented by : P. IJnsen/Admiraal

Alternative facts in pile testing . Presented by : G. Verbeek

An alternative CPT averaging procedure to estimate pile base capacity. Presented by : M. Boorder

Soil resistance of steel pipe piles during vibratory hammer installation. Presented by : Shinji Nishimura

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Thursday 22nd September

Parallel session Case Studies

Lead session Rodriaan Spruit / Sam Paikowsky

11:15 – 12:45 & 14:30 – 16:00 (Parallel session with Soil-structure Interaction)

Presented papers:

Influence of displacement piles on surrounding soil and nearby piles: a case study. Presented by : H. Tuentner

Ultimate bearing capacity of MV piles derived from load tests, a suggested new design approach. Presented by : R. Spruit

Quantitatively assessing the geometry and base conditions of drilled shaft excavations. Presented by : B. White

Steel piles driven with Follower in Glacial Till and Chalk. Presented by : A. Crochelet

Effect of preloading on soil setup effects of a soft clay through pile static and dynamic load tests. Presented by : Behroozian

Pile dynamic versus static load tests in fine-grained deposits of Southwest Iran with special attention on soil setup effects. Presented by : Fakharian

Lateral load testing and 3D stress measurements in a pile foundation. Presented by : A. Lemnitzer

Measuring Time Dependent Stress-Changes around a Driven Pipe Pile in Medium Dense Sand . Presented by : M. Kidane

BAM Screw Piles 2.0: Validating Design for 'De Drie Hoefijzers' by Rapid Load testing. Presented by : J. Bakker

Case Study Bi-directional Loadtest Paris Bassin Austerlitz. Presented by : M. Profittlich

Comparison of predicted and measured pile driving processes at steel pipe piles in North and Baltic Sea. Presented by : Kortsch

Dynamic load test and rapid load test on two large diameter steel pipe piles with double crossed steel ribs inside the pile bottom section. Presented by :
S. Lin

Comparison of static load test and rapid load test on steel pipe piles in two sites. Presented by : S. Kamei

Behavior analysis of post grouted micropiles in clay soils from tension load test results.. Presented by : M. Challapa

Pile Installation Effect on Mobilized Side Shear Resistance in Fraser River Deposits. Presented by : T. Dajani

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