



Deep Foundations Institute  
326 Lafayette Avenue  
Hawthorne, New Jersey 07506

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**Every Autumn for the past 29 years, the Engineers, Contractors, Academics, Suppliers and Manufacturers from the deep foundations construction industry have gathered to learn from each other and discuss the state of the practice and the state of the art within our field.**

*Register online at [www.deepfoundations04.org](http://www.deepfoundations04.org)*



***Emerging Technologies***

***DFI's 29th Annual Conference  
On Deep Foundations***

***September 29 – October 1, 2004***

***The Fairmont Hotel***

***Vancouver, BC, Canada***

## Pre-Conference Events

### Short Courses – Tuesday, September 28, 2004 (Register for one course only as they run concurrently)

Course attendees receive a certificate verifying 6 Professional Development Hours

#### ■ Augered Cast-in-Place Pile\*

8:00 am - 8:30 am	<b>Registration</b>
8:30 am - 8:40 am	<b>Welcome: Introduction to Program &amp; Instructors</b> Rudolph Frizzi PE Langan Engineering & Environmental Services Willie NeSmith Berkel & Company Contractors Inc.
8:40 am - 10:15 am	<b>Part 1: System Applicability to Ground Conditions</b>  <b>Part 2: Exploration, Design &amp; Specifications</b> (Geotechnical Exploration; Design; Cohesive Soils; Soft Rock)
10:15 am - 10:30 am	<b>Break</b>
10:30 am - 12:00 pm	<b>Part 2: Exploration, Design &amp; Specifications</b> (Design; Granular Soils; Other Design Issues; Technical Specifications)
12:00 pm - 1:00 pm	<b>Lunch</b>
1:00 pm - 2:30 pm	<b>Part 3: Construction Means &amp; Methods</b> <b>Part 4: Field Quality Control &amp; Capacity Verification (Inspection)</b>
2:30 pm - 2:45 pm	<b>Break</b>
2:45 pm - 4:00 pm	<b>Part 4: Field Quality Control &amp; Capacity Verification</b> (Automated Monitoring Equipment; Load Testing; Non-Destructive Testing)
4:00 pm - 4:20 pm	<b>Panel Discussion</b> (Question & Answer)
4:20 pm - 4:30 pm	<b>Summary/Closure</b>



#### ■ Micropiles-Developments in Design and Construction\*

8:00 am - 8:30 am	<b>Registration</b>
8:30 am - 8:45 am	<b>Introduction</b> Horst Aschenbroich – Con-Tech Systems Ltd. Tom Armour PE – DBM Contractors Inc.
8:45 am - 9:30 am	<b>Micropiles – State of Practice Review</b> Donald A. Bruce PhD – Geosystems LP Tom Armour PE – DBM Contractors Inc.
9:30 am - 10:15 am	<b>Construction Methods &amp; Materials</b> Donald A. Bruce PhD – Geosystems LP Tom Richards PE – Nicholson-Rodio
10:15 am - 10:30 am	<b>Break</b>
10:30 am - 11:15 am	<b>Micropiles for Earth Retention &amp; Slope Stabilization</b> John Wolosick PE – Hayward Baker Inc.
11:15 am - 12:00 pm	<b>Micropiles, Underpinning &amp; Seismic Upgrading of Structures in Vancouver BC</b> Scott MacCara PE – Southwest Contracting
12:00 pm - 1:30 pm	<b>Lunch</b>
1:30 pm - 2:30 pm	<b>Design: The Nuts and Bolts</b> Jesus Gomez PE – Schnabel Engineering
2:30 pm - 2:45 pm	<b>Break</b>
2:45 pm - 3:45 pm	<b>Evaluation of Micropile Load Tests – QA/QC</b> Tom Richards PE – Nicholson-Rodio
3:45 pm - 4:30 pm	<b>Recommended Procurement/ Specification Methods</b> Tom Armour PE – DBM Contractors Inc.
4:30 pm - 5:00 pm	<b>Panel Discussion (Q&amp;A)</b> – All Presenters Moderators: Tom Armour and Horst Aschenbroich



## Certification Exam of High Strain Dynamic Pile Testing Services Providers

Wednesday, September 29, 2004, 8:00 am – Noon

High Strain Dynamic Pile Testing (HSDPT) is a well-established and accepted foundation testing technique in use in North America and around the world. DFI, in partnership with Foundation QA, is offering this examination for the purpose of testing and certifying practitioners of High Strain Foundations testing services.

The examination is a multiple-choice exam in two parts. Part A will be administered for 90 minutes covering areas of general knowledge and practice which relate to the successful acquisition of data in the field, knowledge of material parameters, transducer attachment, recognition and rectification of flawed data. Part B is administered for 2 hours and

covers areas of data interpretation including recognition of critical driving situations, pile capacity, pile stresses, pile damage identification, pile movement, energy transfer and data adjustment. The exam tests fundamental knowledge and procedures, and is independent of any hardware system.

Certificates are issued at five levels. These levels are: Basic (lower), Basic (higher), Advanced (lower), Advanced (higher) and Expert. Testers with less than 5 years certified experience are not eligible for the Expert level.

For further information go to [www.dfi.org](http://www.dfi.org) or [www.foundationqa.com](http://www.foundationqa.com).

# Conference Program\*:

## ■ Wednesday, September 29, 2004

8:00 am - 12:00 pm	<b>Conference Registration</b>	
8:00 am - 10:00 am	Committee Meetings: Driven Pile, Drilled Shaft, Soil Mixing, Tiebacks & Soil Nailing	
8:00 am - 12:00 pm	Committee Meetings: Augered Cast-in-Place Pile, Micro Piles	
10:00 am - 12:00 pm	Committee Meetings: Helical Foundations & Tiebacks, Marine Foundation, Slurry Wall, Testing & Evaluation	
12:10 pm - 1:00 pm	<b>Welcome Lunch</b>	
1:10 pm - 1:40 pm	KEYNOTE LECTURE Explosive Compaction Techniques – An Emerging Technology	Dr. Blair Gohl, PhD, PEng Explosive Compaction Inc.

### Session I: Drilled Shafts & Caissons – Emerging Design and Construction Practice

**Moderator:** Matthew Janes, PEng – Isherwood Associates

1:45 pm - 2:10 pm	Design and Construction of Integral Drilled Shaft-Columns for the Boscawen-Canterbury Bridge	Erin F. Wood – Haley & Aldrich Inc. & John Byatt – CLD Consulting Engineers
2:15 pm - 2:40 pm	New Tacoma Narrows Bridge Caissons	Bruce Patterson – Kiewit Pacific Co.
2:45 pm - 3:10 pm	Murphy's Law and the Pile Prediction Event at the 2002 ASCE Geoinstitute's Deep Foundations Conference	Bengt Fellenius Bengt Fellenius Consultants Inc.
3:15 pm - 3:45 pm	<b>Break</b>	
3:50 pm - 4:15 pm	Vertical Load Carrying Capacity of Concrete Expanded Base Piles	Mustapha Zergoun – Trow Associates
4:20 pm - 4:45 pm	PVC and Steel Access Tube Debonding during Sonic Logging Testing for the SC 170 Bridge Replacement Project	Edward L. Hajduk – WPC
4:50 pm - 5:15 pm	Evolution of Deep Foundation Systems used at the Port Ivory Intermodal Facility Site: 1906-2004	Aly M. Mohammad – DMJM + Harris, Inc.
6:00 pm - 8:00 pm	<b>Welcome Reception</b>	

## ■ Thursday, September 30, 2004

### Session II: Drilled Shafts & Driven Piles

**Moderator:** Mustapha Zergoun PhD, PEng – Trow Associates Inc.

9:00 am - 9:25 am	Load in a Drilled Foundation. Where did it go & when did it get there?	Walter E. Vanderpool – Terracon
9:30 am - 9:55 am	Improvements in Deep Compaction Using Vibratory Pile Hammers	Dennis Nottingham – PND Inc.
10:00 am - 10:25 am	Advantages and Limitation of Integrity Tests for Large Diameter Bored Piles in Bangkok Subsoil	Narong Thasnanipan Seafo Public Co. Ltd
10:30 am - 11:00 am	<b>Break</b>	
11:05 am - 11:30 am	Design and Installation of Pretensioned Spun Concrete Piles to Support a Large Diameter Sewer	Naresh Koirala EBA Engineering Consultants Ltd.
11:35 am - 11:50 am	Dynamic Characterization of Drilled Shafts on Doremus Avenue Bridge	Martina Balic – Rutgers University Student Paper Competition Winner
12:00 pm - 1:30 pm	<b>DFI Members' Meeting &amp; Luncheon</b>	
1:30 pm - 2:00 pm	HAL HUNT LECTURE Communicating the Impact of Lower Mainland Geology on Foundation Design	Wayne Savigny, PhD, PEng, PGeo

### Session III: Innovations in Micropiles & Helical Piles

**Moderator:** Yogi Yogendrakumar PhD, PEng – Golder Associates Ltd.

2:15 pm - 2:40 pm	Micropiles to Support Power Transmission Towers	Wendy L. Mathieson – Shannon & Wilson
2:45 pm - 3:10 pm	St. Joseph Hospital of Bellingham, Washington Addition supported on Helical Pulldown Micropiles	J.L. Goen – Hubbell Power Systems
3:15 pm - 3:40 pm	The Construction and Performance of Post-grouted Micropiles for Vancouver International Airport Domestic Terminal Building	Mustapha Zergoun Trow Associates Inc.
3:45 pm - 4:15 pm	<b>Break</b>	

## ■ Thursday, September 30, 2004 continued

4:20 pm - 4:45 pm	Design and Construction of a Micropile Wall to Stabilize a Railway Embankment	Jim Bruce, PEng Geo-Foundations Contractors Inc.
4:50 pm - 5:15 pm	Design, Construction and Testing of Micropiles used to Support a Concrete Arch Bridge on Vancouver Island, BC	William Auyeung Kani Foundation Technologies
5:20 pm - 5:55 pm	Design, Prediction and Performance of Tied Back Shotcrete Walls Supporting Masonry Hospital Structures	Matthew Janes Isherwood Associates
6:30 pm - 7:00 pm	<b>Awards Reception</b>	
7:00 pm - 9:00 pm	<b>Awards Banquet</b> Presentation of Distinguished Service Award & Outstanding Project Award	

## ■ Friday, October 1, 2004

### Session IV: Ground Improvement & Ground Support

**Moderator:** Paolo Gazzarrini, PEng – Sea to Sky Geotech Inc.

9:00 am - 9:25 am	Permanent Soil Nail Earth Retention System, Stanley Hall Replacement Project, UC Berkeley	Pirooz Barar – PB&A Inc.
9:30 am - 9:55 am	The First Cut-Off Wall in the Indian Himalayas for the Dam of Dhauliganga Hydroelectric Project	Wolfgang G. Brunner Bauer Maschinen GmbH
10:00 am - 10:25 am	Underpass Support using Secant Pile Walls and Cement Deep Soil Mix Bottom Seal	Carole L. B. Mitchell Shannon & Wilson
10:30 am - 11:00 am	<b>Break</b>	
11:05 am - 11:30 am	Anchored Pile Foundations in British Columbia	Cory Yacyshyn – Southwest Contracting
11:35 am - 12:00 pm	Approach to Reliability Based Design on Deep Mixing Improved Ground	Masaki Kitazume Port & Airport Research Institute
12:05 pm - 12:30 pm	Seven Mile Dam Retrofit – A Global Challenge	Arvindh Gupta – Con-Tech Systems Ltd.
1:30 pm	Depart Hotel for Site Visits (indicate interest and choice on registration form)	
2:00 pm - 4:00 pm	<b>Costco Development Shoring, 651 Expo Blvd, City of Vancouver</b> BelPacific Excavation and Shoring is conducting shotcrete excavation support for the structure using both permanent and temporary applications. The permanent excavation support for the Canadian Armed Forces Drill Hall is 30 foot high using 17,000 lin feet of DCP anchors. With the addition of temporary excavation support below the total shored height is 57 feet. The total shored area is 58,000 square feet with an additional 19,500 lin feet of temporary anchors. The total project value for excavation and shoring is on the order of CAN \$5.2 million.	
2:00 pm - 5:30 pm	<b>Seymour Falls Dam Seismic Upgrade: Blast Densification of Loose Alluvial Soils</b> Tour of project where the blast densification method is being used to stabilize a hillside alluvial fan. A series of working benches are cut into the slope from which 15 to 30m deep holes are drilled into the fan. Charges are set at multiple levels that are then detonated sequentially to “encourage” the densification of soils containing boulders up to 4m in diameter.	

## Conference Exhibitors:

American Commercial Inc.  
Anderson Drilling  
APE Inc./J&M Foundation Equipment  
Associated Pile & Fitting LLC  
Bauer Equipment  
Casagrande S.p.A.  
Condon-Johnson & Associates Inc.  
Conetec Inc.  
Con-Tech Systems Ltd.  
Dawson Construction Plant Ltd.  
DBM Contractors Inc.  
Dywidag Systems International  
ECI Explosive Compaction Inc.

Geokon Inc.  
Griffiths Pile Driving Inc.  
Hammer & Steel Inc.  
Hayward Baker Inc.  
Hydraulic Power Systems Inc.  
International Construction Services Inc.  
Junttan Oy  
KB International LLC  
Kelly Tractor Co.  
Liebherr Nenzing Crane Company  
Loadtest Inc.  
Moffatt & Nichol Engineers  
Nilex Construction

Penn State Fabricators  
Pile Dynamics Inc.  
Pipe & Piling Supplies Ltd.  
Raito Inc.  
Rapid Impact Compactors Ltd.  
Richard Goettle Inc.  
Roll Form Group  
Skyline Steel Corp.  
Soilmec S.p.A.  
Timber Piling Council  
Vulcan Foundation Equipment Inc.  
Watson Inc.



## Conference Information:

### Accommodations:

The Fairmont Hotel Vancouver  
900 W. Georgia Street  
Vancouver, BC V6C 2W6 CANADA  
800- 441-1414 (Reservations)  
604-684-3131 (Hotel Direct)

\$199 CDN (approx. \$150 USD at time of printing) DFI Conference Special Hotel Rate. The discounted room rate is subject to a cut-off date: Monday, September 6, 2004 and availability. Rates are available three days prior to start of and three days following end of DFI Conference. Ask for "DFI" Rate.

**Transportation:** YVR Airporter (604-946-8866) offers Shuttles from the airport at a cost of \$12 CDN one-way or \$18 CDN round-trip to the Fairmont Hotel.

**Parking:** Parking is available at a rate of \$24 CDN per day.

\$1 USD = \$1.33 CDN at the time of printing.

### General:

**Acknowledgment:** If your registration is received in DFI Headquarters prior to Monday, September 6, 2004, you will be sent a confirmation.

**Cancellation:** Sorry, No Refunds after September 10, 2004. If you are unable to attend, your registration may be transferred to another individual provided they are a DFI member. Cancellations prior to September 10, 2004 must be made in writing via fax or mail.

**Student Registration:** Covers session registration and breaks only. Meals and Proceedings are separate. Spaces are limited. Must be a full-time student and provide copy of student I.D.

**Full Conference Registration Fees Include:** Conference sessions admission, Exhibit hall admission, Breaks, Welcome Luncheon, Welcome Reception, Hal Hunt Lecture, Annual Members' Luncheon Meeting, Awards Reception and Banquet, Site Visit and a bound copy of the conference proceedings.

**Payment:** Full Payment must accompany all registrations!

## Conference Companion's Program\*

### Wednesday, September 29, 2004

3:00 pm - 4:00 pm Welcome Tea  
6:00 pm - 8:00 pm Welcome Reception (with Conference Attendees)

### Thursday, September 30, 2004

7:30 am - 8:45 am Continental Breakfast  
9:00 am - 12:00 pm Discover Vancouver, one of the most beautiful and tranquil cities in North America. You will enjoy a guided bus tour of many of Vancouver's beautiful sights starting off with an overview of the city and a visit to the landmark Stanley Park, "Vancouver's Playground". Continue to the North Shore and ride the Grouse Mountain Skyride, a gondola, to the top of the mountain and take in the breathtaking views of the city.  
12:00 pm - 1:30 pm On Grouse Mountain you will enjoy lunch at the Altitudes Bistro which offers an exciting, vibrant atmosphere with a superb menu.  
1:30 pm - 4:00 pm Following lunch you will drive back through Stanley Park, past the English Bay and False Creek area, to your final stop, Granville Island. This oasis in the middle of a city of two million combines the wonders of culture, food, history and fun. You will have time to view the galleries, shop in the public market and specialty shoppes or relax by the marina before returning to the Fairmont Hotel.  
6:30 pm - 7:00 pm Awards Reception (with Conference Attendees)  
7:00 pm - 9:00 pm Awards Banquet (with Conference Attendees)

### Friday, October 1, 2004

8:00 am - 9:30 am Continental Breakfast

A Companions Program Suite will be open to all Companions Program Attendees for the duration of the Conference (Room 277).

\* All Programs Subject to Change.

## Registration:

### DFI 2004 Annual Conference on Deep Foundations Registration Form *(Please complete entire section)*

Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_ Mr / Ms / Mrs / Other \_\_\_\_\_

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

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

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

### Attendee Registration

#### DFI/CGS\* Member Conference Registration *(Registrant or Company must be DFI or CGS Member in Good Standing!)*

Register by September 1, 2004 \$595.00 USD  Register after September 1, 2004 \$695.00 USD

#### Non-Member Conference Registration *(Includes Free DFI Individual Membership through Nov. 2005!)*

Register by September 1, 2004 \$645.00 USD  Register after September 1, 2004 \$745.00 USD

#### Optional site visit reservation *(full registrants only)*

Costco **OR**  Seymour Falls Dam

Individual Session Registration \$150.00 USD Session #: \_\_\_\_\_

Companion Program \$350.00 USD Full Name: \_\_\_\_\_

Student Registration \$25.00 USD *(Sessions and Breaks Only, meals separate. Student spaces limited)*

Registration Total: \$ \_\_\_\_\_ \* CGS member? *(Members eligible for DFI member rate)*

### Pre-Conference Short Course Registration: September 28, 2004

Augered Cast-in-Place Pile Short Course \$250.00 USD *(Members)* \$300.00 USD *(Non-Members)*

Micropiles-Developments in Design & Construction Short Course \$250.00 USD *(Members)* \$300.00 USD *(Non-Members)*

Pre-Conference Course Total: \$ \_\_\_\_\_ **Note! Course run concurrently. Register for one only!**

### Examination Registration: September 29, 2004

High Strain Dynamic Pile Testing Examination \$250.00 USD

### Payment

Total for Conference \$ \_\_\_\_\_

#### Payment By:

Check or Money Order Enclosed  VISA  Amex  MasterCard  Discover  Diners Club

Credit Card No: | | | | | | | | | | | | | | | | | | | | Exp: \_\_\_\_ / \_\_\_\_

Name on Credit Card: \_\_\_\_\_ Signature: \_\_\_\_\_

### Sorry, No Refunds After September 10, 2004

**Mail:** Credit card payment or check payable to: **DFI**  
Deep Foundations Institute – 326 Lafayette Avenue, Hawthorne, NJ 07506 USA

**Fax:** Credit card payment to: 973-423-4031

**Inquiries:** Tel: 973-423-4030 or e-mail: [staff@dfi.org](mailto:staff@dfi.org)

Register online at [www.deepfoundations04.org](http://www.deepfoundations04.org)