

REGISTRATION

In order to register, please do so before
February 17th 2012 via our website.

COURSE ORGANISATION

Plaxis bv
P.O. Box 572
2600 AN Delft
The Netherlands

Mr. Dennis Waterman
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FOR PLAXIS SOFTWARE

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COURSE FEES

Advanced Course (19-21 March) €1395
3D Tunnelling Day (22 March) €565
(A €110 discount is applied if both events are attended)

PLAXIS VIP

Members of PLAXIS VIP may apply for a discount on the course fee. Please contact us for the conditions.

For registration visit:
www.plaxis.nl/events

VENUE

The course is held at the Van der Valk Hotel Schiphol in Hoofddorp. For more information see: www.hotelschiphol.nl.

It is possible to book accommodation at a special rate per night of €99 for a double or €89 for a single room including breakfast. In order to book a room at this special rate please see the hotel booking form provided to you upon registration for the course.

REGISTRATION AND CANCELLATION

The total number of participants is limited to forty (40). Registration will be accepted in the order in which they are received. Participants who require a visa are suggested to register early. Please note that your registration is not final until we have received payment. For payment after February 24th 2012 we cannot guarantee your accommodation or the use of the computer and additionally the organisation

will then reserve the right to cancel your seat in the course and grant it to the first person on the waiting list, if applicable. The organisers also reserve the right to make any necessary amendments to the program. Cancellation of course registration with refund of the course fee, less €125 service charge, will be accepted

by the organizers in writing, if it is received no later than February 17th, 2012. Only 50% registration fee will be refunded after that date but before March 10th 2012 while no refund can be made after March 10th or in case of no-show. Refund of the accommodation fee is subject to the regulations of the Hotel.



PLAXIS Expert Services

This course relates to Plaxis Expert Services among which we can also provide:

- In-house training
- Numerical modelling and analysis
- Review and mentoring of Plaxis projects

For information contact: expert.services@plaxis.nl or look on our website: www.plaxis.nl

PLAXIS

essential for geotechnical professionals



ADVANCED COURSE ON COMPUTATIONAL GEOTECHNICS
19 - 22 March 2012, Schiphol, The Netherlands

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INTRODUCTION

The well established advanced course for experienced Plaxis users is organized every year as a continuation of the basic course on Computational Geotechnics.

One of the aims of this course is to teach the application of advanced soil models. Where the basic course concentrates on the Mohr-Coulomb model, attention is now fully focused on the Hardening Soil model and the very new extension to include the small-strain stiffness.

Another aim of the course is to teach the numerical analysis of geotechnical problems, such as excavations, soil improvements, embankments and

foundation. On solving practical problems PLAXIS software will be applied. For 2D problems PLAXIS 2D 2011 will be used, which includes the extension to small strains and a feature to simulate standard laboratory tests as well as groundwater flow.

For 3D problems the new PLAXIS 3D 2011 program will be applied, which includes consolidation and new options to generate complex geometries.

LECTURES

Experts with a thorough theoretical background and an extensive experience in practical computer modelling have been invited to give lectures and to prepare exercises as well as case studies.

SOFT SOILS

The second day will be fully dedicated to soft soils. Aspects of excavations in soft soil and embankments with creep behaviour and its interaction with consolidation as well as large deformation analysis will be addressed. Additionally the use of drains and soil improvement will be discussed.

- Soft Soil model – Dr. Vahid Galavi
- 1-D Creep – Prof. Pieter Vermeer
- Anisotropic creep – Dr. Martino Leoni
- Consolidation – Prof. Pieter Vermeer
- Soil improvement – Prof. Helmut Schweiger
- Drains – Prof. Helmut Schweiger

FOUNDATIONS

The third day opens with lectures on the modelling of foundations, with particular attention to raft and pile-raft foundations. Furthermore, the 3D Foundation program is introduced and used for exercises on raft and piled raft foundations.

- Shallow foundations – Prof. Pieter Vermeer
- Using Plaxis 3D – Dennis Waterman
- Analysis of piles – Dr. Yasser El-Mossallamy

- Piled rafts – Dr. Yasser El-Mossallamy
- Embedded piles - Prof. Helmut Schweiger

TUNNELLING

This year there the optional fourth day will be fully dedicated to tunnel modelling in 3D. The tunnelling day focuses on the analysis of both NATM and shield tunnels in a separate morning and afternoon sessions. Different aspects of tunnelling with respect to soil conditions will be discussed, including modelling of rock in Plaxis.

- Shield tunnelling – Dr. Wout Broere
- Modelling shield tunnels in Plaxis 3D – Dennis Waterman
- Modelling of rock – Prof. Helmut Schweiger
- NATM tunnelling – Prof. Helmut Schweiger
- Tunnel exercises

FORMAT

The course starts with registration and a welcome drink on Sunday evening. The program format consists of three days, which are arranged in intensive session blocks, allowing for a compact and time

HARD SOILS

On the first day of the course the focus will be on elastoplastic soil models and the simulation of standard laboratory tests. Special attention will be given to undrained soil behaviour, small-strain stiffness and parameter sets for different soils. To include small-strain soil stiffness the Hardening Soil model has been extended to the HS-Small model, as will be explained in full detail.

- Concepts of plasticity – Prof. Helmut Schweiger
- Shear and density hardening of soils – Prof. Pieter Vermeer
- Hardening soil model – Dr. Vahid Galavi
- The HS-small model – Prof. Thomas Benz
- Undrained behaviour – Prof. Helmut Schweiger

effective course. All days include a morning and an extended afternoon session ending with dinner. The blocks all contain two full 45min. lectures and a 60min. exercise with full tutoring. On Wednesday afternoon the course ends with a dinner for those who do not subscribe for the Dynamics day on Thursday.

COST

The cost of only the course is €1395 and the cost of the extra 3D tunnelling day is €565. However, when both the course and the 3D tunnelling day are attended there will be a €110 discount. The cost includes all lunches and dinners. The course fee also includes a full set of instruction manuals and the use of a computer.

Dates:	19 – 22 March, 2012
Location:	Hotel Schiphol, Hoofddorp, The Netherlands
Course leader:	D. Waterman, Plaxis bv
Organisers:	Plaxis bv

Prof. Thomas Benz, Norwegian University of Science and Technology / Wechselwirkung GmbH

Thomas worked for several years as field geophysicist, structural, and geotechnical engineer before he got into constitutive modelling of geo-materials. As part of his Ph.D. thesis he developed the HS-Small model, a small-strain extension of the Hardening Soil model before moving to NTNU.

Prof. Helmut F. Schweiger, Graz University of Technology

Helmut obtained his Ph.D. from the University College of Swansea, UK and teaches courses on Soil Mechanics and Computational Geomechanics at the Graz University of Technology. He has over 15 years of experience in development and application of the finite element method in geotechnics.

Prof. Pieter Vermeer - Deltares

Pieter teaches both basic courses on Soil Mechanics and special courses of Geotechnical Engineering.

He has been involved in constitutive modelling and finite element analysis since the early seventies and initiated the development of the Plaxis code.

Dr. Wout Broere, Delft University of Technology

Wout has been with Delft University since 1995. His research interests range from new soil investigation techniques, laboratory and centrifuge testing to various aspects of underground construction. He specialises in tunnel face stability and has been involved with several large tunnel boring projects.

Dr. Yasser El-Mossallamy, Arcadis Consult

Yasser has been a researcher and consultant for 17 years, with experience in piled raft foundations of high-rise buildings and bridge foundation. He was also involved in many projects dealing with stability of landslides, rock fall hazards and tunnelling.

Dr. Vahid Galavi, Plaxis bv

Vahid obtained his Ph.D. from Graz University of

Technology, developing a multilaminar model for modelling inherent anisotropy, destructuration and strain softening in structured clays. He joined Plaxis bv in 2008 and since then worked on groundwater flow, coupled hydro-mechanical analyses, unsaturated soil behaviour, and dynamic analysis.

Dr. Martino Leoni, Wesi Geotecnica Srl

Martino obtained his PhD from the University of Parma, Italy. In the years 2005-2009 he was research fellow at the University of Stuttgart, where he developed a constitutive model for anisotropic creep of soft soils. He is currently director of the Italian company Wesi Geotecnica Srl.

THE LECTURERS