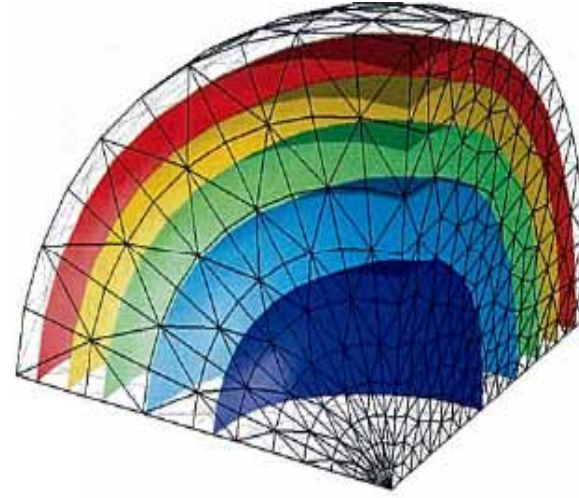


## 2-day Geotechnical Workshop on Soil Modelling

By Professor David Muir Wood, University of Dundee, UK, and Author of the book "Soil Behaviour and Critical State Soil Mechanics"



### Introduction

All calculations of soil's response to engineering loading from foundations, retaining structures, tunnels, piles, etc., require some assumed model of soil response. The calculations in most of the soil models are implicit in nature. Models that are commonly selected for settlement and bearing capacity calculations are Elastic Models and Mohr-Coulomb Models respectively. For more reliable calculations of geotechnical deformations, realistic models which address steadily falling stiffness corresponding to the approaching failure are required. Many such models which use finite element programmes are available in market. Before the engineers and geotechnical professionals choose one of such soil modelling programmes, it is important for them to understand the nature and limitations of such soil models.

### Objective

This workshop aims to provide participants with an introduction to some of the models that are commonly used for geotechnical calculations and show some of the ways in which the simple models can be extended to incorporate additional features which may be important in certain geotechnical applications. The workshop will also contain hands-on sessions involving calculations using simpler soil models.

This workshop is organised jointly by the Geotechnical Society of Singapore (GeoSS) and the BCA Academy.

### Workshop Topics

#### DAY 1

- Introduction to modelling
- Features of soil behaviour – stiffness, strength
- Simple one-dimensional model for soil
- Elastic models
- The most widely used soil model: Mohr-Coulomb
- Calculation session: Elastic and Mohr-Coulomb calculations for single soil element and two element foundation

#### DAY 2

- Formulation of Mohr-Coulomb stiffness matrix; extension of prefailure non-linearity
- Cam clay – graphical introduction
- Cam clay – formulation of stiffness matrix
- Calculation session: Selection of soil parameters for different soil models
- Extensions of simple models: kinematic hardening; effects of structure/cementation; particle breakage; internal erosion
- Conclusion: Messages for modelling

### Details

Date: 25 & 26 October 2010

Time: 9.00am to 5.00pm  
(Registration starts at 8:30am)

Venue: Lecture Room B1-9,  
BCA Academy

Fee (inclusive of GST):

S\$ 385.20 (GeoSS members)

S\$ 406.60 (Others)

*Refreshments and lunch will be provided.*

### Target Audience

- Practicing Engineers
- Geotechnical Professionals
- Students from Institutes of Higher Learning

### Accreditation

PEB: Pending

IES: Pending

(Applicable for REs & RTOs)

BCA ACADEMY  
200 Braddell Road Singapore 579700  
Tel: 6248 9999 Fax: 6258 0558  
www.bcaa.edu.sg

© 2010 Copyright of Building and Construction Authority. All rights reserved. All information in this document is correct at the time of print.

## Workshop Leader

**PROFESSOR DAVID MUIR WOOD** is an Emeritus Professor of Civil Engineering at the University of Bristol and Professor of Geotechnical Engineering at the University of Dundee. He is a Fellow of Institution of Civil Engineers, Member of British Geotechnical Society, Member of Remote Sensing and Photogrammetry Society and Member of Society for Earthquake and Civil Engineering Dynamics.

Professor Muir Wood has served various positions including the Honorary Editor of Geotechnique and Chairman of its Advisory Panel, Chairman of the Scottish Geotechnical Group and Dean of Faculty of Engineering at Glasgow University & University of Bristol. Professor Muir Wood's research areas include development of constitutive models for soils, analysis of soil-structure interaction and response of geotechnical systems.

Event Code: 77042

## Registration Form - 2-day Geotechnical Workshop on Soil Modelling

**Date:** 25 & 26 October 2010

**Fee** (inclusive of GST): S\$385.20 (GeoSS members)

**Time:** 9.00am to 5.00pm  
(Registration starts at 8:30am)

S\$406.60 (Others)

**Venue:** Lecture Room B1-9, BCA Academy

PEB  IES  Please tick accordingly

Name of Participant	NRIC/Passport No.	Designation	HP no.	Email

Yes, I would like to receive course - seminar updates via email \_\_\_\_\_.

Company Name:  Company UEN No.:

Mailing Address:  GeoSS member No.:

### Contact Person Particulars

Name: (Dr/Mr/Mrs/Ms)  Email:

Designation:  Hp no.:

Telephone No.:  Fax no.:

### Payment

Enclosed is a cheque no. \_\_\_\_\_ (Cheque should be crossed, marked "account payee only" and payable to 'BCA Academy') for S\$ \_\_\_\_\_

OR Deduct from GIRO acc. No. \_\_\_\_\_

(should be the same bank account number as indicated in the Direct Debit Authorisation form submitted to BCA)

.....  
Name/Signature ( \*Company / individual applicant)

Company Stamp  
(For company application)

Reservation may be made by fax, e-mail, post or by hand. To confirm the reservation, payment will have to be made before the seminar date via cheque, VISA or Nets/cash. No invoice will be issued. Walk-in applicants will only be admitted on the basis of seat availability and full payment. Please inform us in writing of any change in your registration, which is subject to administrative charges as shown below:

#### Request for Replacement and/or Withdrawal

- Request for replacement in writing, must reach BCA Academy before the commencement date of the seminar: No administrative charge
- Request for withdrawal in writing, that reaches BCA Academy at least 2 weeks before the seminar date: 90% refund of seminar fee.
- Request for withdrawal in writing, that reaches BCA Academy less than 2 weeks but more than 3 working days before the seminar date: 75% refund of seminar fee.
- Request for withdrawal in writing, that reaches BCA Academy 3 working days or less before the seminar date: No refund of seminar fee.

BCA Academy reserves the right to amend the seminar details or cancel the seminar and fully refund the participants should unforeseen circumstances warrant it.

### Enquiries

For enquiries, please call 6248-9999 / 6248-9843 or email us at [bca\\_academy@bca.gov.sg](mailto:bca_academy@bca.gov.sg)

For details of other seminars and courses, please visit our website @ [www.bcaa.edu.sg](http://www.bcaa.edu.sg)

### Registration

Seats are limited, registration is on a first-come, first served basis. Training places will be confirmed upon the payment of the fees before the commencement date. Please fax the application form to: 6258-0558. Cheques with original application form and supporting documents should be mailed to **BCA Academy, 200 Braddell Road, Singapore 579700**



**BCA ACADEMY**  
of the built environment