



**Seminar Jointly Organized by**

**ASCE Hong Kong Section  
HKIE Geotechnical Division  
Hong Kong Geotechnical Society  
Department of Building & Construction, City University of Hong Kong**

## **Recent Evaluations of Rock Foundations**

- (a) Evaluation of Capacity of Rock Foundation Sockets**
- (b) Capacity of Foundations on Discontinuous Rock**

**by**

**Professor Fred H. Kulhawy**  
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&  
Professor, School of Civil & Environmental Engineering  
Cornell University, New York, U. S. A.

Date: 5<sup>th</sup> February 2008 (Tuesday)  
Time: 6:00 – 7:00 pm  
Venue: Lecture Theatre 3, City University of Hong Kong, Kowloon Tong

### **Abstract**

**(a) Evaluation of Capacity of Rock Foundation Sockets:** Drilled foundations often are socketed into rock to increase the foundation capacity. However, procedures to quantify the side resistance capacity of sockets vary considerably. This seminar reviews many of the proposed methods to predict this capacity and critically assesses them. One method then is recommended, based on the currently available data. Statistics for this method are presented, and design implications are noted.

**(b) Capacity of Foundations on Discontinuous Rock:** This seminar extends the 1980 Kulhawy and Goodman paper that proposed a simplified bearing capacity calculation model for foundations on discontinuous rock masses that are dominated by vertical and horizontal discontinuities. The theoretical models and the empirical correction factor are refined. A finite element model also is used to verify the refined models. Furthermore, Monte Carlo simulations are performed to evaluate the results of the refined models relative to an empirical bearing capacity approach. In addition, the results are compared to field test data.

### **The speaker**

Professor Kulhawy has been on the teaching and/or research staff at the New Jersey Institute of Technology, the University of California at Berkeley, and Syracuse University, prior to joining Cornell University in 1976, and he has been a Visiting Professor at the Universities of Cambridge (England), Sydney and Queensland (Australia), Hawaii, Hong Kong, and Singapore. His teaching has included many areas in geotechnical engineering, with current emphasis on foundation engineering, rock engineering, embankment dams, underground structures, and design practice. His research efforts have focused on foundations, dams, coastal and marine structures, soil-structure interaction, underground openings, soil and rock behavior, geological modeling, and computer and reliability applications in geotechnical engineering. Professor Kulhawy is a Distinguished Member of ASCE (formerly known as Honorary Member through 2007). He has received numerous awards from professional societies, including the prestigious Karl Terzaghi Award and Norman Medal from ASCE.

### **Registration & Enquiries**

This seminar is free of charge and prior registration is suggested. **A one-hour CPD certificate will be issued to each registered participant.** Please complete the attached reply slip and send it to the Seminar Secretariat ([asce@ust.hk](mailto:asce@ust.hk)) on or before 4 February 2008. For enquiries, please contact Dr. Yu WANG (Tel: 2788 7605) or Dr. Patrick CHEUNG (Tel: 2867 3772, Fax: 2290 2192).

**Recent Evaluations of Rock Foundations - 5 Feb. 2008, Tuesday (18:00 – 19:00)**

**By**

**Professor Fred H. Kulhawy**

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### **Pre-registration Form**

To: Seminar Secretariat, ASCE Hong Kong Section  
Attn: Mr. Paul CHEUNG ([asce@ust.hk](mailto:asce@ust.hk) )

*by E-mail*

Name: *(Please underline Family name.)* \_\_\_\_\_

Office Tel or Mobile No.: \_\_\_\_\_

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

Company Name: \_\_\_\_\_

ASCE Member (Yes/ No)

CPD Certificate (Yes/ No)

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# Location Map

教學樓內之訪客欲往其他大樓請先到大學道 (四樓)  
 Users in Academic Building should always proceed to the University Concourse (Floor 4) for other areas or buildings.

大學道 University Concourse  
 四樓 Floor 4

## Lecture Theatre-3

