

**GEO-INSTITUTE  
RISK ASSESSMENT AND MANAGEMENT COMMITTEE**

**MINUTES OF MEETING**

**HELD ON**

Tuesday, February 20, 2007

5:00 – 9:00 pm

Plaza Court 2, Adam's Mark Denver

Denver, Colorado

**Present:** Kok-Kwang Phoon (Chair), Jianye Ching, Gordon Fenton, Bob Gilbert, Ed Glynn, Vaughan Griffiths, Hsein Juang (Secretary), Jeff Keaton (TCC Councilor), Robb Moss, Lance Roberts, Adrian Rodriguez-Marek, Limin Zhang

**Guests:** Jason Goldsworthy, Abdul-Hamid Soubra, Xiong (Bill) Yu

**Regrets:** Laurie Baise, Philippe Bourdeau, Hongwei Huang, Mark Jaksa, Pinnaduwa Kulatilake, Bak-Kong Low, Amy Rechenmacher, Bill Roberds, Mary Roth, Wilson Tang, Erik Vanmarcke, Thomas Wolff, Tien H Wu, Aspasia Zerva, Hongbo Zhou

**1. Introductions**

KK Phoon convened the meeting at 5.00pm, Plaza Court 2. Members and guests present introduced themselves.

**2. Review of previous minutes**

Minutes of the last meeting (Atlanta, 26 Feb 2006) were reviewed and approved without comments.

**3. Report from Geo-Institute TCC**

The committee thanked Shobha Bhatia, our past councilor, for her service. The committee welcomed Jeff Keaton as our new councillor in TCC.

Jeff had kind comments on the committee's work and briefed the committee on a variety of issues. He encouraged the committee to hold quarterly conference calls. He elaborated on Dick Woods' email concerning establishment and enhancement of liaisons with similar committees in other organisations. The goal is to broaden the technical reach of GI technical committees. KK Phoon mentioned that GI-RAM is well connected to ISSMGE (TC23 and TC32), but not well connected to others, e.g. TRB. Jeff would look into how we can establish more liaisons. He would provide a list of relevant TRB committees for our consideration. Jeff also mentioned that a pool of money is available for special project and to support attendance at some policies meeting with no technical program. On membership policies, citing the concern of Board of Governors, Jeff

mentioned that number of committee members should not be capped, so as to encourage people to participate. He discussed the succession of leadership, citing the usual practice of having chair, past chair, and chair-elect designation. KK mentioned the committee's current plan, with the Secretary serving as chair-elect.

#### **4. Report on past year's committee tasks**

##### **a) GeoCongress, Atlanta, Georgia, February 26 – March 1, 2006**

GI-RAM successfully organised 4 technical sessions in Atlanta:

— Probabilistic modeling and design

Session organizers: Vaughan Griffiths and Gordon Fenton

— Neural networks modeling for geotechnical systems

Session Organizer: Hsein Juang

— Geostatistics: Applications and Visualizations

Session organizers: Kok-Kwang Phoon and Robert Gilbert

— Uncertainty in Probabilistic Seismic Hazard Analysis

Session Organizer: Adrian Rodriguez-Marek

Co-sponsor: GI-EESD

##### **b) GeoShanghai, Shanghai, China, June 6-8, 2006**

Limin Zhang & KK Phoon organized two sessions (one invited and one general) on "Limit state design in geotechnical engineering," which consisted of 19 papers. ISSMGE TC23 co-sponsored both sessions with GI-RAM

##### **c) International Symposium on New Generation Design Codes for Geotechnical Engineering Practice, 2-3 November 2006, Taipei, Taiwan**

This symposium was sponsored by the Geo-Institute, under recommendation from GI-RAM. Yusuke Honjo, Hsein Juang and KK Phoon participated in this symposium as members of the International Advisory Committee and invited lecturers.

##### **d) ECI Conference on Geohazards Risk Evaluation – Technical, Economical and Social Risk Evaluation, 19-21 June 2006, Lillehammer, Norway**

KK Phoon participated in the organization of the conference that was co-sponsored by GI, International Centre for Geohazards, Norwegian Geotechnical Society, Norwegian Society for Earthquake Engineering, International Consortium on Landslides and German Geotechnical Society.

**e) Short course**

Vaughan Griffiths and Gordon Fenton delivered short courses on “Geotechnical Risk Assessment and Reliability-Based Design” to the Canadian Geotechnical Society, Southern Ontario Section (Toronto), February 22, 2006 (60 participants) and on “Probabilistic methods in Geotechnical Engineering” at CISM (International Centre for Mechanical Sciences), Udine, Italy, July 10-14, 2006 (35 participants).

**f) Publications**

Parsons, R. L., Zhang, L. M., Guo, W. D., Phoon, K. K. & Yang, M. (Editors), Foundation Analysis and Design: Innovative Methods, Geotechnical Special Publications 153, ASCE, Reston, 2006, 346 p.

Alfredo H. Ang & Wilson H. Tang, Probability Concepts in Engineering: Emphasis on Applications to Civil and Environmental Engineering, 2nd Edition, March 2006, 406 p.

**5. Ongoing committee activities**

**a) GeoDenver, Denver, Colorado, Feb 18-21, 2007**

Vaughan Griffiths is co-chair for GeoDenver 2007. KK Phoon is track chair for the Risk Assessment and Management Track comprising of 4 technical sessions:

- Advances in Load and Resistance Factor Geotechnical Design  
Session Organizers: Gordon Fenton & Vaughan Griffiths
- Probabilistic Methods and Applications  
Session Organizer: Kok-Kwang Phoon
- Serviceability Issues in Reliability-Based Geotechnical Design  
Session Organizers: Hsein Juang & Limin Zhang
- Slopes, Embankments, and Related Problems  
Session Organizers: Edward Glynn and Thomas Wolff

**b) 1st Sri Lankan Geotechnical Society International Conference on Soil and Rock Engineering, Colombo, Sri Lanka, 7 – 11 August, 2007**

Pinnaduwa Kulatilake is co-chair and session organiser of “Application of Probability & Statistics”.

**c) 10th International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP10), University of Tokyo, Japan, 31 July – 3 August, 2007**

Farrokh Nadim (chair, TC32) and KK Phoon are co-organisers of “Risk Assessment and Management of Geohazards”. This session is co-sponsored by TC32 and GI-RAM.

**d)** First International Symposium on Geotechnical Safety & Risk, Oct 18-19 2007, Shanghai, China

This symposium is sponsored by the Geo-Institute, under recommendation from GI-RAM. KK Phoon is co-chair of organising committee, Limin Zhang is co-chair of technical committee, Wilson Tang and Yusuke Honjo are members of advisory committee, and Lance Roberts is member of technical committee.

**e)** Short course

Vaughan Griffiths and Gordon Fenton are planning to deliver a 1.5-day ASCE Continuing Education course called "Probabilistic methods in geotechnical engineering". It will be offered twice in 2007:

Denver CO, July 12-13, 2007  
Burlington, VT, SEP 27-28, 2007

**g)** Publications

First issue of Georisk (Taylor & Francis) will be published in March 2007. KK Phoon is editor-in-chief. Gordon Fenton, Yusuke Honjo, and Farrokh Nadim are managing editors. This international journal seeks to increase knowledge about all facets of risk assessment and management, with the aim of improving disaster resiliency at all stages of disaster management for engineered systems and geohazards.

Phoon, K. K., Fenton, G. A., Glynn, E. F., Juang, C. H., Griffiths, D. V., Wolff, T. F. & Zhang, L. M., Probabilistic Applications in Geotechnical Engineering, Geotechnical Special Publications 170, ASCE, Reston, 2007.

Zerva, A., Seismic ground motion spatial variability: modeling and engineering applications, CRC Press (in progress)

Phoon, K. K. (editor), Reliability-Based Design in Geotechnical Engineering: Computations and Applications, Spon Press (in progress)

Fenton, G.A., and Griffiths, D.V., have signed a contract with Wiley to publish a book entitled “Risk Assessment in Geotechnical Engineering” due this summer. The book should be available in early 2008.

## 6. Future activities

(a) GeoCongress 08, March 9-12, 2008, New Orleans, Louisiana.

Summary of proposals:

<b>Proposal</b>	<b>Organisers</b>
Uncertainties in flow and transport problems in unsaturated media (1 technical session)	KK Phoon cvepkk@nus.edu.sg Craig H Benson benson@engr.wisc.edu
Assessment of variability and risk by geophysical methods (1 technical session)	Xiong (Bill) Yu, xxy21@case.edu
Risk and reliability of dams and levees** (3 technical sessions, 1 panel discussion and a short course)	Bob Gilbert, bob_gilbert@mail.utexas.edu Limin Zhang, cezhangl@ust.hk
Applications of risk analysis in geotechnical and geoenvironmental engineering (1 technical session)	Jason S. Goldsworthy, jason_goldsworthy@golder.com Gordon A. Fenton, Gordon.Fenton@dal.ca
Site characterization for reliability-based design applications in geotechnical engineering (1 technical session)	Lance A. Roberts, laroberts@terracon.com
Reliability-based foundation design (1 technical session)	Gordon A. Fenton, Gordon.Fenton@dal.ca Vaughan Griffiths, D.V.Griffiths@mines.edu
Emerging technologies (fuzzy and neural approaches) for site characterization and geohazards assessments (1 technical session)	C. Hsein Juang, hsein@clemson.edu
Practical reliability-based methods for geotechnical engineers (short course)	C. Hsein Juang, Clemson University, hsein@clemson.edu Marte Gutierrez, Virginia Tech, magutier@vt.edu

(b) Possible specialty conference on uncertainty and risk

TCC will support a proposal from GI-RAM on the above. A possible target year is 2011. Hsein Juan is requested to look into this proposal.

## **7. Awards Subcommittee report**

The committee agreed to nominate distinguished members of GI-RAM for achievement awards. Hsein Juang, Bob Gilbert, and Gordon Fenton were asked to look into nominations of TH Wu, Wilson Tang, and Erik Vanmarcke, respectively.

KK Phoon received the Editorial Board Member Exemplary Award for Journal of Geotechnical and Geoenvironmental Engineering, Geo-Institute of ASCE, 2005-2006.

## **8. Membership issues**

The committee welcomed Laurie Baise, Jianye Ching, Huang Hongwei, Hong Bo Zhou, as new members.

Jason Goldsworthy and Xiong (Bill) Yu were encouraged to join GI-RAM.

In reference to Item 8 of the minutes of the Committee meeting held in Atlanta on 26 Feb 2006, Dr. Dimitri A. Grivas informed the Committee Chair, that upon his retirement from RPI in 2004, he became President of UIT, a firm specializing in building and deploying multi-sensor technology for 3D underground imaging and for managing risks associated with critical underground infrastructure. He is also the Executive Director of the Institute for Infrastructure Asset Management, located in New York. Dr. Grivas has been among the initial members and founders of the Committee, and has served in many capacities including that of past Chair. The committee thanked Dr. Grivas for his past service.

## **9. Other business**

KK Phoon proposed holding the next committee meeting at GeoCongress 2008, New Orleans.

The meeting was adjourned at 9:00 PM.