

## News for Future Event

### *International Symposium on Backwards Problem in Geotechnical Engineering and Geotechnical Failure and Monitoring -Towards ISO on Construction Control on Geotechnical Engineering -*

Organized by

TC-302 Forensic Geotechnical Engineering, ISSMGE and ISO/TC182 Working Committee in Japan under the Auspices of Japanese Geotechnical Society and its Kansai Branch

Backwards problem in geotechnical engineering is to identify the process to the final states of geotechnical phenomenon as the most likely scenario that is explained through geotechnical fact data. Backwards problem usually consists of three steps. The first step is to identify the problem of final results of success or failure in geotechnical phenomenon as well as the initial state and condition. The second step is to assume all possible processes of scenarios from the initial state to the final result. The final step is to select the most likely scenario(s) based upon such as evidence of tests and monitoring.



Centrifugal Test System at Cambridge, U.K.

Centrifugal Experiment with monitored data provides an excellent case study for backwards Problem.

Two major geotechnical Failures of Nicoll Highway in Singapore and Fall of Can Tho Bridge Girder, Vietnam, provide important case studies of how to control construction with observational method.

April 20, 2004, Singapore



September 26, 2007, Can Tho, Vietnam



Terzaghi and Peck introduced Observational Procedure in Geo-engineering construction to fill the gap between the knowledge of site conditions and the assumed design conditions. Based upon the observational procedure, most projects have been successfully completed. Recently in the past decades, however, some of the geotechnical construction sites were reported in failure even with instrumentation for monitoring the process of construction. Forensic approach is a backwards problem where the final result is the given conditions and the process to the result is the question to be answered for.

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### *International Symposium on Backwards Problem in Geotechnical Engineering and Geotechnical Failure and Monitoring -Towards ISO on Construction Control on Geotechnical Engineering – (continued)*

The Symposium aims

1. to show the process of backwards problem from centrifugal experiments,
2. to identify the key factors in the failures including Nicoll Highway and Can Tho Bridge in Vietnam.
3. to overview the backwards problem of the field projects including failures,
4. to identify reasons why the instrumented geotechnical project resulted in failure,
5. to discuss the plausibility or applicability of total or effective methods to different types of the geotechnical engineering.
6. to present technical and legal systems as preventive measures against failure,
7. to give recommendations to avoid geotechnical failure, and
8. to propose to take lead for creation of an ISO standard on “Construction Control of Geotechnical Engineering.”

Discussion includes such a legal system as excavation deeper than five meter to be signed by registered geotechnical engineer (Seoul), introduction of third party as technical committee of evaluation of design and instrumentation and/or Dispute Board, discussion on monitoring, standardization of monitoring procedures, and recommendation of possible countermeasures, applicability of Total and/or Effective Analysis, and others.

Date: July 14 and 15 (Th/Fri), 2011

Venue: Green Hall, 8th Floor, Osaka Kensetsu Koryu Kaikan, Nishi-ku, Osaka

Keynote Lectures by:

Prof. Malcolm Bolton, Cambridge University,

“Backwards Problem from the Perspective of Centrifuge Tests and Simple Analyses with Nicoll Highway Collapse”

Prof. Kenji Ishihara, Chuo University,

“Geotechnical Problems of Failures during Subway Construction”

Prof. Yukitake Shioji, Prof. Emeritus Hachinohe Institute of Technology

“Geotechnical Design considering deformation of Extreme Soft Clayey Ground”

Prof. Toshihiko Oh-i, Kyoto Univ.,

“Enrollment of Dispute Board and Geotechnical Construction”

Program (tentative)

July 14 (Th)

Registrations

Opening Session

Presentation Session I

Backwards Problem in Geotechnical Engineering

Total /Effective Stress Approach

Presentation Session II

Case Study on Failed Projects/Difficult Soils and Other Factors

Reception

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### *International Symposium on Backwards Problem in Geotechnical Engineering and Geotechnical Failure and Monitoring -Towards ISO on Construction Control on Geotechnical Engineering – (continued)*

July 15(Fri)

Presentation Session III

Construction Control with Observational Procedure/Legal System

Presentation Session IV

Towards ISO Standard for Construction Control in Geotechnical Engineering

Panel Session with Conclusions

Summary and Adaptation of Recommendation

Closing Session

Call for Papers

Important dead lines

Abstract submission	March 30, 2011
Notice of acceptance	April 15, 2011
Full paper submission	May 30, 2011
Symposium	July 14 and 15, 2011

Session Co-Chairs Dr.Y.Iwasaki, Prof.M.Mimura, and Prof.Y.Kohata

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HP under construction