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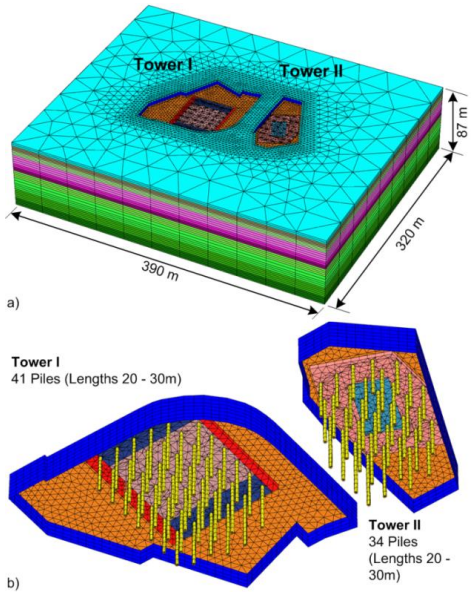
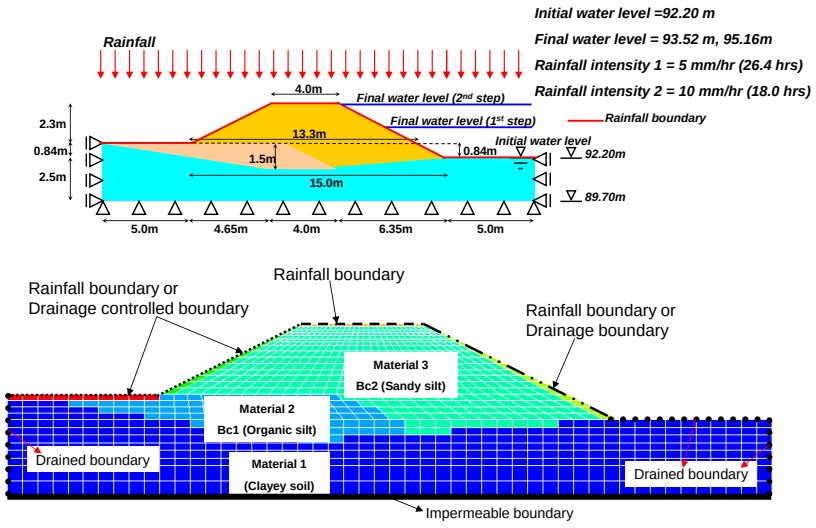
Guest Editors: Prof. Fusao Oka & Prof. Helmut F. Schweiger



Modelling of Pile Raft Foundation
(after Tschuchnigg & Schweiger, 2013)



Numerical Simulation of Rainfall Infiltration on
Unsaturated Soil Slope With Seepage Flow
(after S.Kimoto *et al*, 2013)

GEOTECHNICAL ENGINEERING

SEPTEMBER 2013 SPECIAL ISSUE ON NUMERICAL ANALYSES

Guest Editors:
Prof. Fusao Oka & Prof. Helmut F. Schweiger

Prof. Fusao Oka

Prof. Oka is Professor emeritus of Kyoto University and JSPS scientific researcher of Kyoto University. He had been Professor of Civil and Earth Resources Engineering at Kyoto University in Japan. He has many years of experience in geomechanics with special emphasis on constitutive modeling of geomaterials, liquefaction analysis, strain localization problems and experimental works, numerical modeling of multi-phase materials such as chemo-thermo-hydro-mechanical modeling of Methane hydrate containing ground. His research expertise covers engineering applications such as soil liquefaction, consolidation and excavation problems with theoretical and experimental approach. Prof. Oka has particular interest in the viscoplastic modeling of geomaterials and related strain localization behavior. He gave a special lecture at the plenary session of 16th ICSMGE on computational geomechanics in 2005. He has published more than 200 papers in this field and has received many awards from the Japanese Geotechnical society (2005), Japan Society of Civil Engineers (1993), and IACMAG (1997, 2006). He has been serving as a chair of TC34 of ISSMGE on Prediction and Simulation Methods in Geomechanics and chaired the 4th International Workshop on Strain Localization and Bifurcation Theory for Soils and Rocks (1997), the ISSMGE International Symposium on Deformation and Progressive Failure in Geomechanics (1997), and the International Symposium on Prediction and Simulation Methods for Geohazard Mitigation by JGS and ISSMGE (2009), the 46th. Japan National conference on geotechnical Engineering (2011). He is now chairing the organizing committee of the 14th ICIACMAG 2014 Kyoto. He is currently serving as EBM of the *International Journal of Numerical and Analytical Methods in Geomechanics, Computers and Geotechnics* and the *International Journal of Geomechanics and Geoengineering*.

Prof. Helmut F. Schweiger
(Graz University of Technology)

Prof. Helmut F. Schweiger is Head of the Computational Geotechnics Group at the Institute for Soil Mechanics and Foundation Engineering of the Graz University of Technology in Austria and has over 25 years of experience in developing and applying numerical methods in geomechanics. He obtained his Ph.D. form the University of Wales, Swansea, UK. His main research interests are the development of multilaminate models for soils, application of Random Set Theory to finite element analysis and the assessment of the influence of the constitutive model for solving practical problems, in particular deep excavations, deep foundations and tunnels. Application of numerical methods in accordance with the design approaches defined in Eurocode7 is another topic he is involved in. His group was a member of several research projects funded by the European Commission. His research is reflected in more than 130 publications in International Journals and Conference Proceedings and invitations to keynote and plenary lectures at International Conferences on Soil Mechanics and Computational Geotechnics. He serves on a number of editorial boards of international journals and was chairman of 6th European Conference on Numerical Methods in Engineering. As a member of several committees Helmut is involved in formulating guidelines and recommendations for the use of finite elements in practical geotechnical engineering. He lectures on courses on Computational Geotechnics around the world and has been a member of numerous Ph.D. committees.
In 2005 he received the "Excellent Contributions Award Regional" of the International Association for Computer Methods and Advances in Geomechanics and the "Best Paper Award" of the Japanese Geotechnical Society and in 2010 the "George Stephenson Medal" of the Institution of Civil Engineers, London, UK for a paper published in Geotechnique.

GEOTECHNICAL ENGINEERING

FOREWORD

I am very pleased to be the Leader of the Team of Guest Editors on this Special Issue on the Role of Analyses in Geotechnical Engineering. The co-editors are Prof. Helmut and Prof. Muhunthan in seeking contributions. Dr. Dariusz Wanatowski also helped in Proof Reading the articles.

There are nine papers in this issue and they are: Numerical Simulation of the Rainfall Infiltration on Unsaturated Soil Slope Considering a Seepage Flow; Seismic Response of Gravity-Cantilever Retaining Wall Backfilled with Shredded Tire;

Numerical modeling of lateral response of long flexible piles in sand; New Sampling Algorithm in Particle Fileter for Geotechnical Analysis; Comparison of deep foundation systems using 3D finite element analysis employing different modeling techniques; Application of a constitutive model for swelling rock to tunnelling; Finite element modelling of seismic liquefaction in soils; Random Wave-Induced Seabed Responses around Breakwater Heads; and Influence of brittle property of cement treated soil on undrained bearing capacity characteristics of the ground.

The authors of these papers are: S.Kimoto, F.Oka and E.Garcia; N. Ravichandran and E. L. Huggins; Md. Iftekharuzzaman and Bipul C Hawlader; T. Shuku, S. Nishimura, K. Fujisawa and A. Murakami ; F. Tschuchnigg & H.F. Schweiger; B. Schadlich, T. Marcher and H.F. Schweiger; V. Galavi, A. Petalas and R.B.J. Brinkgreve; Y Zhang, D-S Jeng, Z-W Fu and J Ou and S. Yamada, T. Noda, A. Asaoka and T. Shina.

Finally, I hope this Special Issue would be of great values to the Readers of Geotechnical Engineering Journal, whether they are in research or practice.

Fusao Oka
Guest Editor
Editorial Team, SEAGS/AGSSEA J. of Geotechnical Engineering
Professor Emeritus of Kyoto University
Kyoto, Japan

GEOTECHNICAL ENGINEERING

ACKNOWLEDGEMENT

It is a pleasure to thank Prof. Fusao Oka the Team leader of our Guest Editors for this September Issue on the Role of Analyses in Geotechnical Engineering Practice. The co-editors are Prof. Helmut Schweiger and Prof. Muhunthan Balasingham for acquiring papers from Europe & North America respectively. Dr. Dariusz Wanatowski helped the proof reading at the final stage.

Grateful acknowledgement is made to the contributing authors : :S.Kimoto, F.Oka and E.Garcia; N. Ravichandran and E. L. Huggins; Md. Iftekharuzzaman and Bipul C Hawlader; T. Shuku, S. Nishimura, K. Fujisawa and A. Murakami ; F. Tschuchnigg & H.F. Schweiger; B. Schadlich, T. Marcher and H.F. Schweiger; V. Galavi, A. Petalas and R.B.J. Brinkgreve; Y Zhang, D-S Jeng, Z-W Fu and J Ou and S. Yamada, T. Noda, A. Asaoka and T. Shina.

There are nine excellent papers related: Numerical Simulation of the Rainfall Infiltration on Unsaturated Soil Slope Considering a Seepage Flow; Seismic Response of Gravity-Cantilever Retaining Wall Backfilled with Shredded Tire;

Numerical modeling of lateral response of long flexible piles in sand; New Sampling Algorithm in Particle Fileter for Geotechnical Analysis; Comparison of deep foundation systems using 3D finite element analysis employing different modeling techniques; Application of a constitutive model for swelling rock to tunnelling; Finite element modelling of seismic liquefaction in soils; Random Wave-Induced Seabed Responses around Breakwater Heads; and Influence of brittle property of cement treated soil on undrained bearing capacity characteristics of the ground.

Also, the editorial works for the December Issue is now well advanced and the valuable assistance from our International Geotechnical Community is gratefully acknowledged.

K. Y. Yong
N . Phienwej
T. A. Ooi
A. S. Balasubramaniam

GEOTECHNICAL ENGINEERING

September 2013: Numerical Analyses

Guest Editors:
Prof. Fusao Oka & Prof. Helmut F. Schweiger

TABLE OF CONTENTS