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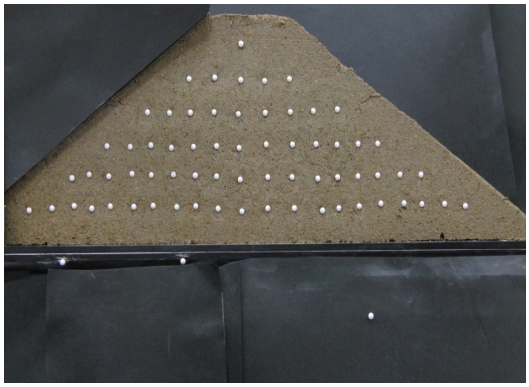
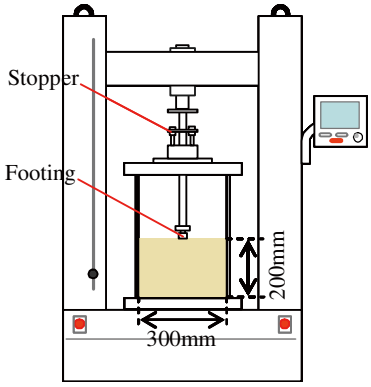
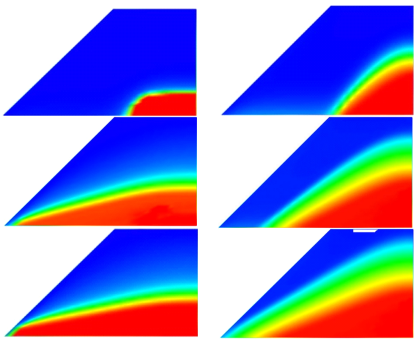


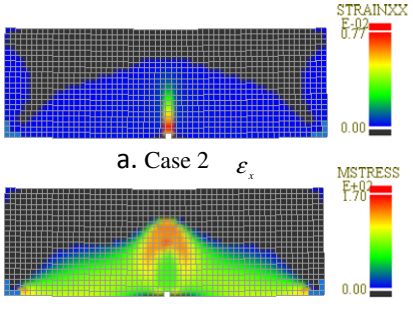
Large Model with guage points for shear and volumetric strain measurement (after Miyanaga, *et al,* 2013)



Schematic view of 3-D CT Imaging set-up (after Takano, *et al,* 2013)



Distribution of Saturation in numerical simulation Bending Stress of model test (after Xiong, *et al*, 2013)



Simulation in Cement Treated Soil (after Kaneda, *et al*, 2013)

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FOREWORD

It is a pleasure for me to be the Guest Editor for this Special Issue on Modelling Aspects of Soil Behaviour. There are seven excellent papers:

Soil-water-air coupled finite element analysis of model test on slope failure of unsaturated soil; Relation between seepage force and velocity of sand particles during sand boiling; A density-and stress-dependent elasto-plastic model for sands subjected to monotonic undrained torsional shear loading; 1-G Model Test with Digital Image Analysis for Seismic Behavior of Earth Dam; X-ray CT imaging of 3-D bearing capacity mechanism for vertically loaded shallow foundations; Modeling and Bending Test Simulations of Cement Treated Soil; and Modelling viscous effects during and after Construction in London Clay.

The authors of these papers are Y. L. Xiong, X. H. Bao and F. Zhang; K. Fujisawa, A. Murakami, S. Nishimura and T. Shuku; G. Chiaro, J. Koseki and L.I.N. De Silva; Y. Miyanaga, A. Kobayashi and A. Murakami; D. Takano, J. Otani, M. Nakamura and R. Mokwa; K. Kaneda, T. Tanikawa and S. Onimaru; and S. D. Clarke and C. C. Hird.

Appropriate modelling of the soil behaviour is now most important with all types of current analyses and design of the geotechnical aspects of Infra-structure and mining engineering projects. This Special Issue is the second of this type in this Journal since 2011 and the first one was in December 2011 as editted by the guest Editor Dr. Dariusz Wanatowski. The material contained in this issue will fit in very well with the next Issue in September 2013 on Geotechnical Analyses. Visco elasto-plastic modelling of soils has been the current trend in soil behaviour.

I must thank Dr. Hossam Abuel-Naga of the School of Mechanical, Aerospace, and Civil Engineering, The University of Manchester, in helping with the submission of the paper by S. D. Clarke and C. C. Hird. Also, the in-house editor of the Journal Dr. Dariusz Wanatowski for his meticulous and painful task of checking and making sure that the articles are indeed in the correct format as required in the production of the journal.

Akira Murakami

Guest Editor
Editorial Team, SEAGS/AGSSEA J. of Geotechnical Engineering
Professor of Kyoto University, Graduate School of Agriculture
Editor-in-Chief, Soils and Foundations

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ACKNOWLEDGEMENT

It is indeed a very great pleasure to have Prof. Akira Murakami of the Kyoto University and Editor in Chief of Soils & Foundations as the Guest Editor for this Special Issue on the Modelling Aspects of Soil Behaviour. Dr. Dariusz Wanatowski, our in-house Editor has assisted Prof. Murakami and us in the production of this important Issue. Additionally Dr. Hossam Abuel-Naga has been helpful in getting contributuions from the United Kingdom.

Grateful acknowledgement is made to the contributing authors : Y.L. Xiong, X.H. Bao and F. Zhang; K. Fujisawa, A. Murakami, S. Nishimura and T. Shuku; G. Chiaro, J. Koseki and L.I.N. De Silva; Y. Miyanaga, A. Kobayashi and A. Murakami; D. Takano, J. Otani, M. Nakamura and R. Mokwa; K. Kaneda, T. Tanikawa and S. Onimaru; and S.D. Clarke and C.C. Hird.

There are seven excellent papers related to slope failure in unsaturated soils; seepage force and velocity of sand particles during sand boiling; elasto-plastic model for sands subjected to monotonic undrained torsional shear loading; Digital Image Analysis for Seismic Behavior of Earth Dam; X-ray CT imaging of 3-D bearing capacity mechanism for vertically loaded shallow foundations; Modeling and Bending Test Simulations of Cement Treated Soil; and Modelling viscous effects during and after Construction in London Clay and they are of great value to engineering practice and research.

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

K. Y. Yong
D. T. Bergado
T. A. Ooi
A. S. Balasubramaniam

GEOTECHNICAL ENGINEERING

JUNE 2013 SPECIAL ISSUE ON

MODELLING ASPECTS OF SOIL BEHAVIOUR

Editors: Akira Murakami

Dariusz Wanatowski

Prof. Akira Murakami received his BS (1978) at the Agricultural Engineering Department; MS (1980) at the Civil Engineering Department and Dr. Agr. (1991) from Kyoto University (KU), respectively. In 1982, he became an assistant professor at the Agricultural Engineering Department of KU, and was promoted to an associate professor of KU in 1994. He moved to the Graduate School of Environmental Science of Okayama University with a promotion to full professor in 1999. After joining Okayama University for just 10 years, he moved back to a full professor of KU in 2009. He has served as the Vice President of the Japanese Geotechnical Society (JGS), the Board Member of the Japanese Society of Irrigation, Drainage and Rural Engineering (JSIDRE), and the International Association for Computer Methods and Advances in Geomechanics (IACMAG), and also serves as a core member of TC103 of ISSMGE and a member of the Multidisciplinary International Society on Inverse Problems in Science and Engineering. He had acted as the Secretary of TC34 of ISSMGE for two terms and delivered a general report of 'Numerical Methods' at 16ICSMGE held in Osaka. He is the recipient of the Japanese Society of Civil Engineering (JSCE) Paper Award (1996), the JSIDRE Sawada Prize (2007), the JGS Best Accomplishment Award (2008), the JSIDRE Best Paper Award (2010), the JGS Paper Award (2011, 2013) and is a Fellow of JSCE. His research interests include the data assimilation, inverse problem, finite element methods, mesh free methods, and DEM in geomechanics.

Dr. Dariusz Wanatowski is an Associate Professor and Head of Department of Civil Engineering at the University of Nottingham Ningbo China (UNNC). He graduated in Civil Engineering from Poznan University of Technology, Poland in 1999. Between 1999 and 2001 he worked as a teaching and research assistant at the same university where he was lecturing soil mechanics and foundation engineering courses. He was also involved in several research projects, including effects of various improvements of subgrade on its bearing capacity and experimental investigation of engineering properties of various organic soils. He obtained his PhD from Nanyang Technological University in 2006. Prior to joining the Nottingham Centre for Geomechanics in February 2006 Dr. Wanatowski also worked as a researcher at NTU on effects of strength and stiffness anisotropy of geomaterials on the stability and deformation of tunnels. Dr. Wanatowski's general research interests are focused on experimental geomechanics, particularly strain softening and instability behaviour of granular soils, strain localization in sands, strength and stiffness anisotropy of geomaterials, and effects of intermediate principal stress on the strength and deformation characteristics of soils. He has consulting experience in the areas of laboratory and in situ testing of soils.

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June 2013: Modelling Aspects of Soil Behaviour

Editors: Akira Murakami

Dariusz Wanatowski

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PAPER CONTRIBUTIONS

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14. REFERENCES

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