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Introduction

Site characterisation is an essential component of the geotechnical design required for projects involving deep and shallow foundations, basements, slopes, tunnels, roads, embankments, mine tailings, seismic hazard assessments, site remediation and ground improvement. The Fifth International Conference on Geotechnical and Geophysical Site Characterisation (ISC'5) was held from September 5th to 9th 2016, on the Gold Coast about 100 km south of Brisbane in Queensland, Australia. This fifth conference follows the successful series of international conferences held in Atlanta (ISC'1, 1998), Porto (ISC'2, 2004), Taipei (ISC'3, 2008) and Porto de Galinhas, Brazil (ISC'4, 2012). The series is promoted by the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE) and managed by the ISSMGE Technical Committee, TC102 (Ground Property Characterization from In-Situ Tests).

These two volume proceedings contain 237 papers, which were presented by geotechnical researchers and practitioners from 50 countries. Eight keynote papers and 16 session report papers are presented by outstanding experts in the field. The Seventh James K. Mitchell Lecture presented by Prof. An-Bin Huang is also included. The papers have been sorted into 15 general themes, namely: 1. Developments in technology and standards; 2. Penetration testing; 3. Interpretation of in-situ testing; 4. Laboratory testing and sampling; 5. Liquefaction assessments; 6. Pavements and fills; 7. Pressuremeter and dilatometer; 8. Geophysics; 9. General site characterisation; 10. Characterisation in rock and residual soil; 11. Characterisation of non-standard soils; 12. Design using in-situ tests; 13. Case histories; 14. Application of statistical techniques and 15. Environmental testing. The Seventh James K. Mitchell lecture, keynote papers and session report papers are provided at the beginning of Volume 1.

The editors would like to thank all of the members of TC102 for their ongoing support as well as all experts involved in reviewing the selected papers. We are particularly grateful to all keynote lecturers, session reporters and authors for their contribution to the state-of-the-art, as presented in these proceedings. We are most grateful for the financial support provided by the Australian Geomechanics Society.

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