한국지반공학회 지반조사기술위원회

국외전문가 온라인 세미나 참석 신청 안내

- 일시 : 2025년 12월 12일(금) 13:00
- 주제 : **Towards the advancement of geotechnical site characterisation: Blending robust engineering with geophysical insights**
- 신청방법 : 아래 링크를 통한 구글폼 제출 (~12월 10일(수) 까지)
  https://docs.google.com/forms/d/e/1FAIpQLSc5QQnjcq5yGd2bxc5vDF5DqNIeDE5xrZTkv2UkCRNn5cFMgg/viewform?usp=header

* 추후 신청자에게 줌링크 메일 발송 예정

Andrew C. Stolte, PhD.

Andrew Stolte is a Senior Lecturer in Geomechanics in Te Kura Pūkaha Metarahi me te Taiao
| Dept. of Civil and Environmental Engineering at Waipapa Taumata Rau
| The University of Auckland. Originally from the United States of America, Andrew was born and raised in the desert mountain valleys of Nevada. This rugged environment fostered his love of the outdoors and his passion for geology. The Hoover Dam inspired Andrew's wonder and interest in engineering. Blending these passions, Andrew earned a BS in Geological Engineering at the University of Nevada, Reno (2010), an MS in Civil Engineering from the University of California, Berkeley (2011), and a PhD at the University of Texas at Austin (2018). His PhD work focused on the development and refinement of the direct-push crosshole testing method, a seismic geophysical method that has seen increased use in Aotearoa New Zealand, for the verification of ground improvement elements. His recent work combines geotechnical and geophysical testing methods to enhance site characterisation practices. He has leveraged his expertise to characterise the soils and sedimentary basins across Aotearoa, New Zealand, to improve understanding of observed ground shaking and assess the properties and behaviours of various geomaterials.

Abstract

Over the past few decades, significant advances have been made in computational capabilities and the development of constitutive models for geological materials. However, the ability to provide high-quality inputs for these models, based on field investigations, has often lagged behind. To meet these challenges, a multi-disciplinary approach, combining conventional geotechnical testing methods with insights gained from geology and geophysics, is needed to improve the quality of geotechnical site investigations.
This presentation will highlight recent research efforts to advance site investigation capabilities and techniques at various scales, informing a range of geotechnical engineering applications. For individual sites, the recently developed direct-push crosshole testing method has enabled the development of high-resolution P- and S-wave velocity profiles. This method has been used to verify ground improvements and has contributed to the development of liquefaction case histories. At a deeper scale, non-invasive methods have been used to characterise the soil column above bedrock. Single-station measurements enable the estimation of the site period, a proxy for bedrock depth, and array-based measurements are used to infer the deep S-wave velocity structure. These methods have been used to characterise the soils and sedimentary basins across Aotearoa New Zealand, all of which have improved our understanding of observed earthquake ground shaking. Recent work focused on the Canterbury Plains on the South Island of New Zealand will be detailed. Similar experimental methods have been used to assess the potential for ground motion amplification on topographic features. This seminar will underscore the outcomes of these site investigation studies.