



Rick Miller



Rick Miller is senior scientist at the Kansas Geological Survey and courtesy associate professor of geology at the University of Kansas. He received his PhD in geophysics from University of Leoben, Austria. Rick is currently the President of the Society of Exploration Geophysicists. His scientific interests focus on applying shallow-seismic methods to a wide assortment of problems from energy to engineering to the environment.

Miller's contributions advancing the science and serving the profession has earned him the inaugural SEG Near Surface Harold Mooney Award (1995), SEG Distinguished Achievement Award (2002), AAPG 2002 Energy Minerals Division President's Certificate for Excellence in Presentation, SEG Foundation Project of Merit Award (2007, 2008), ASTM 2011 Richard S. Ladd Standards Development Award, SEG USP Service Award (2012), SEG Life Membership Award (2014), and EEGS 2019 Institutional Contribution Award. He was also selected inaugural Near-Surface Honorary Lecturer (2012).

Miller has been guest editor on 17 TLE special sections and authored 33 TLE articles. He has edited or co-edited two books and authored more than 139 SEG Annual Meeting expanded abstracts, 115 refereed articles, and eight book chapters.

For decades geotech engineers and near surface geophysicists have recognized the vast potential of incorporating and integrating geophysical characterization with geotechnical models. Challenges correlating geophysical properties and engineering properties coupled with inconsistency in scale and a lack of universally recognized standards and professional certifications have hinder exploiting the true potential of this marriage of technologies.

A critical step in accepting the integration of these disciplines is demonstrating the validity of the geophysical results and significant site wide resolution advantages that the coupled methods could have over simply interpolating between widely spaced, invasive measurements. One of the big challenges has been equating properties derived from geophysical characterization with measured engineering properties at relatable scales. Papers in this special issue of Sino-Geotechnics provide invaluable contributions that will enhance acceptance and clarity of the value added that comes from integrating these disciplines.

Papers selected for the special issue are truly world class and represent the state of the science in the application of geophysics to site characterization for fluid flow, material properties, geohazards, and anomaly delineation. Key to effective incorporation of geophysical products into engineering developments is selecting geophysical methods that match the engineering data needs while providing clarity in accuracy and resolution of the geophysical methods. Authors of papers in this collection demonstrate highly effective incorporation of geophysical properties into geotech problems.

Securing the confidence of engineering practitioners that integrating geophysical properties into geotechnical models during both planning and construction phases enhances the reliability of the design criteria has been a challenge and major hurdle throughout my career. Studies like the ones published here provide invaluable support toward accomplishing that objective.