

Short Course | Investigation and Analysis of the Seismic Stability of Mine Waste and Tailings (The short course will be in english)

- **Rob Moss**, Ph.D., P.E., F.ASCE
- **Ricardo Moffat**, PhD, Associate Professor Universidad Adolfo Ibáñez

| **DATE:** november 12, 2024 | **DURATION:** Half Day

| **MINIMUM PARTICIPANTS:** 15 | **MAXIMUM PARTICIPANTS:** 30

FEE: USD 200

INTRODUCTION/SUMMARY

This short course explores the best-practices for investigating and analyzing mine waste and mine tailings for seismic stability. The expected outcome is that attendees will be able to; properly characterize the subsurface conditions, identify if sand-like or clay-like physics control, highlight key static and seismic stability concerns, perform triggering analysis of liquefiable (sand-like) soils or sensitive (clay-like) soils, determine post-triggering strength values, and evaluate post-triggering stability and runout distances. The class will be divided into three 1-hr blocks coving the specifics below, with a break scheduled for the midpoint. Software used during the short course will include Slide2 (Rocscience) and LiqIT (Geologismiki), both of which can be acquired free via trial versions.

SPEAKERS

Prof Robb Eric S. Moss

Robb is a professor at Cal Poly San Luis Obispo where he has been for over a 17 years. Areas of expertise include geotechnical earthquake engineering, engineering seismology, and risk and reliability with respect to earthquake engineering. Robb earned a Ph.D. from UC Berkeley with his research into probabilistic liquefaction triggering, with minors in engineering seismology and structural reliability. He's been a member of nine earthquake reconnaissance teams traveling to Turkiye, Nepal, Japan, Chile, Alaska, Turkey, India, Mexico, and around California. He teaches a number of courses at Cal Poly including; soil mechanics, shallow and deep foundation design, slope stability, engineering risk analysis, geological engineering, and geotechnical earthquake engineering. He runs the senior design capstone course and has in past run the graduate program.



Robb has years of consulting experience involving seismic geotechnics of onshore and offshore projects around the world. His consulting work focuses on probabilistic seismic hazard analysis, liquefaction engineering, and earthquake engineering hazard studies. He has worked in over 15 countries on projects usually addressing earthquake hazards, and is a co-founder and co-owner of a subsurface investigation company in Chile (www.lmmg.cl).

He has research into liquefaction of geologically older deposits, variance analysis of ground motion prediction equations, probabilistic tsunami modeling, reinvestigation of liquefaction case histories, seismic resistance and probability of failure of levees and levee systems, physical modeling of seismic soil

structure interaction, probabilistic fault displacement analysis, uncertainty of in situ soil properties, and seismic earth pressures behind retaining walls. Funding for his research has come from various sources including NSF, DHS, PEER, USGS, CalTrans, CEC, PG&E, ONR, UDOT, NavFac, and others. Robb has been author or co-author on over 90 technical publications and reports.

He is a registered professional engineer in the state of California and is a professional member of SSA, EERI, and ASCE. Robb is honored with membership in the Tau Beta Pi, Chi Epsilon, and Phi Kappa Phi honor societies and was awarded of the Middlebrooks Award by ASCE and the Associate Editor of the Year for the Journal of Geotechnical and Geoenvironmental Engineering. He has previously completed a 3 year appointment as a Fulbright Scholar to Chile. He is currently an editor for the ASCE Journal of Geotechnical and Geoenvironmental Engineering. Further information and online access to publications can be found at <http://ceenve.calpoly.edu/faculty/rmoss/>.

Prof Ricardo Moffat



Ricardo Moffat has been a professor at the University of Chile and Universidad Adolfo Ibáñez for over 25 years. He was awarded the best teacher award from the University of Chile. As a consultant engineer, he has been involved in a large number of geotechnical mining-related problems concerning the stability of tailings dams, waste dumps, and slope stability, among others. His research topics include internal erosion, in-situ testing, rock mechanics, and in-situ monitoring.