

AEG's 2020 Virtual Annual Meeting
September 16-18, 2020

TECHNICAL SESSION #1: SYMPOSIUM: ENGINEERING GEOLOGY FOR TUNNELS AND UNDERGROUND CONSTRUCTION

Presenter Biographies

Ed Cording - Keynote: Observing Ground Behavior at the Source in Underground Construction



Edward Cording is Professor Emeritus at University of Illinois at Urbana Champaign, where he taught and conducted research in rock mechanics and soil-structure interaction for tunnel, excavation and slope stability projects. His laboratory has been in the field on projects ranging from large caverns in stress-fracturing tuff in Nevada, deep rock tunnels in squeezing shales in the Uintah Mountains, shallow subway station caverns in metamorphic rock, shield tunnels in alluvial soils in Washington, D.C. and in the soft Chicago clay. These investigations led to the analysis and development of criteria for relating ground movements due to excavation and tunneling to building distortion and damage.

He graduated in 1960 with a BSc, in Geology from Wheaton College, IL and in 1967 with a PhD in Civil Engineering from the University of Illinois. He is a member of the National Academy of Engineering and a Fellow in the Geological Society of America and the American Rock Mechanics Association. Honors include the Moles Award for Outstanding Achievement in Construction, 2003, the Beaver's Engineering Award in 2013, and Geo Institute Harry Schnabel, Jr Award for Career Excellence in Earth Retaining Structures, 2007.

Current and recent consulting projects include 2nd Avenue Subway and Hudson River tunnels in New York, and projects with pressurized tunnel boring machines in Washington, D.C, Toronto, San Jose, Cleveland, Vancouver, and Seattle. He is a member of the Tunnel Advisory Panel for Los Angeles Metro on the design and construction of light and heavy rail subway projects.

Ike J. Isaacson - Identification and Adverse Impacts of Carbonate Reef Structures for Tunnel Projects



Ike has over 15 years' experience as a consultant, owner's representative, and tunnel contractor. He has been responsible for the execution of numerous land and off-shore geotechnical investigations, and mapping programs for tunnels and dams. Additionally Ike's experience includes: tunnel construction, inspection and rehabilitation, ground freezing, grouting, and hyperbaric interventions.

Michael Piepenburg: Behavior of the Chagrin Shale in Selected Tunneled Excavations, Cleveland, Ohio

Mike Piepenburg, P.G., C.E.G, CCM, Principal Geologist with the Cleveland, Ohio office of Mott MacDonald



The ability to view the ground conditions as afforded by tunnels and underground construction has been a thrill and a driving force in the development of my career as an engineering geologist and later as a construction manager on tunnel construction projects. I have had the opportunity and good fortune to work on underground works in California, New York, Ohio, Washington D.C, Puerto Rico, New Zealand, and Canada. And with each project something new is learned and my ability to understand (and maybe even try to anticipate) the ground conditions and how they will affect the underground works has improved. I am currently serve as one of the co-chairs for the AEG Tunneling Committee.

Paul Headland: King City Siphon – Challenging Ground Conditions Drive Alignment Selection for a Vertical Curve Microtunnel



Headland has over 20 years of experience in tunneling and mining. Paul is well known in the North America tunnel industry and has specialized expertise in microtunneling and trenchless design and construction as well as ground behavior and characterization for all types of tunnels.

Ashton Krajnovich: Historic Analysis and Future Expansion of the Eisenhower-Johnson Memorial Tunnels, Part 1: Geologic Modeling



I am a PhD candidate in Geological Engineering at the Colorado School of Mines. I work in an interdisciplinary research consortium funded by the United States Department of Transportation on a project related to the historical analysis and future expansion of the Eisenhower-Johnson Memorial tunnel in Colorado, USA. My current research explores the use of uncertainty in 3D geologic modeling to improve the understanding and communication of subsurface geology before, during and after tunnel construction. I was named the University Transportation Center for Underground Transportation Infrastructure Outstanding Student of the Year in January 2020.

Gauen Alexander: Historic Analysis and Future Expansion of the Eisenhower-Johnson Memorial Tunnels, Part 2: Geotechnical Analysis



Gauen Alexander received a BS in civil engineering from the University of Alabama at Birmingham and an MS in civil engineering with a focus in geotechnical earthquake engineering from the University of California, Los Angeles. Gauen has worked in various aspects of geotechnical engineering including slope stability, dam engineering, landfill engineering, tunnel engineering, construction quality control, construction materials testing, and geotechnical laboratory investigations. Gauen is currently a graduate student at the Colorado School of Mines pursuing a PhD in civil engineering under the direction of Prof. Marte Gutierrez. Gauen's research focuses on early stage probabilistic engineering feasibility studies for tunnel construction.