



GEO-INSTITUTE

7th ANNUAL LIVE STREAMING WEB CONFERENCE

The Geo-Institute Grouting Technical Committee will live-stream the session “A Quick Look into Some of the Latest in Grouting Research, Design and Practice” on Wednesday, December 7, at 2 PM EST. The topics include:

“Grout Characterization – An Inside Look into Current Testing, their Use and Limitations.”

Chadi S. El Mohtar, Ph.D., P.E., M.ASCE

The grouting industry has adopted and adapted many tests to evaluate and design grout mixes for various grouting applications in the field. Some of these tests include Bleed column test, Filter Press test and Marsh Funnel test. This presentation will go over the current way these tests are run and some of the recent research into what properties are we actually measuring with these tests and how applicable are some of these tests to actually characterize the grouts we commonly use in practice. The presentation will conclude with some recommendations on how to best use these methods and when to be caseous about using them.

“Permeation Grouting – Why, When and Where (and Where Not) to use,” **Gary E. Taylor**, P.G., L.E.G., M.ASCE
Lucian P. Spiteri, P.E., and **James C. Myers**, P.E.

Permeation grouting is a mature technology that has been implemented around the world for many decades. Despite its widespread use and acceptance, it is not a one size fits all technology without limitations and can be mis-applied. In recent years, the use of permeation grouting has been on the decline, because of familiarity with it and the advent of modern technology among other reasons. Owners, designers and practitioners must understand the nuances of the technology, why where and when it should be used and more importantly when and where it should not be used. This presentation will discuss a brief history of the technology, relevant technical information, examine cases where it has been specified and used successfully.

“Soft Soil Settlement Remediation and Roadway Elevation with Permeable Low-Density Cellular Concrete (PLDCC): A case study of Lake Eloise Dr.” **Nico Sutmoller**, P.E., M.ASCE

The presentation will address the feasibility of using permeable low-density cellular concrete (PLDCC) in soft soil remediation and roadway elevation applications. In this discussion, the presentation will examine the case study of a project conducted at West Lake Eloise Drive in Winter Haven, Florida, and will also review and evaluate data from recent studies conducted at the University of Missouri - Kansas City related to the physical properties of PLDCC, including permeability, lightweight characteristics, compressive strength, and resistance to buoyancy.

In its discussion of the Lake Eloise Drive project, this paper will posit the effectiveness of 30-pcf (pounds per cubic foot) PLDCC in the remediation of settlement caused by soft soils as well as the elevation of roadways in areas that experience high water tables. The design was completed in 2018, with permitting in 2019 and construction completed in May 2020.

"Boone Dam Internal Erosion Remediation Project," Jose Torres, PE

Boone Dam is a Tennessee Valley Authority hydroelectric facility situated on the South Fork Holston River in Kingsport, Tennessee. The dam, named for Daniel Boone, was built in the 1950s and reaches 160 feet high, stretches 1,697 feet across, and includes three generating units with a net dependable capacity of 89 megawatts. In October 2014, a sinkhole was observed near the base of the embankment, prompting investigations that revealed internal erosion caused by karstic features. TVA retained Barnard, Nicholson Construction, and Treviicos-Nicholson Joint Venture to construct an underground composite cutoff wall consisting of low and high-mobility grouting and a secant pile cutoff wall. The presentation will highlight the equipment, construction methods, and quality assurance processes for the grouting program. This project won the U.S. Society on Dams 2022 Award of Excellent in the Constructed Project.