The Geo-Institute Deep Foundations Technical Committee will live-stream the *session* "Deep Foundation Grab Bag – Pile Corrosion, Wood Piles, and Static Testing (Oh My!)" on Wednesday, December 10, at 11 AM EST. The talks include:

Talk #1: *"Nothing has Harmed the Driven Steel Pile more than Resistivity"*, presented by Gerry McShane, P.E.)

The Durability of steel has changed significantly over the last 50 years largely due to new methods of steel making and subsequent changes in metallurgical structure. Modern manufacturing processes no longer produce to a specific chemical composition but combine grain refinement and addition of alloys to achieve required mechanical properties. Many of these alloys contain corrosion inhibitors that extend durability to levels that were not attainable in the past. Regardless of these improvements the use of Resistivity to determine soil corrosiveness of driven steel piling effectively renders any of these steel developments redundant. Resistivity leads the engineer into specifying excessive and often needless corrosion protection through lack of clarity and concentration on only one aspect of the corrosion of buried steel. The factors that contribute to corrosion occurring and the rate that it develops will be examined and various steps to control or inhibit corrosion will be outlined. A comparison will be made between the breakdown of steel and concrete over time. An example will be provided showing the various options open to the designer to inhibit or improve steel durability along with their associated costs.

Talk #2: *High-Performance Wood for Deep Foundation Applications: Enhancing Soil-Pile Interaction through Material Innovation* (Presented by Thomas Lin, Ph.D., P.E., M.ASCE)

High-Performance Wood (HPW) represents a promising engineered alternative to conventional wood for civil infrastructure applications, offering significantly enhanced mechanical and structural properties. HPW is fabricated through a two-step process involving partial delignification followed by hot-pressing densification. This presentation explores the feasibility of utilizing HPW in deep foundation by examining its behavior under lateral loading condition. A comparative experimental study was conducted on untreated wood and HPW piles (600 × 38 × 19 mm), subjected to lateral loading to assess soil-pile interaction. Under lateral loading, the HPW pile exhibited a 1.96-fold increase in ultimate lateral capacity compared to its untreated counterpart. Furthermore, strain measurements along the pile length demonstrated significantly reduced deformation in the HPW pile, indicating superior serviceability and strength characteristics. These findings underscore the potential of HPW to enhance the performance of deep foundation systems.

Talk #3: *Static Load Testing Instrumentation, Data Reduction, and Interpretation* (Presented by Van Komurka, P.E., BC.GE., F.ASCE)

Static load testing is considered the "Gold Standard" of a deep foundation's assigned geotechnical failure load determination; however, any number of combinations of instrumentation, data reduction, and interpretation protocols can affect results. These aspects of compressive, tensile, and lateral static load testing, and their various permutations, will be presented and discussed.