

## **SEPTEMBER 2015 MEETING**

Wednesday, September 9, 2015 (1.0 PDH)

### **TECHNICAL PROGRAM**

#### **Tunneling 101**

**Speaker:** [Russell Jernigan, PhD, P.E., PG](#) . Tel: 512.608.7633

Russell Jernigan, PhD, P.E., PG's qualifications include a Ph.D. Civil Engineering University of Colorado, 1998; an M.S. Civil Engineering University of Colorado, 1995 ; B.S. Civil Engineering University of California,1980; and a B.S. Geology, University of California,1980.

As a specialist in rock and soil mechanics, Dr. Jernigan has over 34 years' experience with tunnel engineering, dam design and rehabilitation, and project management. He has worked on a wide range of projects including designing tunnels and dams, engineering design quality control, settling design conflicts, monitoring construction for adherence to design intent, and preparing safety evaluation reports. Dr. Jernigan has knowledge in geotechnical investigations, foundation recommendations, rock slope design and construction, landslide remediation, hydraulic design, and septic system design. He also has considerable field experience as an inspector, field engineer, office engineer, and construction manager for tunnels, dams, and other projects throughout the country.

Currently based in Austin. Dr. Jernigan's most recent responsibilities included tunneling and underground design and construction, with detailed geological mapping, preparation of geotechnical baseline reports (GBRs), tunnel and shaft support design, grouting, geotechnical instrumentation installation and interpretation, inspection, and construction management across a wide range of project types.

Dr. Jernigan has also taught courses on soil mechanics, foundations, and engineering geology at both the Colorado School of Mines and University of Colorado at Boulder.

#### **PRESENTATION SUMMARY**

This presentation provided a short review of tunneling and other trenchless techniques. The various techniques were presented, along with a short discussion of the 'pros and cons' of each, with an emphasis on the appropriate geological conditions. Examples of projects, mainly from Texas, were also be discussed.