

GEOTECHNICAL ENGINEERING 101

FRIDAY, FEBRUARY 20

10:00 AM - 11:30 AM | ZOOM

What Is Geotechnical Engineering & Why It Matters

- Soil, rock, and groundwater engineering
- Ground performance, safety, and cost
- Geotechnical origin of many infrastructure failures

Nature of Soil

- Natural, variable, three-phase material
- Loading, drainage, and stress history effects
- Significant site-to-site variability

Soil Properties & Classification

- Soil behavior indicators
- Grain size, plasticity, and density
- Unified Soil Classification System (USCS)

Permeability & Seepage

- Water flow through soil
- Erosion, uplift, and instability risks
- Drainage importance

Stresses in Soils

- Total stress and pore water pressure
- Effective stress concept
- Groundwater influence

Compressibility & Settlement

- Soil compression under load
- Differential settlement damage
- Time-dependent deformation

Shear Strength of Soils

- Slope and foundation stability
- Sand versus clay behavior
- Stress and drainage dependence

Geotechnical Hazards

- Landslides and liquefaction
- Earthquake and rainfall triggers
- Soil amplification effects

Soil Improvement

- Engineered ground modification
- Densification, reinforcement, drainage
- Risk reduction and performance enhancement

REGISTER NOW

MEMBERS

\$35

NON-MEMBERS

\$75



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The California Geotechnical
Engineering Association