

## **GEOTECHNICAL SEMINAR SERIES 2009**

### **"Weathering effects on the small-strain stiffness of residual soils derived from a granodiorite"**

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#### **Abstract**

Results of an experimental investigation on the small-strain stiffness of residual soils derived from weathering of a granodiorite of the Colombian Central Cordillera's Antioquia Batholith are presented. The relationship between weathering intensity and matric suction/moisture content changes on shear modulus are studied. Shear moduli were determined using the bender element method under unconfined conditions. Chemical and compositional characterizations were performed on both the residual soils and their parent rock to determine weathering indices and oxide concentrations. These weathering indices were used to propose weathering degree-stiffness relationships. The study shows that the variation of shear modulus with matric suction is more pronounced in residual soils that have greater weathering intensity, probably due to microstructural arrangements related to residual soil formation.