

# Characterization of Mechanical and Thermal Properties of Permafrost for Engineering Analyses

Presented by Joey Yang



Mechanical and thermal engineering properties are crucial for reliable thermal and stress/strain analysis of engineering problems involving permafrost. A method for assessing elastic properties, including shear and Young's modulus of permafrost based on wave propagation velocity, and the elastic properties of permafrost samples from the North Slope at increasing temperature will be presented and discussed. A capacitance method will also be adapted for measuring the unfrozen water content of permafrost. The calibration and validation processes will be described, and the thermal properties of permafrost samples, including heat capacity and thermal conductivity, will be presented.

Friday, September 30th, 2016, 11:45am-12:45pm

UAA College of Engineering, EIB 211