

JULY 18, 2001 - "Geostatistics"

Speaker: Dr. Mike O'Neill, P.E.

At the FPA meeting this evening, Dr. Mike O'Neill, P.E., Professor of Civil Engineering at UH gave a remarkably interesting talk on Geostatistics. He studied samples at the UH main campus and demonstrated that by using statistics, you can theoretically obtain more accurate soil data with fewer samples. By computing a Coefficient of Variation (COV) he showed that you could reduce the safety factor normally used in geotechnical recommendations and therefore save money in the design. For example, for the 11 piles driven to 45 feet at his UH test site, Mike found the COV was only 0.084 based on measured pile capacities.

Mike used a cone penetrometer to measure continuous strength values of the soil in-situ in his various boreholes. This was necessary he said because retrieving samples and doing unconfined compression testing would have been a statistical nightmare. Mike agreed the cone penetrometer test (CPT) was too expensive to use for normal geotechnical work in the Houston residential market but he highly recommended that it be used in forensic assessments where bearing capacity failures are suspected.

Mike, thanks for your presentation.