Contribution ID: **89** Type: **Oral Presenter**

Evaluation of Compaction Characteristics of Soil Using Dynamic Cone Penetrometer

Abstract: The engineering properties of soils are highly variable which makes this material complex. In addition, some of the properties like shear strength, settlement, California bearing ratio (CBR) and permeability are difficult and time consuming to determine. Further, the soil is a porous, un-cemented and un-aggregated material having significantly low stability as compare to weak rocks or weak concrete. Due to this reason, digging undisturbed soil samples and transporting those to laboratory is a major issue. Above all, the main problem is disturbance of confinement of soil sample when these are excavated from underneath the ground. Ifits confinement is gone then the sample, by no means, gives the true representation of site conditions. Therefore, it is better to obtain the properties of soil by performing in-situ tests.This study aims to investigate the in-situ properties of a soil, using the Dynamic Cone Penetrometer (DCP), and to develop the correlations which can be utilized to estimate the compaction characteristics of various types of soils. In this regard, different soils (Clay, silt and sand)were collected and proportionally mixed to obtain different groups of soil according to AASHTO soil classification. DCP test was performed on each group of soil and the correlations were generated between Maximum Dry Density (MDD)& Optimum Moisture Content (OMC)with DCP. Hence, the developed correlations will guide the local industry for estimating the compaction characteristics of soil from DCP. Providentially,these relations willsave the time and resources

Author: MARWARI, Lal Chand (Mehran UET Jamshoro)

Co-authors: Prof. ANEEL KUMAR (Civil Engineering Department); Prof. NAEEM AZIZ MEMON (Civil Engineering Department)

Presenter: MARWARI, Lal Chand (Mehran UET Jamshoro)

Session Classification: Geological Engineering and Geosciences

Track Classification: Geological Engineering