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**Research Interests:** Slope stability analysis, Excavation/Trench, Centrifuge, Tensile strength, Suction, FE analysis of embankment and excavation, Dispersion coefficient for the flow of contaminants through soil layers.

**Current Research Abstract**

**Measurement of Dispersion Coefficient (D) of cohesive soils under Gravitational and Centrifugal fields**

Contamination of underground water due to illegal disposal of toxic wastes is a great problem. There are two types of contaminants from their solubility with water. As water soluble contaminants gets easily dissolve in the water, these will affect large area. To understand the contaminated area as well as the behavior of such flow, many numerical analyses are carried out which are based on advection-dispersion equation. This equation consists of retardation term, dispersion term and advection term along with others. Value of the parameters in each term measures the accuracy of the numerical analyses and the reliability of the result. But there are not any standard method developed for the correct measurement of such parameters. In regard, column test has been suggested for dispersion coefficient, D for sandy soils. But for cohesive soils, measurement of D has been thought of difficult and hence no such method has been suggested. Mitachi et al. (2007) has shown the possibility of measurement of D for cohesive soils under centrifugal field. In this paper, measurement of D for cohesive soils is tried under gravitational as well as centrifugal field. Effective stress distribution under gravitational and centrifugal fields is different. Therefore, effect of stresses as well as contamination flow rates is checked. It was observed that D value measured under both fields is almost same and the effect of stress condition is not seen clearly. With the increase in contamination flow rate, dispersion coefficient, D also increases.