Monitoring the behaviour of a reinforced dike during the construction phase and its first years of service can provide valuable information regarding its foundation. The use of the so-called "observational method", which is increasingly used in foundation and tunnelling projects, could lead to less (overly) conservative designs.

The basic idea of the observational method is to make a design based on best estimates of the strength properties and the use monitoring to verify the assumptions. A crucial element in the method is establishing monitoring thresholds and contingency measures beforehand (!), such that they form actually part of the design. In, other words, a dike reinforcement design with the observational method would require an integrated reliability analysis of the preliminary design, the monitoring strategy and the contingency measures.

The objectives of this MSc-graduation project are to investigate

1. how the observational method can be applied to dike reinforcements and
2. if design with the observational method have advantages over conventional design.

Ideally, the project is carried out on a case study of a concrete project and in collaboration with either a design firm, a water board (responsible for the execution) or a research institute.

**Supervising committee:**
Prof. dr. ir. S.N. Jonkman and/or Prof. dr. ir. M. Kok
Dr. ir. T. Schweckendiek

**Information:**
Timo Schweckendiek (office 3.82, E-mail: T.Schweckendiek@tudelft.nl)