Application of Shallow Seismic Surveying in the Pleistocene Soils of Lithuania: Methodology and Evaluation of Soil Mechanical Properties

**Supervisor:** doc. dr. Gintaras Žaržojus

**The aim** of the study is to assess the effectiveness of the shallow seismic method in evaluating the physical and mechanical properties of the upper Pleistocene soils, their interdependencies, and to determine the structure and distribution of the soil layers in Lithuania. The research will involve the creation of random field 3D models for each studied region, which, combined with geological information, will allow for accurate assessment of soil layer structure and distribution. By integrating geological parameters, these models will help reduce uncertainties and improve interpretation accuracy. Additionally, a database will be created that includes seismic measurements (Vs30, Vp30, and other mechanical soil properties). The results of the study will contribute to more accurate soil property evaluations using shallow seismic methods and will enhance engineering geology survey techniques in Pleistocene soils.