

International Doctorate in Civil and Environmental Engineering

Thesis Title

PhD Student: Name

Info	
Home Institution	University of Florence - Department of Civil and Environmental Engineering
Joint Supervision	Ruhr University Bochum
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Abstract
<p>In our modern society, we are increasingly eager to possess new objects, such as electronic equipment, ceramics, construction elements, and other products, the components of which are made with materials derived from mining activities which at the same time also produce a huge amount of waste in the form of mining tailings. This waste is generally stored in reservoirs behind dams that are usually built with the coarsest fraction of the tailings, and are frequently subject to failure with ensuing environmental, human, and economic impacts for the affected territories. There are many reasons that cause the failure of these type of dams, but the statistics resulting from past events shows that static and seismic liquefaction are among the most common causes of collapse of these structures. The aim of the Doctoral research project is to analyze one or more tailings facilities in order to provide some indications on how to characterize the tailings materials, how to build an appropriate model for numerical analyses and, possibly, how to deduce some general considerations for prevention of failure and for standards and regulations.</p>