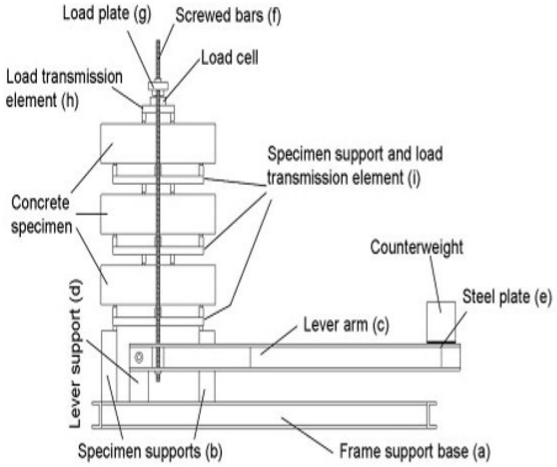
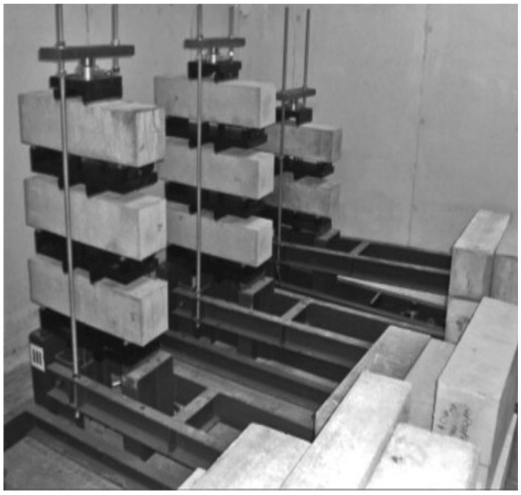
Structural Performance of LC^3 Concrete

- **Project category:** GC
- **Project type:** Laboratory Project
- **Project supervisors:** Prof. David Ruggiero (validate the project), and Ömer Behçet





- **Description:**
  One of the most effective and easy methods to reduce the high amount of CO_2 emissions during the production of cement is to replace ordinary Portland cement with pozzolanic materials. Limestone Calcined Clay Cement (LC^3) is an innovative technology that has come to the fore for cement replacement in recent years. Despite reducing clinker content by up to 50%, this combination (limestone and calcined clay) does not significantly compromise strength. As such, it is considered one of the most ideal methods for cement replacement.
  This project aims to explore the structural performance of LC^3 concrete, encompassing various tests such as compressive strength, Young's modulus, splitting tensile (Brazilian), and multiple creep tests (compressive, tensional, flexural). You will have the opportunity to work in both the Laboratory of Construction Materials (LMC) and the Concrete Behaviour and Structural Design Laboratory (CONSTRUCT), where you can participate in every stage of concrete experimentation.
- **Keywords**: Limestone Calcined Clay Cement (LC3), CO_2 emissions, Compressive strength, Creep.

To register for the project please send an email with your name to: omer.behcet@epfl.ch