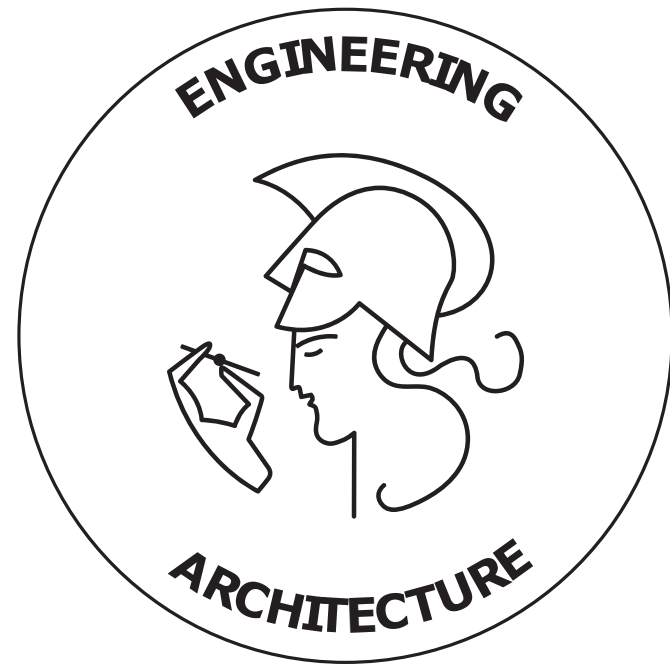


Hydraulic physical modelling

Dept. of Civil Engineering, Ghent University



Background

Physical modelling is an established technique for hydraulic research. It is a widely used tool and is used in coastal engineering together with numerical models and field measurements. It also facilitates the calibration of numerical models and increases confidence in future predictions. Those tools are crucial given the present need to understand and adapt to the impacts of climate change.



Model tests in a wave flume (AWW, UGent)



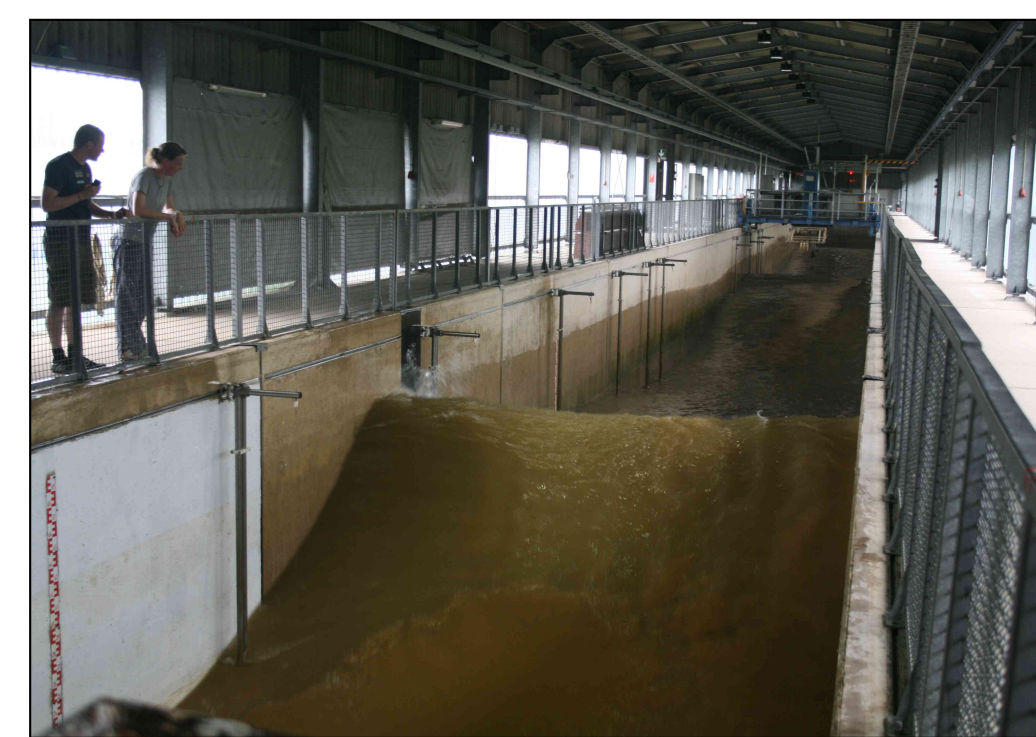
Model tests in a wave basin (Delta Marine Consultants, The Netherlands)

Experimental facilities

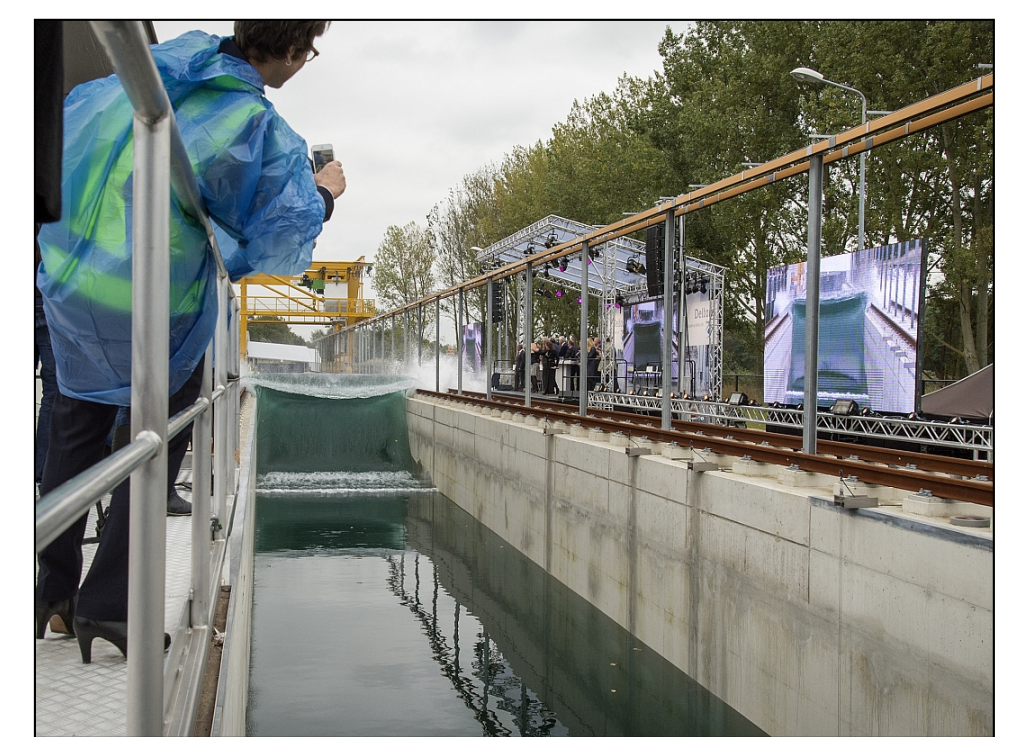
2D physical model tests are carried out in wave flumes (long and straight channels with wave makers).



Medium scale wave flume (HR Wallingford, UK)



Large scale wave flume (Hannover University, Germany)

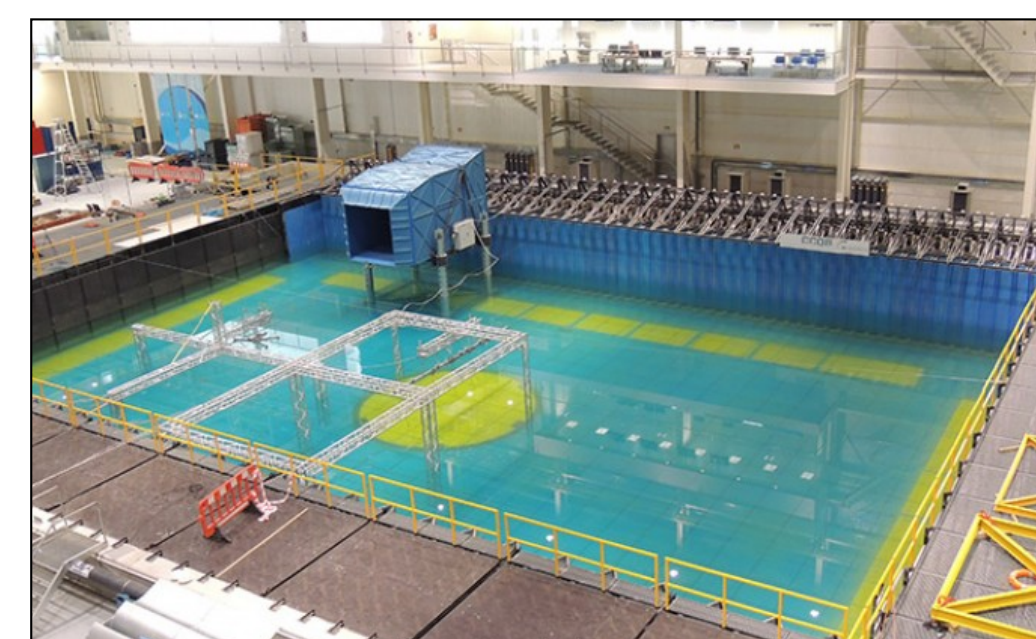


Large scale wave flume (Deltares, The Netherlands)

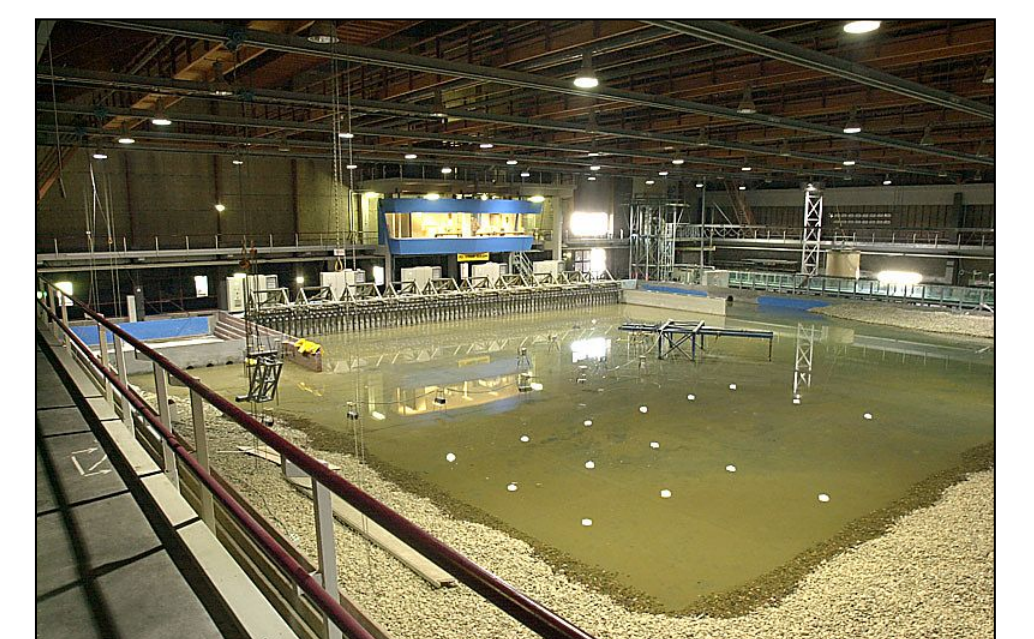
3D physical model tests are carried out in wave basins (water tanks with wave makers).



FloWave basin (University of Edinburgh, UK)



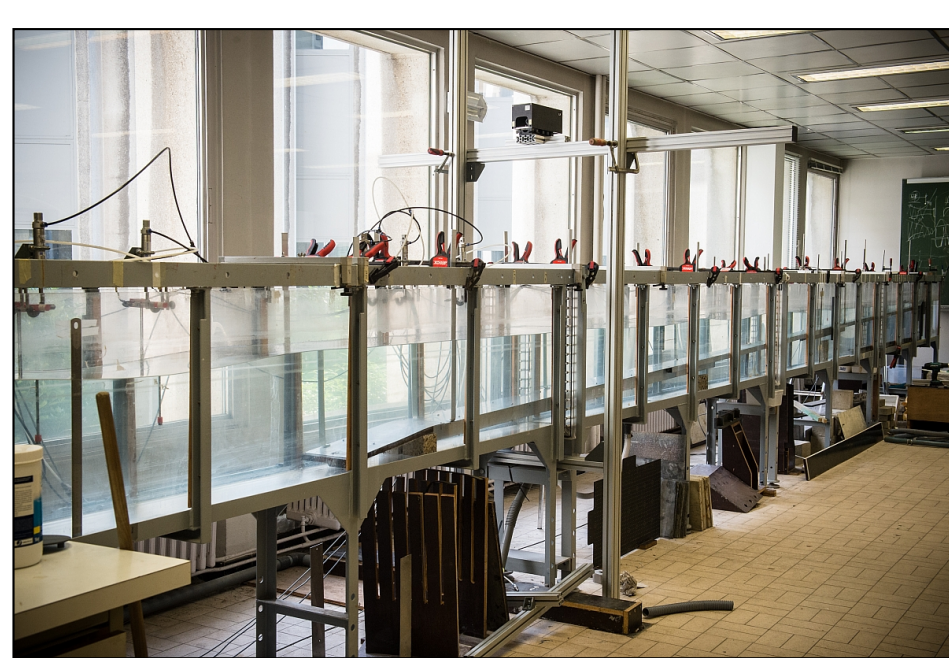
Cantabria Coastal and Ocean Basin (IH Cantabria, Spain)



Delta wave basin (Deltares, The Netherlands)

Physical modelling at UGent

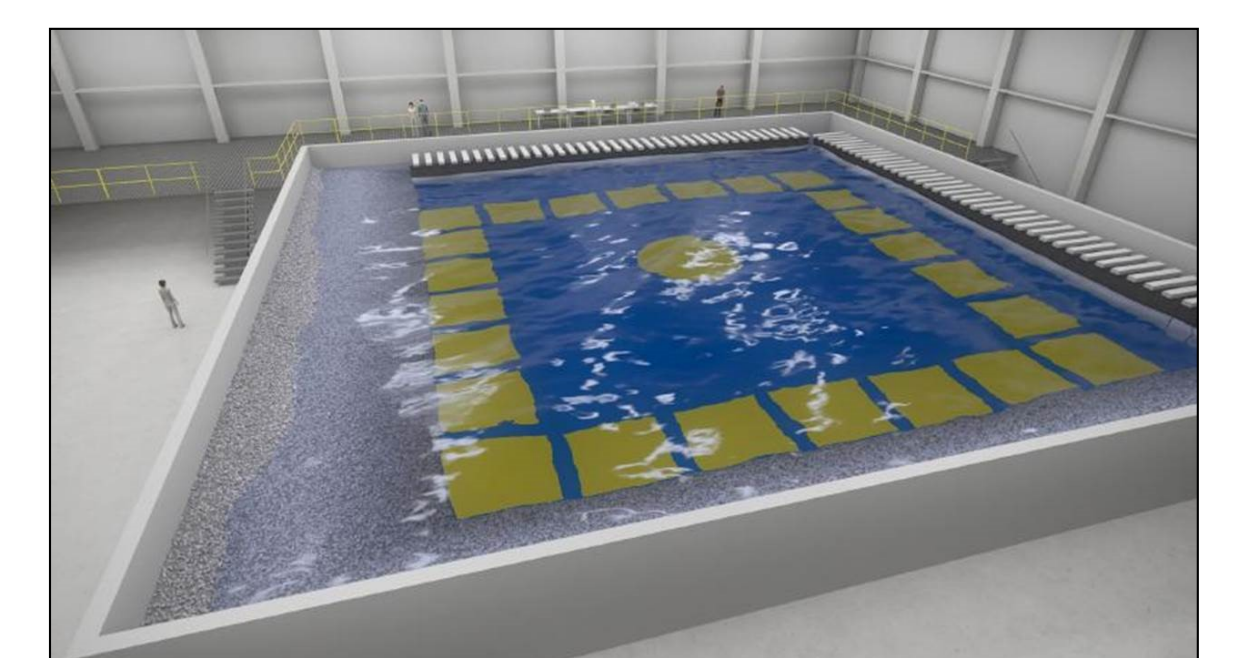
The Coastal Engineering Research Group has extensive experience in physical modelling. Our facilities consist of two wave flumes, and a wave basin under construction.



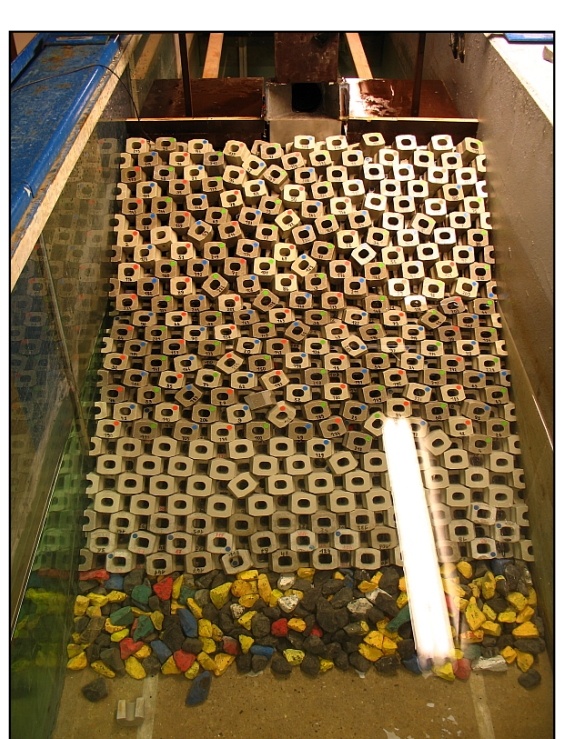
Small scale wave flume (AWW, UGent)



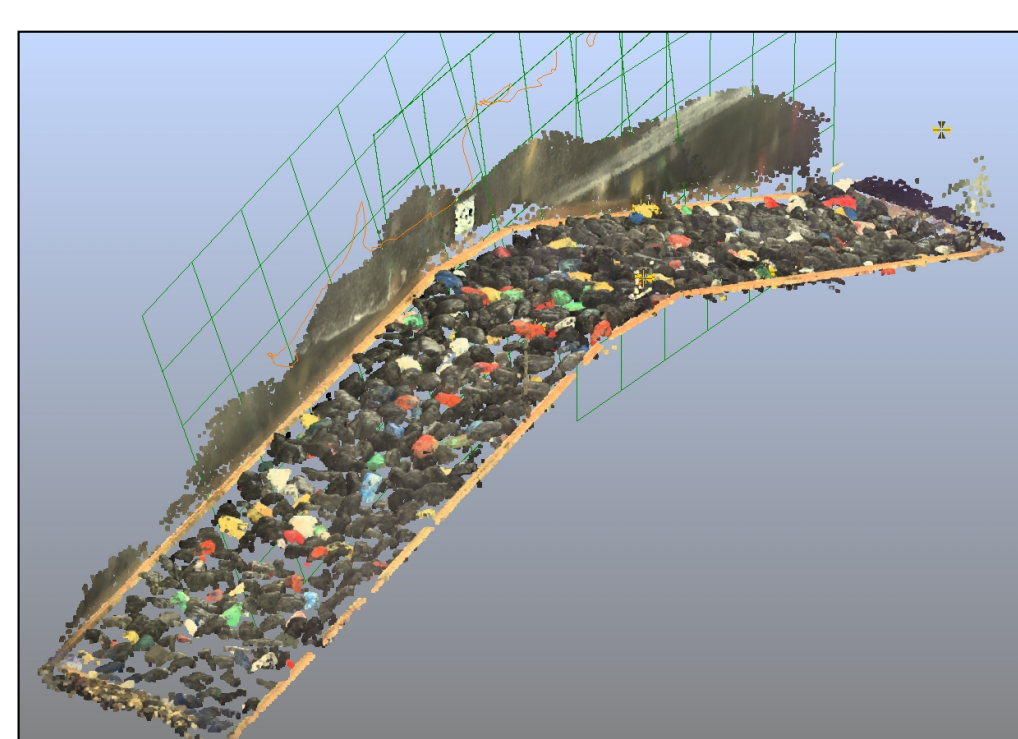
Medium scale wave flume (AWW, UGent)



Coastal and Ocean Basin (planned) (GreenBridge, Oostende)



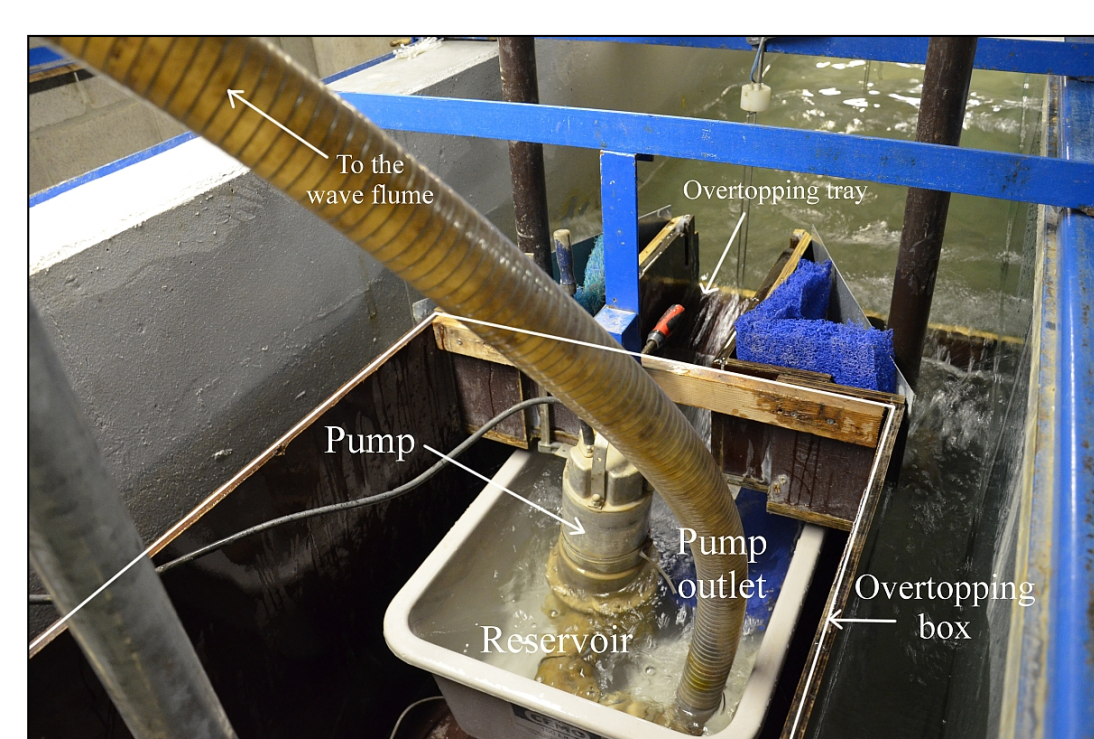
Stability tests of breakwaters (AWW, UGent)



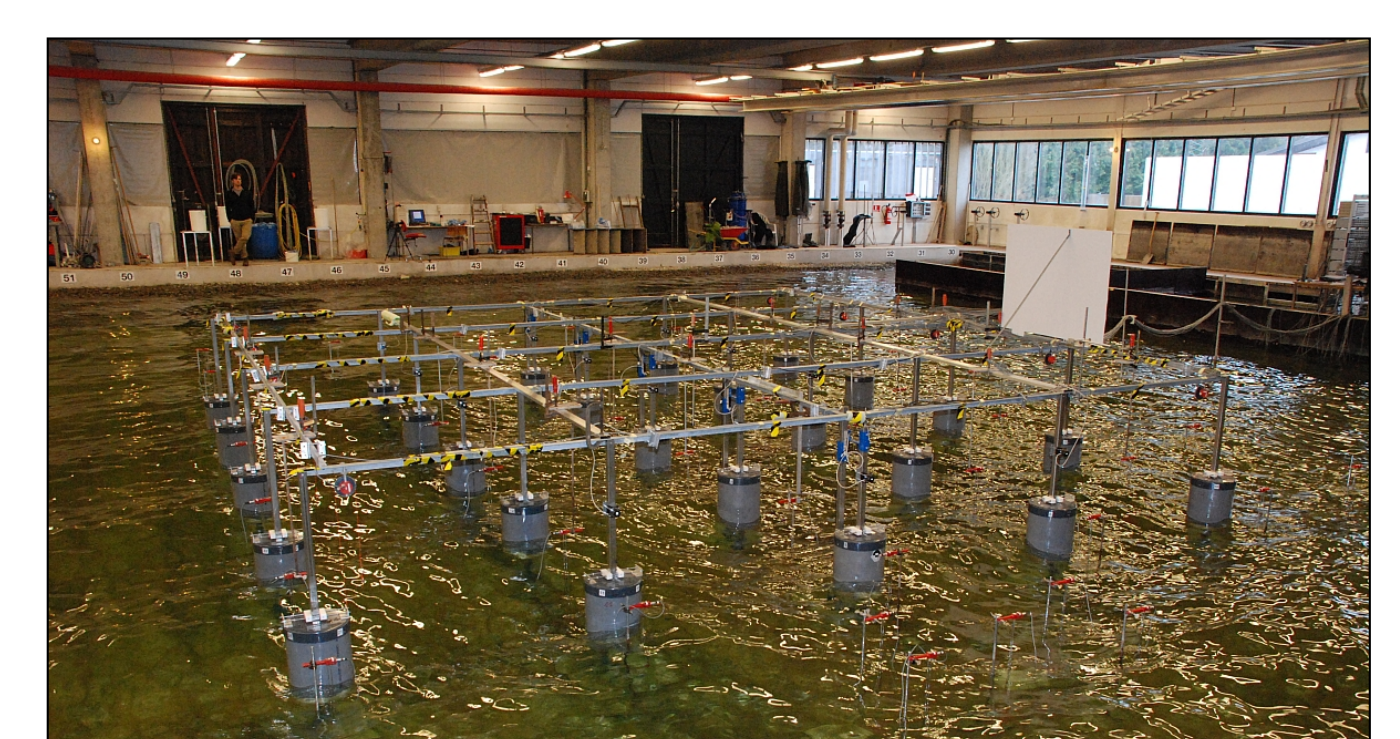
3D scan of a rubble mound breakwater (AWW, UGent)



Wave overtopping tests on steep low-crested structures (AWW, UGent)



Instrumentation for measuring wave overtopping (AWW, UGent)



WECwakes renewable energy project (European consortium led by UGent)