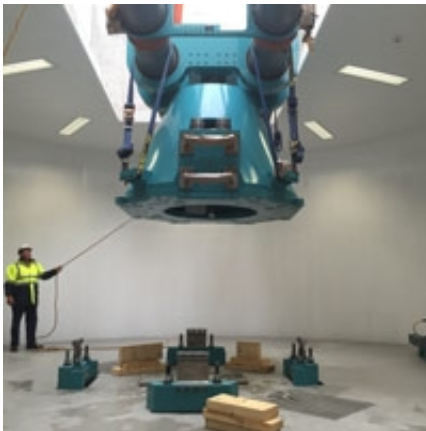


Three's a crowd with arrival of new centrifuge

September 13 2016, by David Stacey



Credit: University of Western Australia

The University of Western Australia is now home to the only geotechnical modelling facility in the world that operates three centrifuges.

A third 26 tonne fixed-beam [centrifuge](#) was lowered by crane into the new Indian Ocean Marine Research Centre building after arriving from France last week.

The new facility is part of the National Geotechnical Centrifuge Facility (NGCF) and brings together six Australian universities.

The NGCF is run by the Centre for Offshore Foundation Systems

(COFS) and aims to service the national and international geotechnical engineering community by developing safe and economical geotechnical structures, notably for the offshore oil and gas and renewable industry.

The centrifuge functions by spinning reduced scale foundation models at incredible speeds in order to simulate the stresses experienced by the soil at full-scale conditions.

The new centrifuge has a 10m diameter and is capable of spinning 2400kg of soil at a G-level of 100, which is a force 10 times greater than an astronaut experiences during training.

Results from centrifuge modelling are then applied to full-scale structures and used to help design pipelines, anchors and other offshore infrastructure, at a fraction of the cost and hazard when compared to full-scale testing.

The NGCF is headed by Professor Christophe Gaudin who has been planning the development and installation of the centrifuge facility since 2012.

"This is a big milestone for us," Professor Gaudin said. "It's been a huge effort from the whole team at the National Geotechnical Centrifuge Facility. There is still a lot of work to do but we hope to be ready for the first spin in about three weeks.

"The inception of the NGCF started about four years ago. Following a funding application to the Australian Research Council and UWA support to house it in the new IOMRC building, it took three years of detailed preparation to design the lab, design the centrifuge, develop all the associated equipment, organise its manufacturing and transport from France and finally assemble it here in UWA."

Provided by University of Western Australia

Citation: Three's a crowd with arrival of new centrifuge (2016, September 13) retrieved 25 April 2024 from <https://phys.org/news/2016-09-crowd-centrifuge.html>

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