

## Centre for Offshore Foundation Systems Postgraduate Research Opportunity Oceans Graduate School

**Research climate at COFS:** Since its establishment in 1997, the Centre for Offshore Foundation Systems (COFS) at the University of Western Australia has developed into one of the most sophisticated research and modelling facilities in offshore geomechanics and engineering anywhere in the world. A large team of internationally recognised researchers, consulting engineers and technical staff work together to solve some of the key engineering challenges of today and tomorrow, both for the oil & gas and offshore renewable energy industries. Further, COFS is embedded in the multi-disciplinary Oceans Graduate School, which brings together experts in physical oceanography, hydrodynamics, coastal engineering and related fields.

### Understanding vibratory pile installation in sand and its effects on in-service pile response under lateral loading Supervised by Britta Bienen, Fraser Bransby and Mark Randolph

The aim of this project is to advance understanding of the physical processes occurring during vibratory installation of piles in sand and its effects on pile response under lateral loading. Vibro-piles are a promising alternative to impact-driven piles, which currently support the majority of offshore wind turbines, a rapidly growing industry globally installing thousands of piles annually. However, the take-up of vibratory driving is limited by uncertainties related to installation and post-installation performance. This will be investigated in this proposed PhD studentship which forms part of a larger research project.

The selected PhD student will conduct a combination of experiments (on the lab floor and in our world-class centrifuge model testing facilities) and numerical analyses using the material point method to better understand the performance of vibro-installed monopiles and thereby improve design methods.

The successful applicant should have a first-class honours in Civil Engineering and experience or interest in offshore geotechnical engineering for offshore wind. An annual tax-free scholarship stipend of AU\$30,000 will be provided by UWA to the successful student, as well as covering tuition fees (if applicable).

To submit your interest to do a PhD on this project, please email your information:

- ❖ resume
- ❖ full academic transcripts
- ❖ details of any published papers
- ❖ results of English test such as IELTS (if applicable)

to Britta Bienen at [britta.bienen@uwa.edu.au](mailto:britta.bienen@uwa.edu.au).

For information on how to apply visit [www.scholarships.uwa.edu.au/](http://www.scholarships.uwa.edu.au/).

The closing date for this PhD opportunity is 17 January 2020.

