

Supergen



Offshore
Renewable
Energy



UNIVERSITY OF
Southampton

Supergen ECR Research Fund

Project: Development of an integrated anchor model via industry engagement

Dr Katherine Kwa

Biography & Application for ECR Funding



2019 Completed PhD at Sydney University, Australia



2019 July Supergen Research Fellow at Southampton University



2020 October Applied for Supergen ECR Funding



2021 January to October ECR Project

Why apply?

Additionality

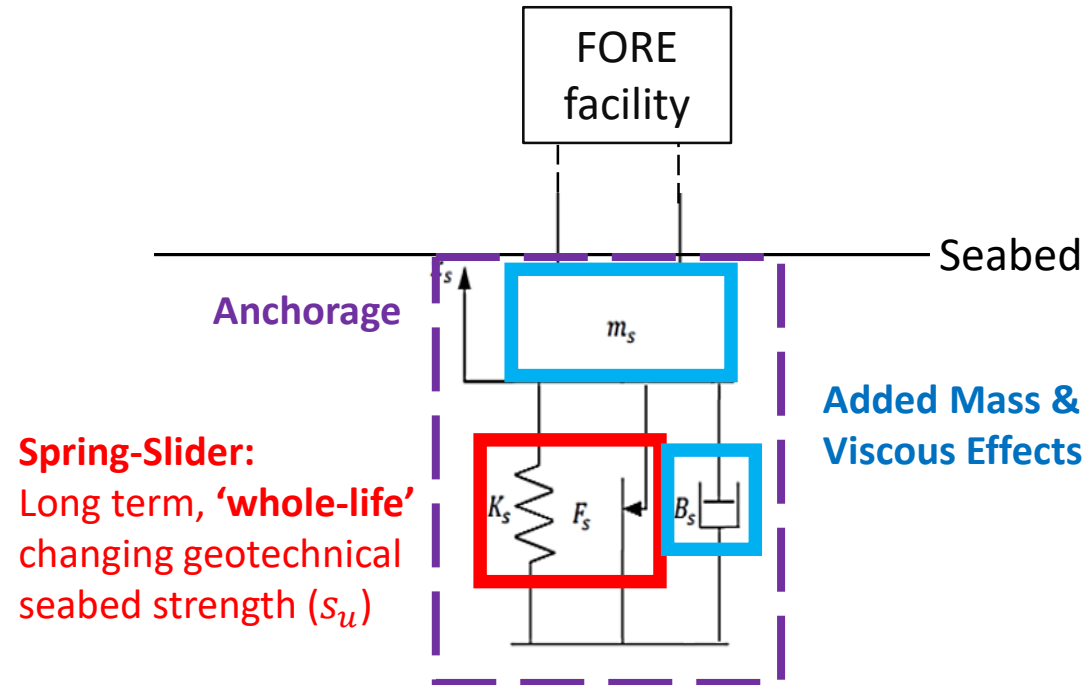
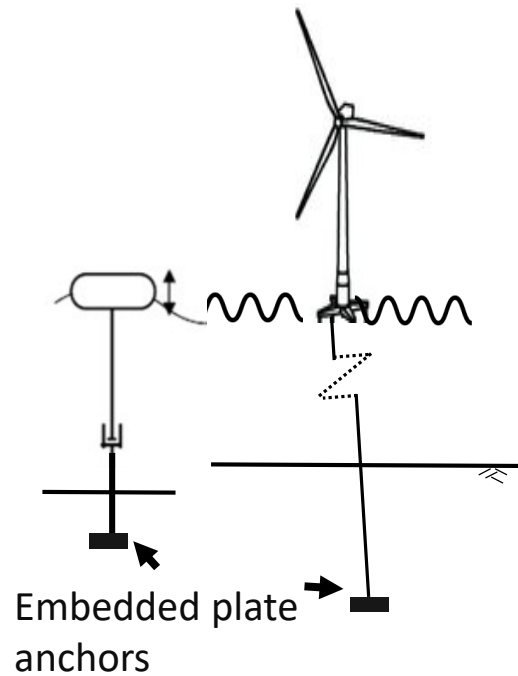
-develops skills & expand network further (e.g. International industry collaboration with Norwegian Geotechnical Institute (NGI)- learn new software skills, laboratory testing protocols, make your research industry relevant)

Support a fellowship/grant application

-complete a discrete additional & independent research project

Project Scope

Project: Development of an integrated anchor model via industry engagement



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Key Objectives

- Laboratory tests on site specific soils
- Calibrate and validate a developing seabed soil-anchor model



WP1: Calibration of an anchor model via laboratory tests: <i>DSS 'whole-life' testing of Onsøy clay; database mining</i>
Task 1.1: Conduct episodic cyclic element tests in DSS apparatus as described in aims/methodology
Task 1.2: Mine NGI database of cyclic and long term DSS and other laboratory tests to support RSN-CSI modelling
Task 1.3: Calibrate & validate RSN-CSI model from collected DSS data
WP2: Integration of anchoring in floating system model: <i>Packaging of RSN-CSI model, REDWIN-style</i>
Task 2.1: Modification of RSN-CSI model to interface with floating system model, using REDWIN experience/architecture
Task 2.2: Coupled geotechnical-structural response verification & explore NGI modelling techniques of OWT/FOWT cases
Task 2.3: Demonstrate system behaviour using suitable benchmark cases, drawing on REDWIN experience
Task 2.4: Journal paper output; Supergen ORE reporting project webinars, industry lecture



- Integrate seabed soil-anchor model with existing floating system models used by industry
- Verification and demonstration of full floating system software
- Dissemination of findings

	WP1	WP2
Jan	↑ T1.1&1.2	↑ T2.1
Feb	↑ T1.1&1.2	↑ T2.1
Mar	↑ T1.3	↑ T2.1
Apr	↓ T1.3	↑ T2.1
May	↓ T1.3	↑ T2.1
Jun	NGI Visit	↑ T2.2
Jul		↑ T2.2
Aug		↑ T2.3
Sep		↑ T2.3
Oct		↑ T2.4

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