

Thursday, 19 July 2018 – The Basement @ Rigby's, St George's Terrace, Perth

Onsite registration 5:30 PM Networking over drinks/finger foods 5:30 PM – 6:00 PM; Presentations 6.00 PM – 8:00 PM

The Offshore Site Investigation and Geotechnics (OSIG) Group is a special interest group of the Society for Underwater Technology (SUT). We promote technical advancement and knowledge sharing amongst academics and practitioners in the fields of geology, geophysics, geomatics and geotechnical engineering

Chaired by: Michael Cocjin, Geotechnical Consultant, Advisian-WorleyParsons

**\$10 for students, \$30 for SUT members & \$50 for non-members.**  
Please register at [www.OTCSelections19July2018.eventbrite.com.au](http://www.OTCSelections19July2018.eventbrite.com.au)

This event features an OSIGp selection of papers by Perth-based presenters from the 2018 Offshore Technology Conference (OTC) in Houston and Kuala Lumpur.

### On-bottom Stability Design of Pipelines and Umbilicals on Seabed Susceptible to Scour: A Multi-Faceted Approach

B. Youssef; D. O'Brien (Atteris)

*Synopsis:* Offshore pipelines and umbilicals in a marine environment may be susceptible to instability under hydrodynamic loading. Means to assess pipeline stability have evolved over time, from specifying a required specific gravity, to simple force balance approaches, to methods based on detailed FE analysis. However all of the publicly available methods fail to appropriately account for the (generally beneficial) effects of seabed scour on pipeline stability on erodible seabeds. The objective of the paper is to outline an approach that can be applied to allow the beneficial effects of seabed scour to be accounted for in a stability assessment.

### Rapidly Rig Installable and Re-Usable Suction Bucket Wellhead Platforms

A. Deeks, P. Gaunt, Ø. Torgersrud, N. Boylan (NGI), D. Field & D. O'Leary (ICON Engineering)

*Synopsis:* This presentation will provide an overview of a combined jacket and foundation concept for wellhead platforms, that can be installed/removed from the jack-up rig involved in the D&C/P&A operations. Overall, this precludes the requirement for a separate installation spread and can lead to an accelerated first oil date. The platform design is modular, involving the combination of standardised module, jacket and foundation components providing significant design efficiencies that favour their use to develop marginal fields. The platform is founded on suction buckets permitting rapid and quiet installation, and re-use. Technical and value creation aspects of this type of combined jacket and foundation concept will be presented.

### Prediction of Seabed Trench Formation Induced by Anchor Chain Motions

M. O'Neill; C. Erbrich; A. McNamara (Fugro Australia Marine Pty Ltd)

*Synopsis:* This presentation describes a new design tool which permits identification of the primary mechanism leading to the formation of seabed trenches running along the embedded section of mooring lines in front of anchors. The model provides a direct approach to estimating the extent of seabed trench formation that may arise from mooring line motions under both normal (operational) and extreme (storm/cyclonic) conditions. As inputs the design tool requires the full mooring line layout/configuration from the fairlead (located at the floating facility) down to the anchor pad-eye, the range of design loads at any point along the mooring line and the seabed soil properties.

### Recent Advances in Well Modeling: Axial Interaction Between Structural Casing and Soil Under Cyclic Thermal Loads

H. Zhou, A. Amodio, A. Borges Rodriguez, N. Boylan & A. Deeks (NGI)

*Synopsis:* This presentation will showcase recent advances in the numerical modelling technique of the well system, particularly focusing on the axial interaction between the structural casing and surrounding soil under cyclic thermal loads. The presentation and paper provide closure of knowledge and assessment technique gaps for well design in regards to casing-soil interaction under complex, yet realistic loading conditions. The analysis technique accurately captures the variation of mobilised casing-soil interfacial resistance under thermal cyclic loading occurring during operation; thus significantly improves the accuracy of the predictions of the maximum internal axial force, cyclic thermal loading-induced fatigue and well head movement.

*Programme is subject to change*

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