

Australasian Perth Branch Education and Research

Wednesday 15th October 2008

Melbourne Hotel (John De Baun Room), **Corner of Hay & Milligan Street, Perth**

Bar Opens 5:30pm: Presentations Start at 6:00pm: Drinks and Canapés 7:30pm

Chaired by: **Dr. Mark Cassidy, UWA**

Perth has an active research community and educating our future technical and research leaders in underwater technology is critical for our industry's development. This technical evening showcases the diversity of research being conducted by doctoral students in Perth. There will be four short presentations followed by an informal poster session allowing SUT members to discuss the research in a social setting.

Characterisation of near seabed surface sediment

Han Eng Low, UWA

In this presentation, a new manually operated penetrometer (DMS) for measuring profiles of undisturbed and remoulded undrained shear strength within the box core sample will be presented. Data for DMS tests in box cores recovered from a site in the Gulf of Mexico and in box samples prepared in the laboratory will be presented and compared with the strength data measured by motorized miniature vane tests to illustrate the potential of the DMS in characterising the shear strength of seabed surficial sediments.

Internal wave dynamics on the Australian North West Shelf

Paul van Gaster, UWA

Observations are presented of energetic large-amplitude internal waves at the North Rankin gas platform (NRA) in a water depth of 124 m generated by the steepening of the internal tide on the Australian North West Shelf. Numerical simulations revealed that internal tide generation occurred in water depths between 400 m and 600 m and showed the focusing of internal tidal energy towards the NRA site. This form of topographical steering plays an important role in the observed tidal dynamics and highlights the importance of 3D numerical models in determining the propagation characteristics and energy fluxes of internal waves on the North West shelf.

Analysis of shallow underwater acoustic data transmission in near horizontal channels

Grant Pusey, UWA

This study seeks to assist in the development of real-time methods of data retrieval by characterising the horizontal performance of various underwater acoustic modems. With deeper water trials planned in later stages, the first set of trials involve investigating the performance of two commercially available modems in shallow water. This presentation will report on the preliminary results of the experiments and the insights they give into the functionality of horizontal underwater communications in the varying oceanographic conditions

Suction caissons in sand as tripod foundations for offshore wind turbines

Marc Senders, UWA

This presentation summarises the research performed for a foundation consisting of suction caissons beneath a tripod for an offshore wind turbine. It discusses a computer program which simulates the loading conditions, explains some experiments performed in the geotechnical centrifuge to investigate the behaviour of a suction caisson during installation and loading in dense sand and the developments of prediction methods based upon these tests.

REGISTRATION FEES: SUT Members \$10: Non-Members \$30*

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*New 'Full' Members can attend this Evening Meeting **Free***

Apply for Membership today: Please see www.sut.org.au for application form.

To help reduce registration time on the night, SUT would appreciate if you could register and pay for this event in advance. To do this please e-mail perthevents@sut.org with delegate name, affiliation and credit card details, or if you prefer call + 61 (0) 8 9446 9903 with above details.

If unable to pre register, registration and payment will still be accepted on the night.