Society for Underwater Technology

Perth Branch

EYE CANDY

Not just pretty pictures, its powerful computing for big subsea challenges

NEW VENUE

Wednesday 9th February 2011

Ibis Hotel (Ruby Room), **Murray Street, Perth**

Registration / Drinks 5:30pm: Presentations Start at 6:00pm

Drinks, Canapés & Networking 7:30pm - 9pm

Chaired by: **Lanre Odina, Senior Consultant, S2V Consulting Pty Ltd.**

Water, waves & structures – Advanced numerical modelling

Dr Stephen Richardson, Business Manager – Oceania Region, HR Wallingford

The use of advanced numerical models has become an increasingly popular approach for analysing engineering aspects associated with maritime / industrial water developments over the last decade; but what is possible and what does the future hold? Dr Richardson will provide his views on how Computational Fluid Dynamics (CFD) modelling is supporting water related developments today and discusses techniques which may increase in popularity in the future

The Smoothed Particle Hydrodynamics Method

Ashkan Rafiee, School of Mechanical Engineering, UWA

There is an increasing interest in the development of robust and efficient numerical methods for analysis of engineering problems involving the interaction of fluids and structures accounting for large motions of the fluid free surface. Examples of this kind are common in ship hydrodynamics, offshore structures, spill-ways in dams, and sloshing in liquid containers. Besides the conventional Eulerian techniques such as Finite Difference method or Finite Element method, Lagrangian techniques are an alternative class of numerical techniques which has attracted much attention partly due to the ease of implementation and also partly because of the independence of the method from the grid information. The Smoothed Particle Hydrodynamics (SPH) method is a meshless technique which uses a purely Lagrangian approach and has been successfully employed in a wide range of applications. This presentation will give a brief introduction to the SPH method and demonstrates the capability of this method in accurately simulating challenging fluid dynamics problems.

When reality matters

Janos L. Herbaly, Creative Director, Global Visioneering Pty Ltd.

Over the last decade we have seen the expansion from 2 dimensional drafting into the world of readily available 3 dimensional modelling. With technological advances in computer hardware and software, 3D modelling is now becoming a common engineering tool. This presentation will demonstrate how 3D modelling is ideal for developing complex equipment and components required subsea such as trees, manifolds, ROV's, tooling etc. The models can be animated to create a sequence of actions which can demonstrate and verify the mechanical operations, help to monitor anomalies and defects, predict failures and assist with emergency responses. Design flaws can be detected well ahead of production/manufacturing and save a large amount of money and valuable time.

Event Sponsored by:

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

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

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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.