

The Role of Marine Science & Technology: Beyond Oil & Gas



Report on SUT Perth Branch Evening Technical Meeting
Wednesday 8th June 2016

By Paul Upjohn, Perth Branch Committee Member

The evening was opened by SUT Perth Branch Chair, Julie Morgan and chaired by SUT Committee Member Paul Upjohn, with the event kindly sponsored by the Ocean's Institute at The University of Western Australia. The evening's theme, was designed deliberately to have topics reflecting on underwater technologies/topics that were not connected wholly towards the oil and gas markets that many of our branch members are related to and/or work amongst. With this in mind, we invited Serge DeSilva, President of the Australian Industry Defence Network-WA (AIDN-WA) to the stage to give a brief summary of AIDN for the benefit of our members interested in a less-O&G focus. Then it was time for the presentations.

First off the rank to present for the evening was Associate Professor Robert McCauley of Curtin University's Centre of Marine Science and Technology (CMST) who presented on the topic "Marine acoustics studies in Western Australia with emphasis on the use of sea noise to study our marine environment". We learned how Robert and his relatively small team have been using various underwater technologies for many reasons within Australian waters for over 20 years, such as sensors for ship motions, visual devices creating 3D modelling and acoustics to study marine fauna which was the main focus of Robert's presentation, looking at the movements of the Pygmy Blue Whale within the Eastern Indian Ocean. A fascinating topic that has seen trending of the movements off the WA coast of the Pygmy Blue Whales using the passive acoustic technologies that has allowed CMST researchers to fully understand the migration patterns along with a multitude of other species too, particularly within the Perth Canyon. This is certainly an area within marine science that has benefited using this acoustic underwater technology to learn significantly the behavioural aspects of the Pygmy Blue Whale.

Our second presentation of the evening was by Professor Erika Techera from the Ocean's Institute, The University of Western Australia (UWA), titled "From offshore installations to artificial reefs: legal frameworks for de-commissioning in Australia". Erika's insight into the legal world for what will in years become a significant requirement regarding the decommissioning of offshore oil and gas related installations was of great interest to all in the audience and in particular how in Australia such events will grow and throw up many questions. Be it international laws, standard, obligations, Federal or State, there is certainly a variety of legal requirements to be taken into consideration before moving ahead with using existing installations such as platforms within Australian waters as artificial reefs for the future. The question of who finally regulates matters and who owns the seas appear up for discussion as well as the need for inputs from a science and engineering point of view when looking at decommissioning within Australian waters – many a debate from many angles in particularly a legal aspect are yet to come I would suggest.

The last presentation of the evening was by Doug Austin, AP Director for James Fisher Defense, which was titled “Hyperbaric Intervention in Submarine Rescue” and focused on the equipment and techniques deployed to rescue personnel from a disabled submarine. For the Claustrophobics amongst us, myself being one for sure, then this topic was viewed with many a grimace as Doug showed ways of escape and treatment of the persons that are saved. The logistics required from the initial call for rescue that can cater for anywhere between 30-100 personnel whom may have been exposed to pressures as high as 4 bar for 5-7 days, kept the audience captured (excuse the pun but very much intended!). Doug described in good detail the stages of the rescue and the technologies required – the rescue submersible and decompression chambers of various sizes – and followed this with a time lapse video that showed an example rescue from beginning to end, which seeing the size of the small individual chambers being used just confirmed to myself that diving was not a career option for me. A great insight to what is a lifesaving operation when disaster strikes in the underwater world.

So we enjoyed three very different presentations and topics for the evening whereby a crowd in attendance of well over the 100 mark were kept well intrigued. Many questions from the floor made the job of chairing the evening very easy but showed that many of us have a great interest in the use of various technologies and topics related to the underwater world that are not always oil and gas related, something the Perth Branch are very conscious of and will continue to have evenings like this one for future evening technical meetings to come.

Many thanks as always to the SUT members and hopefully new members that attended the evening and to the three presenters that in their own time volunteered to speak at the event. Thanks as well again to our main sponsor Ocean’s Institute at UWA, to the SUT ETM committee for continuing to provide the good content to the technical meetings SUT provide and of course to the three hard workers that we have at the SUT Perth Branch - Corelle, Fiona and Jen - whom without their efforts evenings such as these wouldn’t run as smoothly as they do.