

OSIGp Movie Night

Wednesday 27 September 2017

UWA Indian Ocean Marine Research Centre Auditorium

Report by Chris Meecham, OSIGp Committee Member



OSIGp recently held the second edition of our annual Movie Night – a casual evening featuring a series of movies depicting the exploits of the offshore site investigation industry over the last 12 months. The feature(d) films covered a broad variety of topics spread across a large geographical footprint – from the Great Australian Bight to the Timor Sea and also including the humble Swan River.

Andrew Ross (CSIRO) updated us on what CSIRO have been up to in the Great Australian Bight in 2017. The crew from the 2017 survey detailed their scientific areas of expertise – all the while being thrown around by the Southern Ocean swells! This time, CSIRO went armed with ROV technology, enabling the recovery of an embarrassing array of rare, intact specimens in ultra deep-water (>3000m). The investigation focused on volcanism, organic geochemistry, and benthic ecology and was perhaps best described by one crew member as ‘forensic geology’. Acquired data included hours of HD video footage, numerous flora and fauna from the bottom waters and shallow seabed, and geological cores to approximately 50m below seafloor. Two ROVs with bespoke tooling and a seafloor based drilling system were used during the campaign.

Rick Gillinder (Fugro-TSM) brought the evening to the warmer waters of the Northwest Shelf with a movie depicting the design, engineering and installation of a series of anchor piles. These anchors were installed as part Woodside's GWF2 project and would allow a MODU to maintain position during cyclones. Variable site conditions presented an added complexity and required different solutions for both design and installation. Ultimately, four pile lengths and two installation techniques – drilled and grouted and drive-drill-drive – were required. Engineering challenges involved the design and manufacture of a bespoke drill tower, integration of an existing drill system with the vessel crane, creation of a pile guide frame with a fall arrest system and fabrication of the piles, chain and pad-eye shackles.

Jan Flynn (Shell Australia) continued our northern migration by presenting a movie on the Prelude hook-up. Other than the tremendous achievement of anchoring the world's largest vessel to the seafloor, this movie was perhaps most memorable for the particularly enthusiastic Shell employees. The movie showed the hook-up of the eighth anchor chain to the Prelude turret system – an achievement that notably made the FLNG facility 'storm safe'. Eight anchors chains remained with a total of 16 chains anchoring Prelude to the seafloor for the life of the project. This was the culmination of years of hard work from numerous people and the team were visibly excited in the achievement. It was truly awesome.

Simon Leckie (ARUP) presented an interesting movie on pipeline embedment from a mysterious and undisclosed location. This video journeyed along the length of a pipeline that traversed significant changes in water depth, surface geology, benthic ecology and metocean conditions. Importantly, the interplay between these parameters resulted in variable pipeline embedment – over both time and space. Detailed investigation of these parameters revealed interesting insights in the interaction between the pipeline and its marine environment.

Sam Stainer, Raffaele Ragni and Henning Mohr (UWA) followed the pipeline theme with a movie depicting the first offshore deployment of the latest RIGSS technology. Exploring the challenges in deploying both advanced equipment and academics offshore, this movie revealed the next step in shallow penetrometer tests. After over-coming logistical challenges to begin the project a large volume of data was collected and processed in near real-time. Ongoing interrogation of this data on the completion of the campaign is both highly promising for industry application and guiding improvements for the next deployment.

Andrew Grime (UWA) ended the evening with a collection of suitably themed and casual movies that detailed the antics of those involved with the ARC Offshore Hub at UWA. Complete with a Stars Wars entry paragraph, the videos covered work in the River Lab – including pumping out submarine beats in the Swan River on Australia Day, wave-structure interaction, and the hazards posed by solitons to offshore facilities. The lingering questions at the end of this action packed compilation were undoubtedly – what is next and where do we see the sequel?