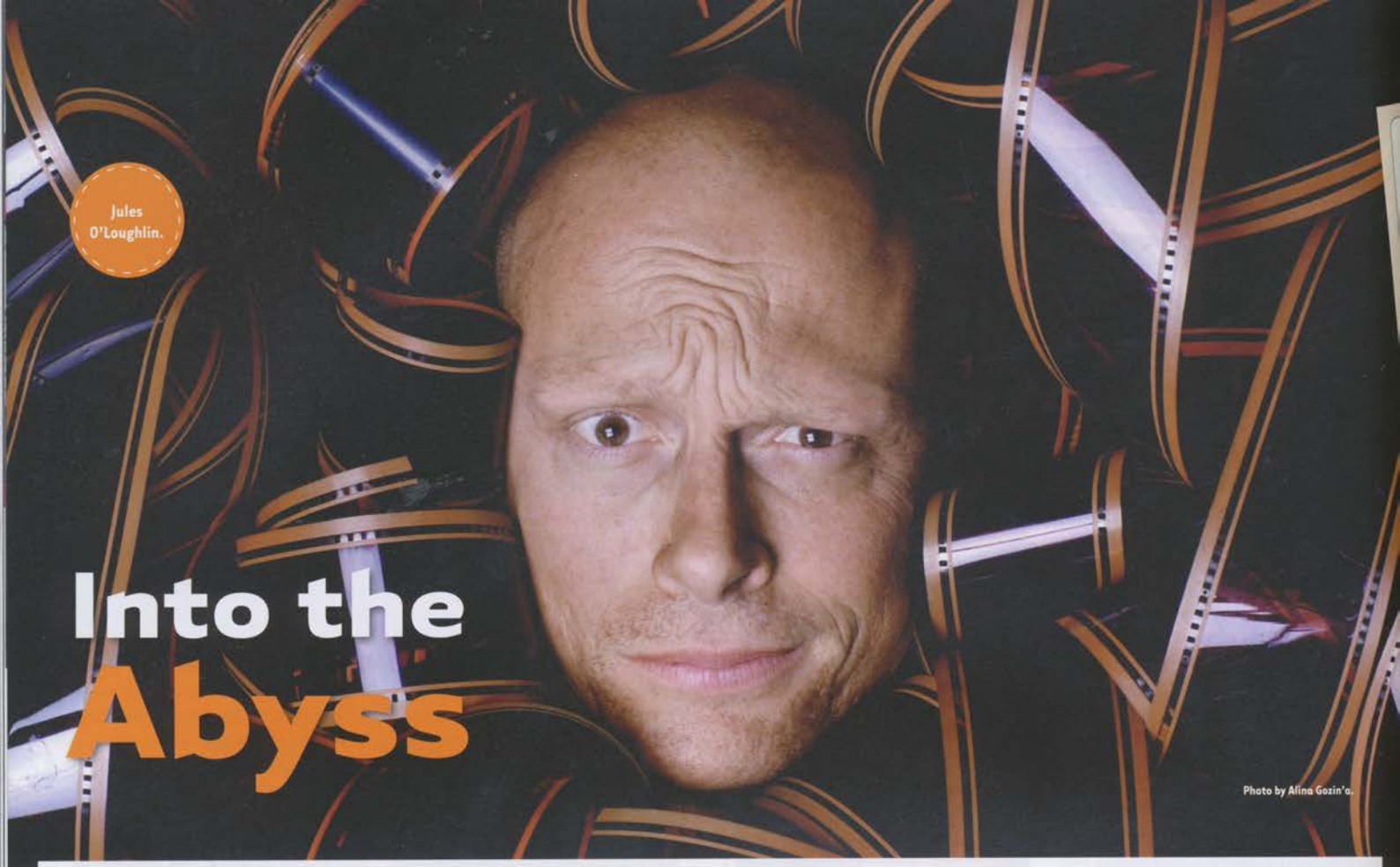

Jules O'Loughlin.

Into the Abyss

Photo by Alina Gozin'a.

Australian cinematographer Jules O'Loughlin ACS recently spent seven-weeks capturing James Cameron's history-making dive to the deepest point in the ocean. Brendan Swift takes a closer look.

THEY CALL IT the nine-tonne wrecking ball – an unusual description for a submersible designed to dive to the ocean's deepest point. But on the back deck of the Mermaid Sapphire expedition ship, hanging from a 23-tonne knuckle boom amid heaving seas, form and function can be turned upside down in an instant.

"Often that's where we were filming to try and get these dramatic shots of things being launched or recovered," cinematographer Jules O'Loughlin ACS says. "There's always that aspect of danger when you have something that weighs nine-tonnes being craned on or off the ship in rough seas."

The man inside the Deepsea Challenger submersible was none other than filmmaker and adventurer James Cameron, dangling precariously above the deepest point in the Pacific Ocean – the Mariana Trench. Almost 11 kilometres (or 36,000 feet) below lies a strange and barely recognisable world where the pressure is over one thousand times that at sea level.

O'Loughlin was the man tasked with capturing the journey to the ocean's depths in 3D although he was brought on board just before the expedition set out from Australia after a chopper accident killed the documentary's original expedition leader and director Andrew Wight. "That left a gaping hole in the team and also in the morale of the team," O'Loughlin says. Academy Award-winning VFX specialist John Bruno took over directing duties and Cameron brought on O'Loughlin to film the expedition.

From left to right: director John Bruno, filmmaker James Cameron, Jules O'Loughlin, second unit director (and ship's doctor) Glenn Singleman.

With just one day to review equipment before the ship set sail for Papua New Guinea in early-February, the pressure was on. The Deepsea Challenge expedition was already slated to be a different kind of production than Cameron's other ocean-going documentaries such as *Aliens of the Deep*, *Expedition: Bismarck* and *Ghosts of the Abyss*.

"This one was much more pared back than those and part of it was just the size of the ship and the ability to take gear on board was much more limited. The idea was that it was light and mobile and kind of like a fly-on-the-wall documentary."

In practise, this meant a lack of lighting and next to no grip equipment – in fact, half of grip/gaffer Aaron Walker's time was originally allocated to crew duties. "I really wanted to get a dedicated gaffer but there wasn't room on the ship for that," O'Loughlin says, although he bolstered the equipment with a

Photo Jules O'Loughlin.

Launching the Deepsea Challenger, also known as the nine-tonne wrecking ball.

dolly, some track, mini-jib and a new Steadicam unit ordered by Cameron. Of the ship's 60 crew, about 40 were part of the expedition, including 10 film crew.

"It was going to be a hard job – very, very hands-on, minimal crew and certainly not what I had been used to in so far as feature films anyway." O'Loughlin's last 3D feature was the Cameron-backed 3D cave-thriller *Sanctum* and he also counts films such as *Wish You Were Here*, *Kokoda* and *September* among his credits.

A mix of cameras and rigs were chosen to accommodate the project's run-and-gun style: two Sony P1 Cameron/Pace 3D rigs; a RED EPIC Cameron/Pace 3D rig and a RED EPIC Cameron/Pace 3D underwater rig; a Sony TD300 side-by-side rig and 3D Go Pros (attached to rigging or boats or helmets). The production also had standard ARRI ALEXAs, EPICS and Canon 5D MKIIs.

The Sony P1 was tethered to the camera room where HD engineer John Turner and data wrangler Sam Winzar would control the interocular and convergence. 'Cable runs' on the ship made the process slightly easier – for example, if a shoot was required on the bridge, the crew could plug the cable directly into a local cable port. (One standalone EPIC 3D rig was self-contained and did not require cables and a similar autonomous EPIC with beamsplitter rig was used for shallow underwater filming.)

"The beauty of those rigs were that they were beam splitter rigs so we could get right in and do interviews with them, right into the action or step back doing longer lens-type stuff. But they were very versatile insofar as the quality of the shots we could get, but also large, cumbersome, heavy and not easy-to-manoeuvre."

The small size of the Sony TD300 side-by-side rig allowed shooting in a wider range of environments but "ideally, you have to be about 15 feet away from your subject, so while it was light and mobile, it couldn't be used in a lot of situations we were in because we were just too close to the action or too close to a person being interviewed."

The equipment held up relatively well under the stress of constant heat and humidity, as well as salt spray and occasional rain. "RED cameras are notorious for overheating and we had very few issues with them in the tropics."

O'Loughlin says shooting in 3D has become a far more standardised and reliable process over the past two years. "Back in the *Sanctum* days, I'd say you'd want to put another 25 per cent on to your schedule because you were shooting 3D. Now there's no reason to fatten that schedule because of the technology – sure it's more expensive for a number of reasons but it's not slower anymore."

Footage captured on board Cameron's Deepsea Challenger submersible was overseen by a separate team. Small, specially-developed cameras were attached to the submersible's reticulated arms which were controlled by Cameron from inside the sub. The submersible also included a Go-Pro camera and an

> *Continued overleaf.*

Photo John Bruno.

James Cameron emerges from the Deepsea Challenger after his historic dive to 36,000ft. From left to right: Cameron, Jules O'Loughlin, Manning Tillman, Glenn Singleman (on roof), and Jay Hanrahan with camera.

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EPIC which faced "a little porthole – it was kind of like his eyes... he would steer the submersible based on the image he was getting."

On March 26, Cameron successfully manned the first solo mission to the deepest part of the ocean. The last time such depths were reached was in 1960 by Navy lieutenant Don Walsh and late Swiss engineer Jacques Piccard in the *Trieste* bathyscaphe. (Walsh witnessed the latest dive on board the Mermaid Sapphire where he was acting as a consultant.)

"Everyone kind of knew they were part of something – part of history I guess – and it was very, very exciting," O'Loughlin says. "But it was kind of business as usual really – everyone was on their game, doing what they had to do to ensure firstly, that the sub was launched and Jim got to the bottom and got back safely and we recovered him and – from our point of view – that we captured everything that was going on."

Cameron has not only overseen the two biggest feature films in history – *Avatar* and *Titanic* – but explored some of the world's most remote regions. He has made more than 70 deep submersible dives, including 33 to the Titanic wreck (51 of his dives were in Russian Mir submersibles to depths of almost five kilometres).

But, despite his accomplishments, O'Loughlin says the filmmaker is a down-to-earth guy – albeit the smartest he has ever met.

Photo John Bruno.

Grip/gaffer Aaron Walker, Jules O'Loughlin and first AC Manning Tillman with the RED EPIC Beamsplitter Rig.

"He is one of the few people I've met who is as much 'left' brain as he is 'right'. He's an entrepreneur, he's a scientist, and he's creative – and it's rare to see that combination."

As for the future of 3D itself – of which Cameron is one of the biggest supporters – O'Loughlin is less certain. When *Avatar* took the box office by storm in 2009, Hollywood expected the technology to revolutionise the industry. Since then, demand for 3D fare has softened, particularly in the US, as audiences have increasingly baulked at paying a premium for 3D tickets.

O'Loughlin refuses to watch films that have been converted to 3D (or dimensionalised) in the post-production process and nominates *Prometheus* and *Hugo* as two recent examples that have pushed 3D into an exciting direction.

"I think as directors become more experienced with 3D – guys doing their second or third picture – then they'll really start to push the technology. That's where I think it should be. If you're asking an audience to pay a premium for 3D then you should be blowing them through the back wall of the theatre."

***The Deepsea Challenge** expedition will be chronicled in an IMAX 3D feature film as well as a National Geographic television special.*