

## **2000 – AGM Michell Medal – Mr Christopher J Norman**

Chris Norman graduated from the University of New South Wales, Australia in 1986 with first class honours in Naval Architecture.

During an 18 month hiatus from study (1982-83), Chris worked for Star Boats in Western Australia, designing a range of small aluminium pleasure craft and fishing vessels including cray boats, in the 5-15 metre size range. (This early working association with Start Boats began Chris' relationship with John Rothwell, Star's owner, ultimately leading to the incorporation of Austal Ships). After graduating from University, Chris established a consultancy Naval Architecture practice in Fremantle, Western Australia.

In 1987 he became one of the founding Directors of Austal Ships, a Western Australian company established with the vision to build high quality aluminium commercial vessels for the export market. He joined the company full time in 1989 as Technical Director responsible for the development of a new range of high speed passenger and vehicle-passenger ferries.

Austal Ships was quickly established as a world leader in the design and manufacture of high speed aluminium passenger catamarans and by the company's 5<sup>th</sup> anniversary in 1993, it was the world's largest manufacturer of 40 metre vessels by number delivered.

In the early nineties, Chris was responsible for research and development of a high speed vehicle-passenger catamaran capable of transporting passengers and cars. The project commenced with a 76 metre version, then rapidly entered a design and development phase which led to the construction of a 79 metre prototype in 1994 capable of carrying 600 passengers and 160 cars at a speed of 35 knots. Importantly, it was the first vessel of its type able to carry buses.

The introduction of this vessel type, given the designation "Auto Express" has since led the company's pre-eminence in this field with some 12 Auto Express high speed vehicle passenger catamarans currently operating in Scandinavia, the Eastern Mediterranean, the Baltic, the United Kingdom and South America. The design has since grown to 92 metres in overall length and capable of carrying in excess of 1000 passengers and 200 cars with speeds in excess of 40 knots.

It was also in the early nineties that Chris was instrumental in leading Austal's development of its own ride control system, "Ocean Leveller". This system was developed in response to market demand for improved passenger comfort on board fast ferries with minimal operator input. The research and development program was commenced in collaboration with the Australian Maritime Cooperative Research Centre (AMECRC) with the aim to develop a pitch, roll and heave controller for high speed catamaran ferries.

In 1992, the performance of the prototype system was verified in an extended trial program involving two identical 40 metre catamarans. With two identical vessels, it was possible to run a vessel with ride control along side a vessel without ride control. The trials demonstrated the ride control system's potential to reduce vertical accelerations by up to 50%. Furthermore the controlled vessel required a lesser power to maintain speed in a seaway.

Since that time Austal has completed 25 installations and has systems in progress for a further 11 vessels. Several configurations of the basic system have been installed covering both monohull and catamaran arrangements with a variety of control surface sizes and configurations.

Since 1992, Chris has held the position of Austal's Marketing Director. As a naval architect with extensive technical and product knowledge, Chris has been instrumental in achieving Austal's huge success in selling passenger and vehicle-passenger vessels to Europe and throughout the world.

In 1986 Chris was awarded the "David Carment Medal" for "Best Overall Performance by a Final Year Student in Naval Architecture" and the Royal Institute of Naval Architecture Award for "Best Ship Design in Final Year".

Chris is a Graduate Member of the Royal Institute of Naval Architects and a Member of the Germanischer Lloyd Asean Committee.