

## Award-winning papers in 2011

Papers published in *Maritime Engineering* are eligible for awards from the Institution of Civil Engineers. Papers from any of the ICE journals can be nominated for several awards. In addition, each journal has awards dedicated to their specific subject area.

On Friday 12 October 2012, ICE president Richard Coackley presented awards to the following papers published in *Maritime Engineering* in 2011. The editorial panel nominated their best papers and an awards committee chaired by Barry Clarke allocated the awards.

### Halcrow Prize

The Halcrow Prize, awarded for the best paper on maritime engineering, was awarded to Reis *et al.* (2011).



Keming Hu and Miguel Robert Lopes, recipients of the Halcrow Prize, with ICE President Richard Coackley



John Harris, James Sutherland and Richard Whitehouse, recipients of the David Hislop Award, with ICE President Richard Coackley

### Abstract

The paper presents an historical perspective on the design, construction, failure and rehabilitation of the west breakwater of the Portuguese harbour of Sines, as well as on the overtopping physical model studies performed to check the effectiveness of the different proposed solutions for its rehabilitation. Studies are now being conducted for Sines Port Authority for the final rehabilitation of the breakwater, with the primary objective of reactivating berth 1 but also to generally improve the shelter and operating conditions within the port. The paper presents the three proposed solutions for the west breakwater and their two-dimensional physical model tests of stability and overtopping carried out in 2008 at Laboratório Nacional de Engenharia Civil (LNEC), Portugal. The paper also illustrates the application of a new version of the non-linear shallow water numerical model, Amazon, and of the methodologies recommended in the EurOtop overtopping manual to study the mean overtopping discharge over the breakwater. The Clash neural network was the only tool applicable to the three proposed solutions, although it tended to underpredict the physical model discharges, mainly for the selected solution 3. There was good agreement between the physical model data and the Amazon results for solutions 1 and 2, although Amazon tended to slightly overpredict the discharges, especially for solution 2. The empirical methods overpredicted these discharges to a great extent, warning of the fact that direct application of these methods is limited to particular structural configurations and wave conditions.

### David Hislop Award

The David Hislop Award, awarded to the best paper on heavy marine design and construction with particular reference to offshore engineering, was awarded to Whitehouse *et al.* (2011).

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## Abstract

This paper analyses scour at offshore foundations, with special reference to gravity base foundations which are used in a range of applications including oil and gas production, wind farm foundations and subsea infrastructure protection, such as concrete covers to pipelines. Two published empirical methods available for evaluating scour are reviewed and compared with laboratory and field data. The methods that are presented are reasonable for first-order assessment although they do not represent the inclusion of skirts. In a vigorous scour environment the foundation is liable to be undermined and scour protection will be required. A flow chart for a scour management plan is proposed to integrate scour considerations into the life cycle management of the gravity base foundations and some improvements that can be made to the predictive capabilities are outlined.

## REFERENCES

- Reis MT, Neves MG, Lopes MR, Hu K and Silva LG (2011) Rehabilitation of Sines west breakwater: wave overtopping study. *Proceedings of the Institution of Civil Engineers – Maritime Engineering* **164(1)**: 15–32, <http://dx.doi.org/10.1680/maen.2011.164.1.15>.
- Whitehouse RJS, Sutherland J and Harris JM (2011) Evaluating scour at marine gravity foundations. *Proceedings of the Institution of Civil Engineers – Maritime Engineering* **164(4)**: 143–157, <http://dx.doi.org/10.1680/maen.2011.164.4.143>.