Editorial

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Corrosion of steel is an important issue for those working in the maritime environment – in particular, the causes and predicting the rate of corrosion for appropriate design and maintenance. A particular issue identified in the 1980s was that of accelerated low water corrosion (ALWC), when exceptionally high corrosion rates were estimated. This unsurprisingly gave considerable cause for concern and since then plenty of attention has been given to this matter. A good account of this is provided in our opening paper, which presents work investigating the role of microbiological influences on steel corrosion in the wider tidal and immersion zones.

Melchers and Jeffrey (2014) highlight the correlation between dissolved inorganic nitrogen (DIN) and the corrosion of steel piling in the lower tidal zone, and its contribution to the ALWC effects. A major source of DIN is pollutants resulting from fertiliser run-off and sewage treatment effluents or untreated sewage. Results are presented that quantify the relationship between steel corrosion and nutrients. The paper demonstrates that although the reduction of DIN into the water may not be immediately practical or feasible, understanding the levels of nutrient pollution and its implications is important in determining likely corrosion losses and appropriate design/management strategies.

A quite different but equally important topic is our ability to predict the expected behaviour and response of beaches, with beach recharge and management schemes accounting annually for many millions of pounds' expenditure. Although a large number of numerical tools and methods have been created for the study of sand beaches, the range or limitations of models available for gravel beaches is extremely limited. This is even more remarkable given the numbers of such beaches and their importance as part of coastal defence. Although physical models can be particularly useful to help understand cross-shore beach responses, these too have considerable limitations. We are therefore pleased to be able to publish two papers in this issue which should help us to improve our ability to predict the morphological response of such beaches to changing conditions over the short to medium term.

Masselink *et al.* (2014) provide details of a new model that has been developed to identify the storm impact on gravel beaches and barriers, with validation provided by field records from a number of sites. The paper describes how the model is

constructed and a series of tests applied to demonstrate the quality of results obtained from the model. The results show good correlation between measured and modelled run-up levels, considerable improvements in the ability to predict the possibility of overwash events and barrier beach rollback. Usefully, the authors also describe a graphical user interface that is available to help practitioners to apply this model themselves.

Rosso *et al.* (2014) present results of physical model validation using field measurements from a prototype beach with unusual characteristics. The beach at the site in question contains sand-sized grains, but is well sorted and has an absence of fines, which gives it the permeability (free draining) and slope characteristics found more commonly in a gravel beach. The paper describes the scaling of the mobile material at a scale of 1:30, the mobile beach modelling in a random wave flume, and the response validation from field observations. The series of tests carried out on this unusual 'sandy-shingle' beach has allowed the researchers to draw out some useful observations on the beach behaviour, the equilibrium profile and the wave run-up.

Finally, we have recently expanded our editorial panel for 2015 onwards, being joined by several new members representing a diversity of technical knowledge and experience from different areas of work and in different geographies. We welcome them, and at the same time also give our thanks to those now leaving us who have contributed to the panel over the past 3 years. In our continued efforts to ensure a truly global and diverse perspective is provided by the journal, we would still welcome further additional panel members, in particular representation from South America, East Asia and Australasia. If you are interested in supporting the journal in this way, or know of others who may be interested, please contact us.

REFERENCES

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