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Editorial

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One of the aims of this journal is to showcase both practical and theoretical developments. Whilst the *Maritime Engineering* journal receives a steady stream of submissions covering research and design in the marine environment, papers dealing with construction are rare and those dealing with post-project monitoring even rarer.

In the proceedings of the 9th ICE Breakwaters Conference held in Edinburgh in autumn 2009, Allsop *et al.* (2010) suggest that future publications on coastal structures and breakwaters should certainly include more guidance on: design and construction of breakwaters on soft soils; constructability in swell conditions (both for rubble mounds and caissons); performance of concrete armour units, particularly structural strength and durability; climate change effects on performance, and adaptation; deterioration of current sea defence infrastructure; sustainability and carbon footprints of interventions; and rather more on the design, performance and constructability of renewable-energy devices.

It is therefore good to see two of the three papers in this issue covering the construction and post-project monitoring of breakwaters. The further good news is that there are more of these papers in the pipeline – continuing the Spanish theme – which we expect to publish over the next few issues.

The first of the construction papers deals with the extension of a breakwater at Tarragona in Spain by 845 m. The extension was built using 11 huge caissons each some 67 m in length. In addition, the local beach was replenished with 400 000 m^3 of sand. In all the construction took 3 years. The paper by Sánchez *et al.* (2010) covers several aspects of the design work and then describes and illustrates the many of the issues that were addressed during the construction process.

This is followed by a paper that deals with a novel means of post-project performance monitoring. The port of Alicante has been extended with the construction of a 1250 m and 24 m high rubble-mound breakwater, using blocks weighing 20–30 tonnes. Concerns about ground stability meant that performance monitoring was an integral part of the design, in order to check the geotechnical responses of the ground, not only during the construction process but also after the works had been completed. The paper by Eleno Carretero (2010) explains the use of an auscultation system (which listens for sounds within the breakwater) to measure changes in pore pressure, total pressures, horizontal and vertical movements and covers the instrumentation, data-collection and -transmission system, and the processing and interpretation of the results.

The final paper in this issue relates to the environmental impact of developments. Models are routinely used for such assessments and in estuarine situations this can involve complex flow environments, where fluvial and tidal currents interact giving rise to salinity-induced density gradients and stratification. The paper by Liu *et al.* (2010) looks at a particular application to the Danshuei River in Taiwan and the influence of different turbulence-closure schemes. The results emphasise the importance of understanding and carefully parameterising turbulence mixing in stratified environments.

Given the range of both port-related design and construction issues covered in this issue, it is fitting that it also includes an obituary for Peter Fraenkel. Peter was a civil engineer in the broadest sense and made major contributions in a number of fields, including roads, bridges, ports and power stations. However, he had a particular interest in ports, contributed internationally to the development of design standards and won the Institution's James Watt medal for his paper on Port Talbot. He set high standards, and encouraged others to reach the same heights – something we can all aspire to but few achieve.

Maritime Engineering provides an excellent forum to share experiences of best practice, lessons learnt, innovative techniques and new methods or understanding. The editorial team is committed to continuing to source topical and high-quality papers and we hope that you will consider supporting our endeavours. By contributing in the form of a paper, briefing article or discussion you can help advance the professional understanding of engineers around the world. For further information please contact the editorial coordinator, Craig Schaper (tel.: +44 207 665 2240; e-mail: craig.schaper@ice.org.uk).

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