This is the eighth newsletter of the *Knowledge Centre Manoeuvring in Shallow and Confined Water*, which aims to consolidate, extend and disseminate knowledge on the behaviour of ships in shallow and confined water. In this newsletter, we are pleased to announce that the *3rd International Conference on Ship Manoeuvring in Shallow and Confined Water: Ship Behaviour in Locks* will be held in Ghent, Belgium on 3 – 5 June 2013.

The *3rd International Conference on Ship Manoeuvring in Shallow and Confined Water* will focus specifically on Ship Behaviour in Locks because it is an actual topic that merits attention. A significant number of locks for large sea-going vessels are in construction or in study all over the world, the new Panama Canal locks being the most famous example. But also in inland shipping, adaptation of existing canals requires continuing renovation of existing lock complexes.

Lock manoeuvres involve more than just shallow water and bank effects. A series of additional effects such as density currents and the permeability of structures also have to be considered. Ultimately, complex ship hydrodynamics are involved, which are not yet fully understood. Several specific topics can be distinguished such as the behaviour of ships approaching and entering lock chambers, the design of approach lanes to the locks in order to reduce wave reflection and lateral forces and the development of more realistic ship – lock simulation models.

Flanders Hydraulics Research has a long tradition of studies concerning the design of locks. Over the last couple of years, the Knowledge Centre has been involved in several studies on the behaviour of ships in locks. For example, in 2007-2008 experimental research was conducted on a 1/80 scale model of the approach lane, the new Panama Canal locks and a Post-Panamax container carrier in order to optimise the approach to and the manoeuvres within the locks. More recently, model tests have been conducted to study whether ships with a beam of 38 metres instead of the current limit of 37 m may enter the West Lock in Terneuzen. Tests were carried out at several under keel clearances ranging from 80 % to 8 % of the ship's draft.

The choice to hold this conference in Belgium is not illogical. The Port of Antwerp has the biggest locks worldwide. When it was inaugurated in 1967, the lock at Zandvliet was the biggest in the world with a length of 500 m, a width of 57 m and a water depth of 13.58 m. The adjoining Berendrecht lock, inaugurated in 1989 is currently the biggest in the world with a length of 500 m, a width of 68 m and a depth of 13.58 m. On October 24, 2011 the construction of the Deurganck lock has started. When completed, this lock will be as long and as wide, but will surpass the Berendrecht lock in depth. In addition to the Deurganck lock, new locks granting access to the Port of Ghent and the Port of Zeebrugge are planned for construction in the near future.

As was done for the Second Conference on Ship to Ship Interaction, the Knowledge Centre intends to give free access to a set of experimental data which researchers can use for validation purposes. Details will follow on the dedicated website. As usual, the *3rd International Conference on Ship Manoeuvring in Shallow and Confined Water* will not focus exclusively on Ship Behaviour in Locks, but topics such as ship to ship interaction, squat and bank effects will also be considered. The first call for abstracts will be posted in January 2012. As before, the conference will be organized in co-operation with the Royal Institution of Naval Architects. The proceedings of the first two conferences, with special attention to Bank Effects and Ship to Ship Interaction respectively, can also be purchased through the RINA.

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