

This is the fourteenth [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 give a short summary of the [Third International Conference on Ship Manoeuvring in Shallow and Confined Water](#).

There has been a growing tendency to manoeuvre larger vessels in confined environments while the infrastructure does not increase in size or not at the same rate. As a consequence, the effects that occur when a ship manoeuvres in shallow or confined water continue to be of great importance. The Knowledge Centre co-organizes the [International Conference on Ship Manoeuvring in Shallow and Confined Water](#) as a platform where the latest research and findings can be presented and discussed.



After the First and Second *International Conference on Ship Manoeuvring in Shallow and Confined Water*, which paid special attention to [bank effects](#) and [ship-to-ship interaction](#) respectively, the main theme of the Third Conference was [ship behaviour in locks](#). The topic was considered timely because a significant number of locks for large sea-going vessels are being designed or under construction all over the world. The new Panama Canal locks are the most famous example for seagoing vessels and

the conference therefore opened with a keynote speech given by Capt. Miguel F. Rodriguez S., who is Canal Operations Manager and Executive Manager for Transit Operations for the [Panama Canal Authority](#). In his talk, the different aspects and overall progress of the construction works were presented. The second keynote speech of the conference was given by Tessy Vanhoenacker on behalf of Chris Coeck, Manager Policy and Strategic Projects of the [Antwerp Port Authority](#). The reasons behind the construction of what will be the biggest lock in the world, the Deurganck Dock lock on the left bank of the Port of Antwerp, were explained. An afternoon technical visit of the construction site was included in the conference program.



Throughout the conference, it was clear that lock manoeuvres involve more than just shallow water and bank effects and several papers studied the significant effects that are caused by density currents. Other papers dealt with the behaviour of ships approaching and entering lock chambers and the development of more realistic ship - lock simulation models. Of course, other aspects of ship behaviour in shallow and confined water were also covered in the program. There were sessions on [ship-to-ship interaction](#), the effects of passing ships on moored ships, manoeuvring and [shallow](#) and [confined](#) water effects. Both numerical and experimental studies were presented and some presentations dealt with experience from practice.



Prof. Marc Vantorre gave an overview of the [benchmark data on lock effects](#) that the [Knowledge Centre](#) had made available and 5 papers discussed the validation of these data with various numerical methods and simulation tools. Apart from the presentation by Prof. Vantorre, the [Knowledge Centre](#) was directly involved in three more papers. Together with different pilotages, Prof. Katrien Eloit presented a practical overview of the different characteristics of lock manoeuvres in Panama and Europe. Together with [Waterwegen en Zeekanaal nv](#), Jeroen Verwilligen presented a study of the nautical accessibility of a new lock that forms part of the Seine – Scheldt project and pointed out that the cross current in the fairway had an important impact on the nautical quality of the design. Thomas Vergote presented an improved mathematical model for a ship entering a lock which he had developed in the framework of his master's thesis at the Maritime Technology Division of Ghent University and which was validated with the [benchmark data](#).



Overall, 35 papers and 2 keynote speeches were presented and more than 100 participants from 18 countries took part. Once more, the conference proved to be a meeting place between researchers and practitioners, between numerical and physical modelling experts, between developers and users. We wish to thank our co-organizers for their efforts and the sponsors of the conference: [the Flemish Government - Department Mobility and Public Works](#), the [Port of Ghent](#), [Jan De Nul nv](#), the [Agency for Maritime and Coastal Services](#) of the Flemish Government, [Brabo](#), the [Port of Zeebrugge](#), [Promotie Binnenvaart Vlaanderen](#), [Terminal Investment Limited](#), [nv De Scheepvaart](#) and [Fluxys](#).

The proceedings of the conference can be purchased through the [R.I.N.A.](#)



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