ABSTRACT SUBMISSION –– SOUMISSION DE RESUME

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ABSTRACT / RESUME:

**Title: Fast Time Manoeuvring Simulation Technology – Innovative Element in IALA Seminars for Port and Waterway Risk Assessment**

Simulation is one element of the technologies and methods used in the IALA Seminars for Port & Waterway Risk Management, apart from IWRAP and PAWSA. The innovative system for “Simulation-Augmented Manoeuvring Design, Monitoring & Control” (SAMMON) based on Fast Time Simulation (FTS) technology has been used in these seminars over the last years. It has been developed and continuously improved in the Institute for Innovative Ship Simulation and Maritime Systems (ISSIMS) working at the Maritime Simulation Centre Warnemuende / Germany.

The system consists of software modules for (a) Manoeuvring Design & Planning, (b) Monitoring & Control based on Multiple Dynamic Prediction and (c) Trial & Training. It is based on complex ship dynamic models for simulating rudder, thruster or engine manoeuvres under different environmental conditions.

It is an effective tool for lecturing of ships motion characteristic and for training in ship handling simulators, but for port risk investigations and real ship operations. The advantage is that one can immediately see the results of rudder, engine or thruster commands and does not have to wait for the real time response of the vessel. By means of an intelligent interface, professional navigators can design concepts as “Manoeuvring Plans” for port approaches or departures in minutes. These concepts for the ship handling procedures can be edited for optimising the procedures to find best practice port manoeuvres or as basis for port risk studies to be verified with full mission simulators.

**Keywords:** Fast-time simulation, manoeuvre planning, port risk studies, Simulator Training,

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