

# RESEARCH SIMULATION COMPLEX

## STUDIES AND TRAINING ALTOGETHER



### Composition of research simulation complex:

- Two full-scale versatile navigation bridges.
- Four small-size versatile navigation bridges.
- Two special-purpose equipment control platforms.
- Crane operation control post.
- Hardware package for physical simulation of ice management.
- Virtual ice – unique mathematical model of ice enabling high-accuracy simulation of vessel behavior in ice-infested waters, ice ridge management and iceberg towage.
- Hardware package for real-time simulation of navigator activities.

### Capabilities of research simulation complex:

- Mathematical simulation of vessels and floating facilities, ports and fixed structures.
- Navigational simulation of vessels' operation in ports or at offloading terminals in open seas for research purposes.
- Development of guidelines and research simulation of ice management, ice breakers' operation, including joint operations nearby offshore platforms in Arctic waters.
- Analysis of interaction between offshore platforms and tankers and support vessels at cargo handling operations in open and ice-infested waters.
- Development of regulations and research navigational simulation of towing operations involving vessels of various types.
- Development of regulations for crane operations including offshore floating heavy-duty cranes.
- Development of efficient ice management tools based on data obtained from unique physical simulation complex for marine operations in ice model tank.
- Development and implementation of training classes for all disciplines in cooperation with leading Russian educational establishments and expert society.

**Krylov State Research Centre**

Moskovskoe shosse 44, St. Petersburg 196158, Russian  
Tel.: +7 (812) 727-96-47 Fax: +7 (812) 727-95-94  
E-mail: [krylov@krylov.spb.ru](mailto:krylov@krylov.spb.ru) [www.krylov-center.ru](http://www.krylov-center.ru)