



Development of an Arctic FRC through a hull supplementation composite structure

Type of project: MSc or BSc

Project description:

Changing climates also affects the arctic. With less ice new needs and opportunities. Exploration and operation in arctic waters, are because of these climate changes forming a new interest for operations and access to these areas. However, the conditions met in these waters and extraordinary demands on the vessel's construction, safety and seaworthiness requires careful planning. In this project you will help design a new hull transom supplementation structure to an existing arctic FRC with a size of 7-8 meters. This project seeks to identify these needs through the following. Analysis of existing FRC design, done in order to understand the starting point, identify arctic vessel key performance markers, structure analysis and composite use in the arctic, a few design concepts should be generated from these KPI's. Furthermore, the student will also help developing a new alternative test validation protocols, for testing arctic environment influences on boats, which can validate designs without using expensive water tank test setups.

These design outcomes will then be evaluated through the known or alternatively newly developed validation tool, to help improve decision making in regard to the best suitable solution targeted this arctic design.

The project is in collaboration with Tuco Yacht Værft ApS.

Contact person

Ulrik Dam Nielsen
DTU Mechanical Engineering
udn@mek.dtu.dk

In collaboration with
Tuco Yacht Værft ApS
Jonas@tuco.dk

