

IMAREST Benelux branch presents Programme 2018

Practical information for technical
 lectures (unless otherwise specified):

Venue: TUDelft 3ME, Mekelweg 2 Delft
 Coffee/drinks: 18.30
 Starting time of lecture: 19.00
 Closure: 21.30

For more information, updates of the
 programme and membership visit the
 website:

<http://www.imarest.org/events-courses/events-conferences>



Tuesday 13 February 2018

Technical lecture

Speakers:

- Bas Jan Faber, Design Director at C-Jobs,
<http://c-job.com>
- Paul Bracke, Manager Technology at
 Bakker Sliedrecht.
<https://www.bakkersliedrecht.com>
- Rint de Vries, Consultant for TESO,
<https://www.teso.nl>

Topic: TESO new ferry Texelstroom: design and operational experiences

The unique ferry connection between Den Helder in North-Holland to the isle of Texel is characterised by a relative short sailing time over open tidal water at the entrance of the delicate Wadden sea, the latter being on the UNESCO World heritage list since 2009.

The new ROPAX ferry "Texelstroom" is in service now for almost a year. Although the design of the double ended ferry is constrained by the existing harbour facilities, the new ship has again a larger capacity than its predecessor.

After a short introduction of the overall ship design, the presentation will zoom in on the selection of the propulsion system and the associated marine engineering aspects.

Two main innovations will be discussed in detail. First, aiming at low emissions, the four diesel generators run on Compressed Natural Gas (CNG). Further the electrical AC/DC plant features electrical energy storage in batteries.

Finally the presentation will report on the experiences gained in the first year of operation.

Thursday 5 April 2018

Technical lecture

Speaker:

- Rasmus Teir, Product Director of the
 W32/W34DF at Wärtsilä, Vasa
<https://www.wartsila.com/marine>

Topic: LNG as a fuel and consequences for the diesel engine

During the past years LNG has been introduced as a fuel in the maritime sector thereby replacing MDO or HFO, although the latter option is kept open in Dual Fuel (DF) engines. Apart from an operational cost advantage, also low emissions are a main driver to adopt gas as a fuel. Normally a conventional diesel engine is the basis for a gas or dual fuel engine, but there are important technical differences:

- Most gas engines are mixture engines with gas injection before the turbocharger, in the inlet receiver or in the inlet ports. Direct gas injection into the cylinder at low/high pressure during/after compression is another possibility.
- Gas does not auto-ignite so an ignition system is required, i.e. spark plug or micro diesel fuel injection, sometimes in a pre-chamber.
- The effective compression ratio of gas engines is lower than for normal diesel engines.
- The previous points influence NOx formation and the capability to achieve IMO Tier III levels.
- The air excess ratio must be carefully chosen with respect to the gas quality and the danger of knock and misfire, and must be controlled with throttle valve, waste gate or by-pass valve or variable inlet valve timing. This has an influence on dynamic behavior and in particular load pick up which may be an issue for gas engines.

Tuesday 5 June 2018

Technical lecture

Speaker:

- Sipke Schuurmans, Project Director at Heerema Marine Contractors, <https://hmc.heerema.com>

Topic: New heavy lift vessel Sleipnir

Heerema is in the process of building a new heavy lift vessel, the Sleipnir. The presentation will cover the overall project to develop and build the largest crane vessel in the world.

The starting points of the design will be presented as well as the challenges these posed for the vessel design and its installations.

Apart from the heavy lifting capacity itself the dynamic positioning system (DP3) remains the most critical aspect of a heavy lift vessel.

In view of the expected requirements of clients for carrying out projects in future as "green" as possible, the Sleipnir will be equipped with a gas installation (LNG) to fuel the main power generation system on board. But there are a lot more innovations on board of the vessel.

Finally the Execution Plan will be presented and the current status of the construction of vessel and cranes.

Thursday 20 Sept 2018

Technical lecture

Speakers:

- Don Hoogendoorn, Principal Research Engineer at Damen Shipyards, <http://www.damen.com>
- Wei Ya, Postdoctoral Researcher from the University of Twente at RAMLAB, <http://www.ramlab.com>

Topic: 3D printing of propellers

Marking a major step forward in the application of 3D printing techniques in the maritime sector, Damen Shipyards Group has entered a cooperative consortium with RAMLAB, Promarin, Autodesk and Bureau Veritas. The goal of this group of forward-looking companies is to develop the world's first class approved 3D printed ship's propeller, to be called the WAAMPeller. The propeller will be based on a Promarin design, typically found on a Damen Stan Tug 1606, being 1300 mm in diameter and weighing appr. 180 kg. Using Autodesk software in the construction process, Rotterdam based RAMLAB will fabricate the WAAMPeller from a bronze alloy using the Wire Arc Additive Manufacturing (WAAM) process. Bureau Veritas will be involved in the certification of the completed product: it will be the first time that a metal 3D printed maritime component will be approved by Class. The presentation will focus on the technical aspects related to 3D printing of metal components. Unique about the group of five companies is that, while they have joint interests, they also have individual aims. During the lecture an insight will be given of the challenges that had to be overcome as well as the heights that were shared by the group.

Friday 18 November 2018

Annual General Meeting & Mini-symposium

Hosted by Hogeschool Zeeland (HZ) Center for Simulator Training, Vlissingen

Speakers:

- To be announced

Topic: Simulation and Simulators

Transas will present their bridge and machinery control simulators.

Claytex and Dymola will present simulation modeling techniques.

HZ will host a visit to the simulators in their training center

Venue: HZ Vlissingen

13:30 Start of Mini-symposium

13.45 - 14.15 To be announced

14.15 - 14.45 To be announced

14.45 - 15.00 Break

15.00 - 15.30 Dymola

15.30 - 16.15 Visit to simulators

16.15 Closure of Mini-symposium

16:30 Annual General Meeting IMarEST Benelux branch

- Agenda to be provided

18.00 Closure

18.30 Annual Dinner Vlissingen

Location to be announced