IMarEST BeNeLux branch
Programme 2022

Practical information for technical lectures (unless otherwise specified):

Hybrid lectures. Start of lecture 19:00. Coffee and tea available at venue (3ME faculty of TU Delft) for physical meeting from 18:30. Online meeting open 18:45.

Details about real-life and online attendance will be communicated via:
- https://www.linkedin.com/company/imarest-benelux-branch
- https://www.imarest.org/local-communities/europe/benelux

Don't forget:
INEC + iSCSS
8-10 November 2022
TU Delft, Netherlands
https://www.imarest.org/

Thursday 7 April 2022
Technical lecture
Speakers: Teus van Beek, Wärtsilä, Gen. Manager Ecosystems Innovation and Cor Meedendorp, CEO FiFi4Marine.

Topic: Exchangeable battery containers for Inland Shipping

A new energy concept has been developed where electrical energy, stored in swappable battery containers, is used for propulsion and auxiliary power of inland ships. The service includes the loading and unloading of the battery containers and onshore charging. The lecture will highlight the technical aspects of the ship’s propulsion, the swappable battery container and the safety aspects of the design. Last but not least the particular use of a fire protection system will be addressed, in particular safeguarding against thermal runaway.

See:

Tuesday 10 May 2022
Technical lecture
Speakers: Robert van de Ketterij, NLDA (KIM), Professor of Systems Engineering & Alex W. Vredeveldt, TNO, Senior Scientist.

Topic: Methanol: Sustainable, Scalable, Storable, Safe, Secure

Methanol is one of the alternative fuels for the maritime industry in the energy transition. Building on previous research at TU Delft, both NLDA and TNO are involved in important new research projects. NLDA will participate with two new test engines, while TNO is involved in the safety aspects of methanol on board ships. After giving an overview of alternative fuels and their impact on emissions, energy density and cost, the prospects and complications of methanol as a fuel will be addressed. Use of methanol will have a major effect not only on the combustion process in the engine but also on the ship design as a whole. The consequences for the engine, in particular the fuel injection and combustion will be highlighted, as well as the ship design, with a focus on safety.
Friday 17 June 2022 (13:00 start)
Mini-symposium + BBQ
STC campus Zuidwest / Visserij Innovatiecentrum Stellendam
Topic: Future Fishery

The fishing industry is facing major challenges. The arrival of wind farms and expansion of nature reserves in the North Sea reduced the room for fishing. At the same time the EU ban on pulse fishing increases the need to innovate. How can the fishing industry earn a fair living in the long term and how can this be done in the most sustainable way possible?

The program starts with a visit to the Fisheries Innovation Centre (Visserij-innovatiecentrum) which supports projects that promote technical innovations and contribute to making the fishing industry more sustainable. In the test basin, fishing gear and networks are tested in as realistic an environment as possible.

The second half of the program consists of lectures about the difficulties of sustainable management of fish stocks, the relationship between mesh size and catch composition and the design of a modern fishing vessel.

Afterwards there will be a BBQ.

Thursday 15 September 2022
Technical lecture
Speakers: Milinko Godjevac, Future Proof Shipping, Senior Integration Advisor and Vince Evers, Dispersed, Transition Specialist & Energy Consultant

Topic: Design, operation and life cycle assessment of hydrogen powered vessels

The FPS Maas will be one of the first vessels to sail on hydrogen with triple fuel cell system and double battery system. Deploying this vessel required to overcome technical challenges and navigate the legislations and regulations successfully. Relevant questions and unique solutions for the redundancy and overall safety aspects of the fuel cell and battery powered vessels are presented. In addition, a life cycle assessment of different scenarios based on hydrogen and ammonia fuel, in combination with fuel cell technology is presented. These scenarios are explored around the FPS Maas and results show the operational CO2 footprints are much higher than the CO2 footprint during production, thus emphasizing the necessity for zero emission shipping.

Friday 28 October 2022 (14:00 start)
Technical lecture & Annual General Meeting + Drinks
Speaker: speakers of RENK - TBD

Topic: A RENK perspective on co-existence of full-electric and hybrid propulsion solutions in future Naval Fleets

In some areas of shipping, all-electric propulsion systems have already become fully established, while other areas are in the process of transitioning from traditional mechanical propulsion to hybrid or even all-electric. The advantages of an all-electric ship can only be fully realized under certain boundary conditions. A comparison of hybrid alternatives is eminently important to find an overall system that meets the requirements. Evaluation criteria are presented, on the basis of which the selection of propulsion variants can be made in a targeted and structured manner. Optimization strategies are included that can minimize the impact of selected propulsion systems on the ship and increase overall efficiency. Considerations such as growth potential and alternative fuels are also taken into account.