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Sustainable Shipping – Alternative Fuels and Other Technologies

Prof. Dr.-Ing. Hinrich Mohr

GasKraft Engineering

Date: Thursday 29 January 2026, 18:00

Location: HAW Hamburg, Berliner Tor 5, Hörsaal 01.10 (in-person only!)

International trading relies largely on goods transport by ships. The overall CO2 emissions are approximately 3 %. Similar to industries and emission sources, these emissions need to be reduced. The IMO (International Maritime Organization) has committed to achieve full climate neutrality for sea-going vessels by 2050. Inland waterway shipping must follow local regulations accordingly.

As sea-going ships are typically used for 25 years and inland vessels even longer, the greenhouse gas reduction can't only be achieved by building new ships.

It is necessary to find solutions for existing vessels as well. Several technologies can be used, such as slow steaming, usage of renewable fuels like biofuels, methanol, ammonia or hydrogen, carbon capture, wind-assisted propulsion, hybridization and air lubrication.



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This presentation gives an overview of the actual and future challenges of the shipping branch. It provides insights into typical maritime propulsion systems, alternative fuels and further applicable technologies and potential impacts on ship design, operation and safety.

Hinrich Mohr studied mechanical engineering at TU Braunschweig, specializing in combustion engines, and earned his doctorate in 1993. He worked as a research associate at the University before moving to Blohm+Voss, where he progressed to Head of Engine Systems Development. From 2004 to 2020, he served as Key Account and Product Manager for system integration in the large-engine sector at AVL List GmbH. Since 2020, he has run his own engineering consultancy, GasKraft Engineering, focusing on alternative fuels, new propulsion technologies for ships and power plants, and digitalization. He has been a lecturer at TU Braunschweig since 2003 and was appointed honorary professor in 2017.