DATE: 5 FEBRUARY 2018

VENUE: KILEN, KS 43, KILEVEJ 14A, DK-2000 FREDERIKSBERG

MARITIME INDUSTRY 2030:

LAUNCHING THE MARITIME RESEARCH ALLIANCE

CBS MARITIME

CBS K COPENHAGEN BUSINESS SCHOOL

MARITIME INDUSTRY 2030 IS KINDLY SUPPORTED BY THE DANISH MARITIME FUND

ABOUT MARITIME RESEARCH ALLIANCE

In addressing the challenges ahead for the maritime industry, we need to look through more than the one pair of research spectacles! Such can be said to be the message from the OECD, various academic researchers, consultants and journalists as well as from a broad range of maritime organizations, when visualizing the maritime industry towards 2030. In other words, a singular focus on the industry problems either from a health, technical, economic, social or regulatory perspective, is not fulfilling the need for research-based answers to the challenges facing the industry in the future. We believe that the path forward requires interdisciplinary knowledge production, thus analyzing the problems from different angles and providing complex solutions to complex challenges facing ocean based industries in the future.

In an attempt to answer the call for enhanced interdisciplinary maritime research, five Danish universities, all engaged in maritime and ocean research and education, are initiating further collaboration through the newly established Maritime Research Alliance. The alliance has participation of researchers from Aalborg University, Technical University of Denmark, Copenhagen Business School, Copenhagen University and The University of Southern Denmark.

The focus of Maritime Research Alliance is to:

- > Initiate interdisciplinary research projects that address challenges related to digital and sustainable ocean economy and governance
- > Establish an organizational platform of maritime and ocean experts within different areas of expertise
- > Create awareness around maritime and ocean research and education at Danish universities
- > Be an entry point for collaboration with the industry as well as international universities and organizations
- > Market the Maritime Research Alliance as a partner in relation to new research initiatives national and international



PROGRAM OF THE DAY

VENUE: KILEN. KS 43, KILEVEJ 14A, DK-2000 FREDERIKSBERG

8:00 - 8:30: Registration and Light Breakfast

8:30 - 8:35: Welcome by Per Holten Andersen, President, Copenhagen Business School

8:35 - 8:40: Introduction to Maritime Research Alliance by Henrik Sornn-Friese, Director, CBS Maritime

KEYNOTES

8:40 – 9:10: "Global Trends and Future Pespectives on World Trade", Keynote by Christopher Rex, Head of Research, Danish Shipfinance

9:10 - 9:40: "Opportunities and Challenges and Cross Disciplinary Research", Keynote by Lars Jensen, CEO and Partner, SeaIntel

SESSION 1: DIGITIZATION AND NEW BUSINESS MODELS WITHIN SHIPPING

Digitization is rapidly transforming maritime and ocean industries, and the pace of technology innovation is accelerating as businesses seek new and more efficient ways to optimize daily work. The rapid advances in technology can surely outpace human capabilities and the question is whether organizational developments, strategic needs, the evident business case and the vision for a digitalized maritime industry are being aligned with technological development?

9:40 – 10:00: "How Shipping Can and Will Increase Efficiency Across International Supply Chains" by Ingrid Uppelschoten-Snelderwaard, Global Head of Equipment, Maersk Line

10:00 - 10:20: "Industrial to Digital: The Future of Sustainable Business Models" by Anneli Bartholdy, Head of Innovation, DFDS

10:20 - 10:40: Coffee Break and Networking

SESSION 2: AUTONOMOUS SHIPS - THE HARDWARE AND THE LEGAL ASPECTS

Ongoing ship development in essential to global world trade. Ships continue to be our main carrier of cargo and passengers from place to place, and returns on investment are made by fares and freight rates paid. With the transition to autonomous ships, we enter a new era in ocean based transport where business, people and regulators are navigating uncharted waters. What are the future developments and what are the major organizational and regulatory challenges?

10:40 - 11:00: "The Ship and the Future" by Oskar Levander, Senior Vice-President Concepts and Innovation, Rolls Royce Marine

11:00 - 11:20: "Legal Obstacles and Hurdles for Autonomous Ships" by Bjarke Holm, Attorney and Partner, CORE Law Firm

SESSION 3: DECARBONIZATION AND SUSTAINABLE OCEAN ECONOMY

Ocean industries are essential to the well-being of mankind and a sustainable ocean requires human activities to be balanced with the oceans' capacity to remain healthy and diverse in the long term. Shipping stands for more than 80% of world trade and a main challenge for industry and researchers alike, is to ensure that shipping continues to make its contribution to the global economy through sustainable ocean governance and without upsetting the delicate ocean balance.

11:20 – 11:40: "Implementing New Technologies and Business Models Towards Energy Efficient Shipping" by Tristan Smith, Reader in Energy and Shipping, Bartlett School of Environment, Energy and Resources

11:40 – 12:10: "Statistical Scenarios and the Obstacles for Investing in LNG, OPS and Scrubbers" by Nicola Good, Executive Editor, IHS Fairplay

12:10 - 12:30: "The Business Case for Sustainably Exploiting Ocean Resources" by Marjolein van Noort, Freelance Maritime Expert on Sustainable Innovation and Board Member at Our Oceans Challenge

12:45 - 13:40: Lunch and Networking

BRIDGING THE SCIENCE-PRACTICE GAP - INTERPRETIVE FORUM ON RIGOR-RELEVANCE IN MARITIME RESEARCH.

"Because academics and practioners are members of two different communities, practioners will incorporate results generated through academically accepted research methods, only if they are relevant to and interpretable by the practitioner community" (Mohrman et al., Doing Research That is Useful to Practice: A Model and Empirical Exploration, Academy of Management Journal, Vol. 44, no. 2, 2001, pp. 357-375).

13:40 - 14:10: "Potential and Challenges in Industry-University Collaboration", Introduction by Bo Cerup Simonsen, Managing Director, Danish Hydrocarbon Research and Technology Centre

14:15 - 15:30: Thematic Breakout Sessions

<u>Theme 1: "Business Model Innovation"</u> Moderator: Carsten Ellegaard, Associated Partner, KRING Group A/S <u>Theme 2: "Rapid Technological Change"</u> Moderator: Kjartan Ross, Head of Retrofit & Upgrade, Propeller & Aft Ship, MAN Diesel & Turbo <u>Theme 3: "Effective Governance"</u> Moderator: René Taudal Poulsen, Associate Professor, Department of Innovation and Organizational Economics, Copenhagen Business School <u>Theme 4: "Entrepreneurship and New Ventures"</u> Moderator: Mikkel Hansen, CEO Maritime Development Center <u>Theme 5: "Sustainable Development"</u> Moderator: Frank Stuer-Lauridsen, CEO and Senior Environmental Consultant, Litehauz

15:30 - 15:45: Short Break

15:45 - 16:30: Panel Debate - Moderator Rune Hahn Kristensen, Special Advisor and Project Manager, ShippingLab (Blue INNOship II)

16:30 - 16:40: Wrap Up by Maritime Research Alliance followed by a light reception

18:30 - 22:00: Conference Dinner at Carlsberg

Transport will be organized from Copenhagen Business School to Carlsberg. Pick Up on Kilevej at 18:15

SPEAKERS: MARITIME INDUSTRY 2030

CHRISTOPHER REX, HEAD OF RESEARCH, DANISH SHIPFINANCE



Christopher Rex is the Head of Research at the Danish Ship Finance in Copenhagen and leads the companies team of experts, who on a daily basis, gain analytical insights into the world of shipping. He and his team of economists are across not only the global trends, but importantly the technology trends which are in many cases driving them.

Based on years of experience working with the industry, Christoper will give insights into how digitalization will change the industry and on how consumer behavior is influencing the trade patterns of the world.

LARS JENSEN, CEO AND PARTNER, SEAINTEL



Lars Jensen has over 16 years of experience of working inside the container shipping industry. Since 2011, he has acted as an independent strategic analyst, advisor and thought leader in the container shipping industry.

In his most recent book, entitled Liner Shipping 2025, the author points to how the core business models and business cultures, which made the shipping lines successful, are now failing, and how the coming decade will see the emergence of new business models suited for a new environment.

INGRID UPPELSCHOETEN-SNELDERWAARD, GLOBAL HEAD OF EQUIPMENT, MAERSK LINE



Ingrid Uppelschoten-Snelderwaard was appointed Global Head of Equipment in January 2016.

Ingrid is responsible for in- and outfleeting, Remote Container Management (RCM), equipment maintenance and repair and container sales.

She started her career in the Maersk Group in 2001 as a Commercial Line Manager for Safmarine. She then joined Sealand in 2005, and a year after, joined Maersk Line as Route Manager for the Middle East. She has a broad shipping experience and held positions in the Netherlands, Namibia, Tanzania and Poland.

ANNELI BARTHOLDY, HEAD OF INNOVATION, DFDS



Anneli is the Head of Innovation at DFDS, based in Copenhagen. For the past 7 years she has been involved with and led organisational change and innovation activities mostly in roles within A. P. Moller-Maersk as well as SingularityU Denmark. Some of the main activities she's been involved with are:

- R&D portfolio building and management,
- ideation and crowdsourcing campaigns,
- startup strategy development and scouting,
- · digital business transformation and new business design

Because of the broad background in the oil & gas, transport and logistics industries, her insights are driven from the application of innovation models in practice. She believes in a people first approach in that any change starts at the person level and by educating and developing people effectively any change or new opportunity can be realised.

OSKAR LEVANDER, SENIOR VICE-PRESIDENT CONCEPTS AND INNOVATION, ROLLS ROYCE MARINE



Oskar Levander joined Rolls-Royce in 2012 as VP Innovation, Engineering & Technology, Marine and is today SVP Concepts & Innovation, in the Digital & Systems value stream. Prior to this, he spent the majority of his career at Wärtsilä where he held various roles including Director, Concept Design, Marine Lifecycle Solutions. He graduated with honours from Helsinki University of Technology in 2000, with an MSc in Naval Architecture.

Oskar has worked mostly in the development of new ship designs, machinery and propulsion concepts for various ship types and emerging marine technologies. Today, he drives the development of ship intelligence concepts and the introduction of remote & autonomous ships. In 2011 Oskar was included in "Lloyd's List 2011 One Hundred Most Influential People in the Shipping Industry" and in 2017 he was nominated as the #1 Technology Leader by Lloyds List.

BJARKE HOLM, ATTORNEY AND PARTNER, CORE LAW FIRM



Bjarke Holm Hansen is a specialist maritime lawyer and has worked as an advisor to the maritime, offshore and transportation industries throughout his career.

Bjarke is Co-founder and Partner of CORE Advokatfirma, a specialist law firm focusing on disruptive new technologies (e.g. Digitization,, Connectivity, Autonomous vessels, 3D Printing, IoT and Big Data) within core industries such as maritime, offshore and wind.

TRISTAN SMITH, READER IN ENERGY AND SHIPPING BARTLETT SCHOOL OF ENVIRONMENT, ENERGY AND RESOURCES



Dr. Tristan Smith is a Reader in Energy and Shipping at UCL-Energy and leads the UCL-Energy Shipping Group at The Bartlett School of Environment, Energy and Resources.

His research focus is mainly on the development of techno-economic models for the shipping industry and the design of effective policy and instruments for CO2 emissions reduction.

Tristan is a well-known speaker and is actively engaging with the shipping industry through a variety of applied research and consultancy contracts and projects that range from policy analysis to scenario modelling and technical support. He was the principal investigator on the Shipping in Changing Climates consortium that sought to understand and develop solutions for environmentally friendly, energy efficient and sustainable shipping, a member of the Carbon War Room Shipping Efficiency Advisory Board, and co-chair of the Carbon Pricing Leadership Coalition's Maritime Thread.

NICOLA GOOD, EXECUTIVE EDITOR, IHS FAIRPLAY



Ms. Nicola Good is the Executive Editor of Fairplay, the flagship maritime news service within IHS Markit Maritime & Trade, the leading global provider of maritime data, analysis and consulting. As a journalist and editor, Ms. Good has reported on shipping for more than 20 years.

Based on a substantial dataset from the IHS Maritime & Trade group, Ms. Good will present on the future of energy efficient shipping and offer a picture of the rate of uptake of scrubbers, LNG as fuel etc.

MARJOLEIN VAN NOORT, FREELANCE MARITIME EXPERT ON SUSTAINABLE INNOVATION AND BOARD MEMBER AT OUR OCEANS CHALLENGE



Marjolein van Noort, Freelance Maritime Expert on Sustainable Innovation and Board Member at Our Oceans Challenge. Marjolein van Noort is an economist with a background in working with both the government and the maritime industry. She held, amongst others, the position of Senior Advisor at the Dutch Ministry of Finance and Manager External Relations at Royal IHC.

The state of the oceans has been part of her focus area for the last couple of years, varying from seaweed to plastic and from vessel design to value chain cooperation. As a freelance advisor, she focuses on entrepreneurship in a maritime context and the connection between government, companies, NGOs and entrepreneurs. She is a board member of the Our Oceans Challenge, a foundation that aims for a sustainable offshore industry through collaboration by all industry partners.Last but not least, she started the photo series 'Water Women' to promote visibility and entrance of women in the maritime industry.

BO CERUP SIMONSEN, MANAGING DIRECTOR, DANISH HYDROCARBON RESEARCH AND TECHNOLOGY CENTRE



Bo holds a PhD in Mechanical Engineering (Naval Architecture and Offshore Engineering) from the Technical University of Denmark where he also worked as an Associate Professor until 2003.

Since its inauguration in September 2014, Bo has been the Managing Director of the Danish Hydrocarbon Research and Technology Centre at the Technical University of Denmark. The Centre is part of a National Danish strategy to increase recovery of oil and gas in the Danish North Sea. The centre works on a 1BDKK donation over a 10year horizon as an interface between academia and industry to identify and mature research based multidisciplinary solutions.

Apart from his daily work, Bo has worked in a large number of boards and committees and has held leading positions in Det Norske Veritas (now DNVGL) and Maersk Maritime Technology (MMT). CBS MARITIME: A BUSINESS IN SOCIETY PLATFORM AT COPENHAGEN BUSINESS SCHOOL

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