

Day 1 – April 28, 2020

Timing	Activity	Plenary – Breakout Convention Hall C1	Breakout Room 109
09:00 - 16:00	CIMarE National Council Meeting & Luncheon		
11:00 - 17:00	Exhibitor Set-up (Convention Hall C2-C5)		
12:00 - 16:30	Registration Opens (Convention Hall)		
14:30 - 15:30	Welcome Coffee (Convention Hall)		
17:00 - 19:30	Opening Reception - Exhibition Hall (Convention Hall C2-C5)		

Day 2 – April 29, 2020

Timing	Activity	Plenary – Breakout Convention Hall C1	Breakout Room 109
07:00 - 16:45	Registration (Convention Hall)		
07:30 - 08:25	Breakfast in the Exhibition Hall (Convention Hall C2-C5)		
08:30 - 09:10	Opening General Session	Welcoming Remarks by the Conference Chair	
09:10 - 09:50	Opening Keynote Presentation	To be confirmed.	
09:55 - 10:00	Presentation	CIMarE Medal of Excellence	
10:00 - 10:30	Refreshment Break in Exhibition Hall (Convention Hall C2-C5)		
10:35 - 11:05	Concurrent Technical Sessions	Modern Rotor Sail technology to save fuel and reduce emissions in shipping. Norsepower experience from recent installations	Data, Digital and Innovation: A Roadmap for Compliance, Assurance and Performance The increasing use of data, and the emergence of innovative

		<p>The presentation will describe Norsepower’s Rotor Sail design and applicability of wind propulsion for various ship types and operational sailing routes.</p> <p>The presentation reviews three reference projects Norsepower has successfully completed. Extensive measurement campaigns by independent parties have been conducted to investigate the savings potential of the Rotor Sail solution. The presentation also provides an outlook of emissions saving potential globally using Norsepower auxiliary wind propulsion technology.</p> <p><i>Presented by:</i> Olga Liebkind, Director, Key Accounts, Norsepower Oy Ltd.</p>	<p>solutions in the marine industry offers unique opportunities. Having the confidence to apply these digital tools to vessels and port facilities is challenging. As we move more and more into Industry 4.0 we must be assured that we can rely on the integrity of the data to add value.</p> <p><i>Presented by:</i> Colin Clark, Americas Consultancy & Strategic Initiatives Manager, Lloyd's Register</p>
11:10 - 11:55	Concurrent Technical Sessions	<p>The Critical Link for Autonomous Ships</p> <p>This session will explore the key role that high-quality satellite connectivity will play in the digital transformation in maritime engineering, the pros and cons of satellite constellations at various orbits in space, and the impact of satellite network designs to meeting the growing data requirements of the autonomous ship.</p> <p><i>Presented by:</i> Elaine Robichaud, Head of Government Sales, Telesat</p>	<p>Development of Propulsion Technology to Meet the Needs for Canadian Arctic Shipping</p> <p>This presentation will explore the development of the Arctic vessel propulsion systems from the fixed pitch propellers connected to the diesel engines to the modern powerful electric podded drive systems and outline the benefits of ESS (Energy Storage System) in icebreakers.</p> <p><i>Presented by:</i> Samuli Hanninen, Key Account Director, ABB Inc.</p>
12:00 - 13:25	Lunch in Exhibition Hall (Convention Hall C2-C5)		Annual General Meeting of CIMarE Members (Room 103)
13:30 - 14:15	Concurrent Technical Sessions	<p>Innovation through risk-based sustainment – supporting Canada’s submarine fleet long into the future</p> <p><i>Presented by:</i> Babcock</p>	<p>Intelligence Augmentation for Naval Ship Design Change and Project Management Using a Management Flight Simulator</p> <p>This session is about helping multiple disciplines work better together through a linked decision support and system dynamics model with visualization of product,</p>

			organizational and project management performance. Take-aways from this session include a new perspective on integrated product design and complex project management, how knowledge may be brought forward in design and ease-of-change increased, and the return on investment from using a novel digital twin flight management simulator. <i>Presented by:</i> Ray Jonkers, MERLANTEC
14:20 - 15:05	Plenary Panel	Owners Moderator: Ray Jonkers, MERLANTEC Panelists: <ul style="list-style-type: none"> • Mr. Andy Smith, Deputy Commissioner, Strategy and Shipbuilding, DFO/CCG • Mr. David Delisle, Algoma • Capt(N) Jacques Olivier, DGMEPM Director Naval Technical Innovation Program • Mr. Dan Riis, BC Ferries 	
15:10 - 15:30	Refreshment Break in Exhibition Hall		
15:35 - 16:20	Plenary Panel	Suppliers Moderator: Jim Pope, Principal Engineer, Naval Architecture, Fleetway Inc.	
16:25 - 17:10	Concurrent Technical Sessions	Making Decisions that Align with Ship Capability Recent developments, including the entry into force of the IMO Polar Code, standardization of the World Meteorological Organization ice nomenclature and reporting, and especially a trend towards reduced Arctic sea ice cover are opening opportunities for Arctic shipping. Awareness and respect for the highly variable environment remains paramount to conduct safe and incident free operation. A ship's ice class is an indication of its strength, both structure and propulsion system. Each ice class has an associated nominal	Marine Decarbonization through Power-to-X and Transition to Alternative Fuels. Future propulsion of ships. Emissions of seagoing vessels are more than ever gaining both the public attention and focus of the authorities. IMO has formulated emissions regulations roadmaps, however a further, crucial emission management requirement may be coming soon: the reduction of emission of greenhouse effect gases (GHGs) in global shipping. Global warming certainly has a global scale, yet different countries/regions/operators,

		<p>description of the ice conditions in which it may operate. Nominal ice descriptions are not the ice regimes (mix of ice types and concentrations) that are found in Polar regions. A means to match strength of an ice class with real world ice conditions is needed to make ship acquisition and operational decisions.</p> <p>The IMO promulgated a methodology for assigning comparative risk to ice class ships operating in an ice regime. The Polar Operational Limitation Assessment Risk Indexing System (POLARIS) can be used to calculate a risk outcome in a specific ice regime for a given ice class. This alone is insufficient to establish an appropriate ice class to perform operations in a specific polar region for a given time of year. In this paper an adaption of POLARIS is described and used to show how historical ice data can be used to make decisions that align ice class to polar region spatially and temporally. Nuances in using the POLARIS are identified and discussed.</p> <p><i>Presented by:</i> James Bond, Director, Business Development – Global Government</p>	<p>due to their individual conditions, may prefer different alternatives of dealing with it.</p> <p>In light of the significant energy demand of global shipping, paired with the specific needs of ocean travelling, synthetic fuels such as Hydrogen, (H2), synthetic methane, methanol and others, recently gained focus in both press and industry. To reach sustainable carbon reduced or carbon free shipping through these fuels, the PtX technology is crucial. It encircles the energy value chain from, (preferably renewably created), electricity through electrolysis, potentially, to various forms of carbon free fuels and chemical storage.</p> <p>While using these fuels is mostly technologically feasible today, various difficulties and regulatory needs have to be fulfilled before PtX can get a substantial hold in the market. The aspects of the different development options shall be discussed in this contribution. Diesel cycle engines will likely remain the main enablers to achieve carbon free shipping.</p> <p><i>Presented by:</i> Kamen Stoykov Penev, Marine Sales & Projects Manager, Marine Medium Speed, MAN Energy Solutions Canada Ltd.</p>
16:30	Exhibition Hall closes for the day		

17:10	Program ends for the day		
18:00	Transportation to the evening event		
18:30 - 22:00	Evening Event Presented by Babcock	<p><i>Maritime Kitchen Party</i> at Brightwood Golf & Country Club and experience Maritime hospitality for yourself and find out why Halifax has become a “foodie-destination”.</p> <p>NOTE: Make sure to purchase your ticket to attend <i>Mari-Tech 2020’s Maritime Kitchen Party</i>. Tickets must be purchased in advance at a cost of \$125 + HST and may be included with your conference registration or purchased separately online.</p>	

Day 3 – April 30, 2020			
Timing	Activity	Plenary – Breakout Convention Hall C1	Breakout Room 109
07:00 - 13:00	Registration (Convention Hall)		
07:00 - 08:25	Breakfast in the Exhibition Hall (Convention Hall C2-C5)		
08:25 - 08:30	Opening General Session	Welcoming Remarks – Day 2	
08:30 - 09:15	Keynote Presentation	<p>Presented by: Andrew Kendrick, Vice-President, Operations, VARD Andrew will cover Innovation as it relates to a creative change in the thought process for doing something, whether it is to change a marine product, service, process, or organization model that impacts the marine industry and a company success.</p> <p>Andrew will focus on leveraging off the Government of Canada’s view that “Innovation occurs when a business introduces new products or services to the marketplace, or adopts new ways of making products or services. The concept may refer to technical advances in how products are made or shifts in attitudes about how products and services are developed, sold and marketed.”</p> <p>As a leader in the marine industry and actively involved as a</p>	

		volunteer with SNAME, Andrew will incorporate his perspective on the pros and cons of a fast pace innovative approach by marine companies from his unique perspective.	
09:20 - 10:00	Concurrent Technical Sessions	<p>A Trimaran Workboat – A Fresh Look at an Old Idea Efficient hull forms reduce emissions and underwater radiated noise by reducing the power required to drive the hull. These lighter more efficient hullscan also take advantage of advancement sin hybrid and electric propulsion solutions, whose added mass can eliminate any potential emissiom savings when install in many traditional hull forms.</p> <p><i>Presented by:</i> John Eldridge, Founder, Quoddy Link Marine</p>	<p>Effectively Preventing Biofouling Without Environmental Harm Come explore the incredibly interesting nature of sonic anti-fouling systems! Containing a brief history of anti-fouling, an explanation of how sonic systems work, and the importance of non-toxic antifouling to the future of the marine industry, this talk will leave you astonished at the power of sound.</p> <p><i>Presented by:</i> Liam Stevens, Inside Sales Coordinator, EMCS Industries Ltd.</p>
10:05 – 10:45	Concurrent Technical Sessions	<p>An Alternative Propulsion System This presentation will highlight Caterpillar Propulsion development of The Twin Fin Propulsion System. The ground breaking technology was developed in response to concerns identified by owners experiencing high maintenance costs and low availability with installed Azimuth Thruster solutions.</p> <p>The presentation will highlight the benefits of the resulting solution including similar performance coupled with a significantly lower fuel consumption, an increase in vessel availability and a net buoyancy calculation for the propulsion system with lower maintenance costs. This unique propulsion system is designed for use on vessels with a Diesel Electric Propulsion System and Twin Shafts.</p>	To be confirmed.

		Vessel owners and operators will be exposed to a Caterpillar technology that will demonstrate potential efficiency and reduced operating cost for their fleet. <i>Presented by:</i> Jonas Nyberg, Caterpillar Propulsion Systems, Sweden	
10:45 – 11:15	Refreshment Break in Exhibition Hall (Convention Hall C2-C5)		
11:20 – 12:00	Concurrent Technical Sessions	<p>Digital Shipyard: A Product Lifecycle Management approach to building next generation of frigates for Canada</p> <p>With the announcement of the largest Naval acquisition contract in Canada i.e. CSC, there is plenty of hype around the term “Digital Shipyard”. Irving Shipbuilding Inc. (ISI) and its industry partners are gearing up to leverage the power of Industry 4.0. Let’s take a look at what “Digital Shipyard” actually means and how ISI is leveraging off a Product Lifecycle Management approach to building ships including leveraging off an array of technologies that are enabling us to become a Digital Shipyard.</p> <p>Presented by: Rohan Bhalla, Irving Shipbuilding Inc., Business Architect</p>	<p>Lithium-ion Batteries from Marine Application, Regulation and Operations Prospective</p> <p>The session will focus on evolution of lithium-ion batteries application in marine industry. The current challenges and opportunities associated with Lithium-Ion batteries in Canadian marine industry. A comparison of conventional and Lithium-ion batteries and how latter can positively impact the overall vessel design and construction from a quantitative prospective.</p> <p><i>Presented by:</i> Kuljeet Kaushal, Program Manager, Seaspan Shipyards</p>
12:00 – 13:00	Lunch in Exhibition Hall (Convention Hall C2-C5)		
13:00 - 14:40	Exhibition Hall Open to the Public		
13:05 – 13:50	Plenary Panel	<p>Regulators Moderator: Bud Streeter, Clear Seas Panelists:</p> <ul style="list-style-type: none"> • David Lloyd, Lloyd’s Register Canada • Jan Hagen Andersem, DNV GL • James Bond, ABS 	

		<ul style="list-style-type: none"> • Martin McKay, Marine Safety and Security, Transport Canada 	
13:50 - 14:40	Closing Keynote Presentation	To be confirmed.	
14:40	Exhibition Hall Closes		
14:40 - 14:50	Closing Remarks and 2021 Niagara Falls Announcement	Closing Remarks and 2021 Niagara Falls Announcement	
14:55 - 16:00	Young Professionals Closing Reception		