

# Currents

OCTOBER 2 | CLUB ST-JAMES | MONTREAL

# 2018 CONFERENCE ARTIFICIAL INTELLIGENCE AND AUTONOMOUS SHIPS

challenges | issues | opportunities



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ST. LAWRENCE SHIPOPERATORS

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**8:45**

### **Opening Remarks**

Jean-Philippe Brunet, Chairman of the Board, St. Lawrence Shipoperators  
Martin Fournier, Executive Director, St. Lawrence Shipoperators

**9:00**

### **Intelligent Adaptive Systems and Artificial Intelligence for Addressing Human Autonomy Teaming Challenges**

Kevin Heffner, Innovation Director, Computer Research Institute of Montréal (CRIM)



Intelligent Adaptive Systems are an evolution from automated systems to autonomous systems. Traditionally, humans have been required to adapt to the constraints and limitations of machine capabilities. Advances in artificial intelligence allow for the machine to adapt to the human, to the application context and to the environment. This presentation highlights a few of the key challenges that system designers must take into account when designing intelligent adaptive systems with increased levels of machine intelligence.

**9:25**

### **Autonomous Technology for a Smart Marine Ecosystem**

Kevin Humphreys, General Manager, Merchant & Gas Carrier Segment Sales  
Wärtsilä



Marine technology is often developed without the ship owners in mind. What if we thought differently? Let's start by looking out for innovative solutions driven by the business needs of the entire marine ecosystem. If we do this, marine technology and big data will look much different.

This presentation will focus on Wärtsilä's Smart Marine Ecosystem and demonstrate how big data and autonomous technology can connect shipping to sustainable societies in a systematic, environmentally friendly, and financially profitable way.

**9:55**

### **Redefining Shipping**

Oskar Levander, SVP Concepts & Innovation, Rolls-Royce Marine



Digitalization is driving disruptive change in shipping that will open up new opportunities for novel business models and new players, but will also threaten some of the established industry norms and foundations.

During his presentation, Mr. Levander will demonstrate how Rolls-Royce can improve safety and efficiency as well as remote and autonomous operation in its latest project "SVAN" together with ferry operator Finferries.

**10:40**

### **Coffee Break & Networking**

**11:00**

### **Focus on Cyber Risks of Autonomous and Remote Controlled Vessels**

Jan Hagen Andersen, Business Development Director, DNV GL



The levels of automation and connectivity are increasing fast in all industries. Vessels and maritime assets with remote controlled functions and some levels of autonomy are already present or will be so soon. One of the main concerns of these systems are the communication links between the vessel and remote system, as well as the cyber security of the overall network infrastructure that must be explicitly configured to reduce the likelihood and consequences of cyber security breaches.

**11:30**

### **Artificial Intelligence and Navigation in Confined Waters: From Magical Thinking to Real Opportunities**

Captain Alain Arseneault, VP – Laurentian Region, Canadian Marine Pilots' Association



Progress in IT and target location and detection provides new tools to the international maritime sector. As a navigation and management expert, Captain Arseneault will engage in a thorough analysis of the benefits of Artificial Intelligence and Innovation for navigation and the potential gains for the marine industry while increasing the safety of transportation.

**12:00**

### **Lunch**

**1:30**

### **Improving Marine Transport in Norway with Unmanned and Autonomous Ships**

Ørnulf Jan Rødseth, Senior Scientist, SINTEF Ocean  
Manager for the Norwegian Forum of Autonomous Ships



In Norway unmanned ships create new possibilities for the design of cost-effective and environmentally friendly transport systems. However, for efficient operation of a fleet of smaller unmanned ship, some autonomy of the ship is needed. For the time being, a constrained type of autonomy, relying on a human operator in the control loop, is the preferred option.

**2:00**

### **Smart Ships and Test Beds in the Great Lakes – St. Lawrence System**

Michael Beaulac, Senior Project Administrator, Michigan Office of the Great Lakes



The Smart Ships Coalition (SSC) of the Great Lakes Basin is the Region's group for organizations and stakeholders involved in research, commercialization activities, workforce development, and regulatory matters pertaining to maritime autonomy and related automation technologies. The presentation will focus on SSC's recent activities, such as the opening of the new Marine Autonomy Research Site (MARS) which will serve as the world's first freshwater test bed for unmanned surface and underwater vessels for operation in the region and coastal waters.

**2:30**

### **Coffee Break & Networking**

**3:00**

### **Maritime Autonomous Surface Ships - Development Challenges on Domestic and International Fronts**

Donald Roussel, Senior Advisor to the Assistant Deputy Minister  
Safety & Security, Transport Canada



This presentation will touch on the impact of disruptive technology in today's society and the analogy to Maritime Autonomous Surface Ships (MASS) in the marine transportation sector. It will provide an overview of the political developments on MASS internationally and present some of the work that has been undertaken by multiple entities worldwide and by Transport Canada. Policy and framework development questions surrounding control centres will be presented, with a focus on the challenges and conditions needed to establish them.

**3:30**

### **Panel Discussion**

Moderator: Donald Roussel

**4:15**

### **Closing Remarks**

Martin Fournier, Executive Director, St. Lawrence Shipoperators

**4:30**

### **Cocktail Reception - Sponsored by Wärtsilä**



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