

## Program

### Monday, March 11<sup>th</sup>

Room: Øya/Sverresborg

- 8.30 – 9.00      **Registration & coffee** (In front of the room Øya/Sverresborg)
- 9.00 – 9.30      **Welcome and introduction**  
Ingrid Bouwer Utne, Department of Marine Technology, NTNU, Norway
- Arrangements and whitepaper**  
Marilia Ramos and Christoph Thieme, Department of Marine Technology, NTNU, Norway
- 9.30 – 10.00    **Modeling and assessing risks of autonomous systems: Challenges and perspective on solutions**  
Ali Mosleh, B. John Garrick Institute for the Risk Sciences, University of California Los Angeles, USA
- 10.00 – 10.30   **The Norwegian maritime authority's approval process of autonomous ships - our challenges and guideline**  
Nils Haktor Bua, Norwegian Maritime Directorate, Norway
- 10.30 – 11.00    Coffee break (in front of Øya/Sverresborg)**
- 11.00 – 11.30   **Qualification of autonomy for risk and regulation - A behavioral approach**  
Tristan Perez, Boeing Research and Technology, Australia
- 11.30 – 12.00   **Industry perspective on the development of autonomous busses – Robustness development**  
Matthew Minxiang Hu, Haylion Technology, China
- 12.00 – 12.30   **Unmanned aerial systems and risk**  
Adrian Aljornilla, UAS consulting, USA

## Monday, March 11<sup>th</sup>

Room: Øya/Sverresborg

- 12.30 – 13.30 Lunch (Scandic Nidelven Restaurant)**
- 13.30 – 14.15 Cybersecurity for autonomous systems – Vulnerabilities and threats**  
Kenneth Titlestad, Sopra Steria, Norway
- 14.15 – 14.45 Intelligent machinery systems for autonomous ships**  
Sverre Torben, Rolls Royce Marine, Norway
- 14.45 – 15.15 Trust in autonomy: Cyber-human learning loops**  
Asun Lera St. Clair, DNV GL, Norway
- 15.15 – 15.45 Coffee break (in front of Øya/Sverresborg)**
- 15.45 – 18.00 Assembly of discussion groups**  
Plenum discussion

## Tuesday, March 12<sup>th</sup>

- 8.30 – 9.00 Meetup and organization of breakout sessions**  
Room: Øya/Sverresborg
- 9.00 – 18.00 Breakout discussion sessions**  
Rooms: Øya/Sverresborg, Tyholt, Lian, Festningen
- 10.30 – 11.00 Coffee break (in front of breakout rooms)**
- 12.30 – 13.30 Lunch (Scandic Nidelven Restaurant)**
- 13:30 – 14:00 Some recent advances in human-automation interaction design methods and future research directions for safety**  
*Room: Øya/Sverresborg*  
David Kaber, North Carolina University, USA
- 14:00 – 14:30 Game theoretic simulation for verification and validation of autonomous vehicles**  
*Room: Øya/Sverresborg*  
Anouck Girard, University of Michigan, USA
- 16.00 – 16.30 Coffee break (in front of breakout rooms)**



## Tuesday, March 12th

20.00 – 22.00      **Workshop dinner in Troll Restaurant**  
**Address:** Fosenkaia 4A, Trondheim

## Wednesday, March 13<sup>th</sup>

**Room:** Øya/Sverresborg

8.30 – 12.00      **Presentation and discussion of results from the breakout sessions**

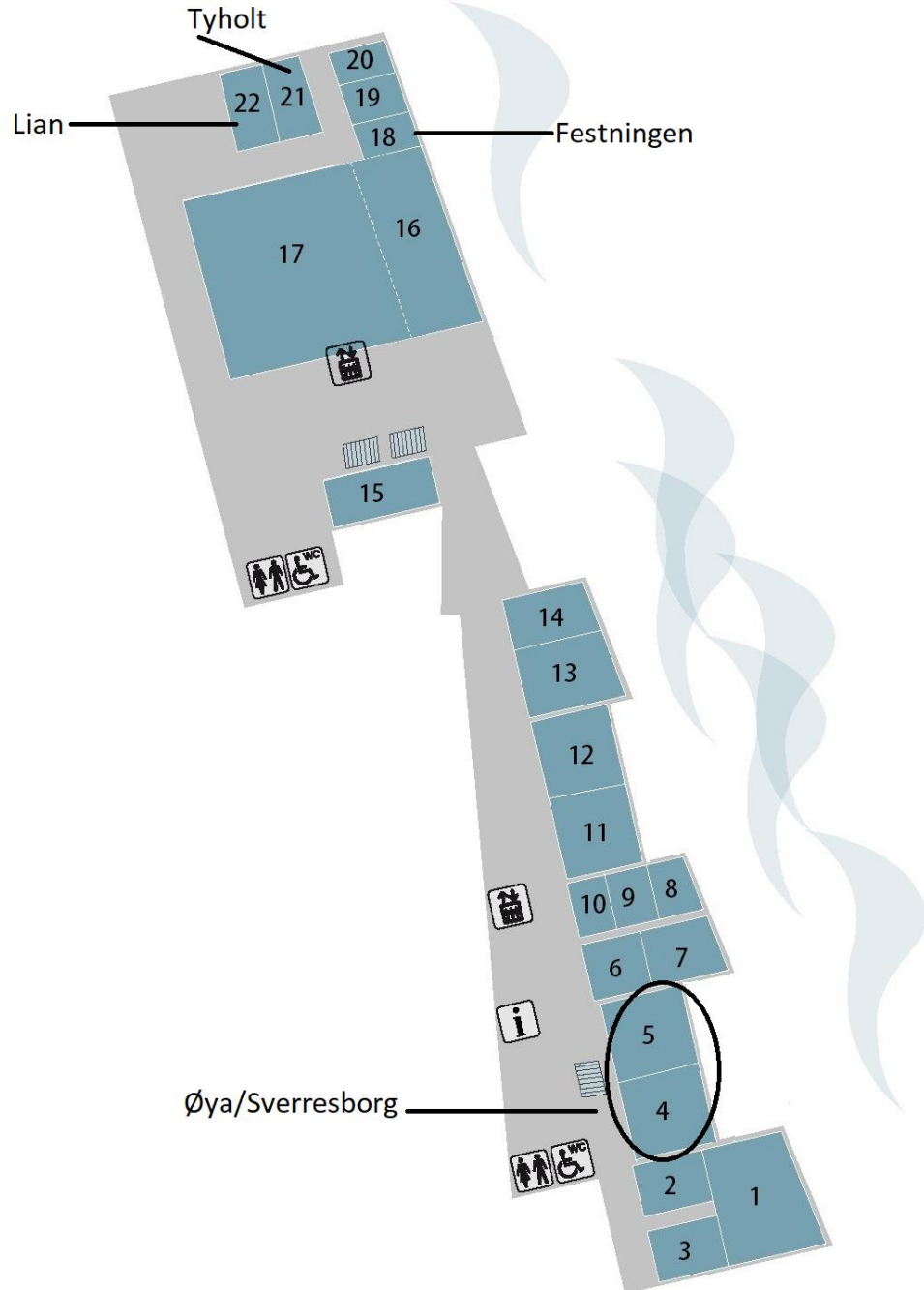
10.00 – 10.30      **Coffee break (in front of Øya/Sverresborg)**

12.00 – 12.30      **Conclusion and closing of the workshop**

12.30 – 13.30      **Lunch (Scandic Nidelven Restaurant)**



## Meeting Rooms Map





## IWASS Participants

### Organizing committee

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Marilia A. Ramos	Department of Marine Technology, Norwegian University of Science and Technology (NTNU), Norway
Christoph A. Thieme	Department of Marine Technology, NTNU, Norway
Ingrid Bouwer Utne	Department of Marine Technology, NTNU, Norway
Ali Mosleh	B. John Garrick Institute for the Risk Sciences, University of California, Los Angeles, USA

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### Speakers

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Adrian Aljornilla	UAS Consulting, USA
Anouck Girard	University of Michigan, USA
Asun Lera St. Clair	DNV GL, Norway
David B. Kaber	North Carolina state university, ISE, USA
Kenneth Titlestad	Sopra Steria, Norway
Matthew Minxiang Hu	Haylion Technologies, China
Nils Haktor Bua	Norwegian Maritime Authority, Norway
Sverre Torben	Rolls Royce Marine, Norway
Tristan Perez	Boeing Research and Technology, Australia

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## Participants

Andrey Morozov	Technical University, Dresden, Germany
Arne Ulrik Bindingsbø	Equinor, Norway
Asgeir J. Sørensen	NTNU Centre of Excellence for Autonomous Marine Operations and Systems, NTNU, Norway
Bentolhoda Jafary	University of Massachusetts Dartmouth, USA
Bernhard Twomey	Rolls Royce Marine, Norway
Børge Rokseth	Department of Marine Technology, NTNU, Norway
Daniel Metlay	B. John Garrick Institute for the Risk Sciences, University of California, Los Angeles, USA
Edmund Brekke	Department of Engineering Cybernetics, NTNU, Norway
Ingrid Schjøberg	NTNU OCEANS, Norway
Jens Einar Bremnes	Department of Marine Technology, NTNU, Norway
John Andrews	University of Nottingham, United Kingdom
Jon Arne Glomsrud	DNV GL, Norway
Jonas Borg	Volvo Penta, Sweden
Lance Fiondella	University of Massachusetts, USA
Mario Brito	University of Southampton, United Kingdom
Markus Heimdal	Rolls Royce Marine, Norway
Matthew Luckcuck	University of Liverpool, United Kingdom
Nikolaos P. Ventikos	National Technical University of Athens, Greece
Odd Ivar Haugen	DNV GL, Norway
Ole Jakob Mengshoel	Department of Computer Science, NTNU, Norway
Ørnulf Jan Rødseth	SINTEF Ocean, Norway
Osiris Valdez Banda	Aalto University, Finland
Rudolf Mester	Norwegian AI Lab, NTNU, Norway
Salvatore Massaiu	Institute for Energy Technology, Norway

## Participants

Simon Blindheim	Department of Engineering Cybernetics, NTNU, Norway
Siri Granum Carson	Department of Philosophy and Religious Studies, NTNU, Norway
Siv Randi Hjørungnes	Rolls Royce Marine, Norway
Stein Haugen	Department of Marine Technology, NTNU, Norway
Stig Ole Johnsen	SINTEF Digital, Norway
Sverre Rothmund	Department of Engineering Cybernetics, NTNU, Norway
Thomas Johansen	Department of Marine Technology, NTNU, Norway
Thomas Porathe	Department of Design, NTNU, Norway
Thor Myklebust	SINTEF Digital, Norway
Tobias Torben	Department of Marine Technology, NTNU, Norway
Tom Mace	UAS Consulting, USA
Tor Arne Johansen	Department of Engineering Cybernetics, NTNU, Norway
Torgeir Moan	Department of Marine Technology, NTNU, Norway
Trine Stene	SINTEF Digital, Norway
Yan-Fu Li	Tsinghua University, China
Yi He	Wuhan University of Technology, China



First International Workshop  
on Autonomous Systems Safety

## Organizers and sponsors

