
**6th Workshop on
Training and Assessment**
The Role of Autonomy in Maritime Education, Training and Operations

October 23rd & 24th, 2017
Tromsø, Norway

As the level of autonomy within operations of the maritime industry and across domains continues to increase, the role of the human element within these complex systems continues to change, requiring the mastery and execution of new skills and work tasks. Autonomy has a wide range of applications and high impact upon maritime education, training and operations, which will be the main theme of the workshop's presentations and discussions. The workshop will encompass the followings topics (but not limited to):

- The role of autonomy in complex high-risk industries.
- Keeping operators in-the-loop in ever-increasing automated systems.
- Reduced onboard manning, unmanned ships, semi and fully-automated shipping.
- The implication of autonomy in training and assessment: past, present and future.
- Educating and adapting the new generation of workers.
- Cross-disciplinary understanding of the effects of autonomy in high-risk domains.
- Directions of academic research and industry interests/needs.
- Collaboration and cooperation among international and interdisciplinary participants.
- How the maritime domain is coping with autonomy, presently and looking forward.

The workshop speakers and panellist include academic researchers, industry stakeholders and policy makers in order to facilitate diverse discussions, dialogues and subsequent solutions in the short and long run for this high-risk industry in general, and the maritime sector in specific.

Looking forward to meeting you in Tromsø in October!

Salman Nazir
Associate Professor
Head of Training and Assessment Research Group (TARG)
University College of Southeast Norway (USN)

The workshop fee is 8000 NOK. This covers the registration fees for the 2-day workshop, including lunch and coffee breaks each day, as well as the conference dinner held on the evening of 23rd of October.

<p>Location for the workshop: Scandic Ishavshotel, Tromsø Limited seating available for each sector (academia, industry, and students; first come, first served basis). Please register by online registration at http://targlab.com/workshop-registration-ws6 For any inquiries, please send an email to sanda.knutson@usn.no</p>

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Location



Tromsø is located 344 km north of the Arctic Circle and is the largest city in the Northern part of Norway. From September to March many people travel to Tromsø to see the northern lights. From 20 May to 20 July the midnight sun is visible and daylight can be experienced all day. In general, Tromsø has a mild climate relative to its northern latitude because of its proximity to the ocean and its warming effect by the Gulf Stream.

The city is known for its lively night scene and a range of restaurants specializing in the fresh ingredients the Arctic provides. Tromsø's multi-cultural community, featuring more than 100 nationalities, does its very best to whet local palates, without any shortage of new eateries based on local food.

On Monday 23rd, we are proud to invite you to experience Tromsø's best view!

The cable car runs from Solliveien in Tromsdalen up to the mountain ledge Storsteinen (421 m above sea level). The two gondolas, locally known as the Seal and Polar Bear, each have a capacity of 28 passengers. From the viewing platform at the upper station, you can enjoy spectacular panoramic views of Tromsø and the surrounding islands, mountains and fjords. For further information, please see: <https://fjellheisen.no/>

Proceeding the cable car activity, the workshop dinner will be held at one of the oldest restaurants in Tromsø, the 175 year old Compagniet Restaurant: <http://www.compagniet.no/no/Engelsk.html>

The **workshop** will be held at the Scandic Ishavshotel Tromsø, address: Fredrik Langesgate 2, Tromsø

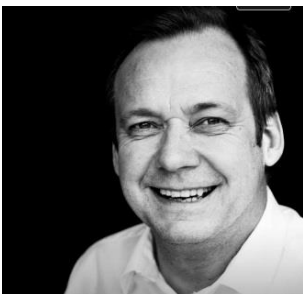
Speakers' Profiles



Axel Schulte, PhD

Dean
Department of Aerospace Engineering
Bundeswehr University Munich
Germany

Dr. Schulte is the Dean of the Department of Aerospace Engineering at Bundeswehr University Munich in Germany. He was educated an aerospace engineer and received his doctor of engineering degree in 1996. After seven years of industry experience as systems engineer and project manager at the Munich ESG company, he became faculty member at the aerospace science department of UBM in 2002 and head of the Institute of Flight Systems in 2008. Prof Schulte is a member of the scientific advisory board of the Fraunhofer Institute of Communication, Information Processing and Ergonomics. In 2010 he was visiting Professor at the Humans and Automation Laboratory of Massachusetts Institute of Technology (MIT).



Stig-Einar Wiggen

Research Head
Kongsberg Digital
Norway

Stig-Einar Wiggen has a military education which encompasses Norwegian Army Jr. Officer school, Norwegian Naval Academy, Norwegian and NATO Staff Collages. He has served as both Captain and Squadron commander with the Royal Norwegian Navy and has also served with the Royal Dutch Navy. Since 1997, Stig has held several posts with Ship Modelling & Simulation Centre (SMSC). He was the CEO from 2003 until January 2016 when the company was acquired by Kongsberg Maritime. He is currently employed as Research Head with Kongsberg Digital.



Bjørn-Morten Batalden, PhD

Associate Professor
The Arctic University of Norway
Norway

Dr. Bjørn-Morten Batalden is an Associate Professor at The Arctic University of Norway in Tromsø, where he completed his PhD research focusing on risk management in offshore support operations. Dr. Batalden's research focuses on maritime safety, with particular emphasis on the arctic region where harsh and isolated environments pose greater challenges to successful and safe maritime-related operations.



Jørgen Ernsten, PhD stipendiary

PhD Stipendiary, Nautical Operations
Department of Maritime Operations
University College of Southeast Norway
Norway

Jørgen Ernsten is a PhD stipendiary in Nautical Operations at the University College of Southeast Norway. He is currently researching maritime performance assessment with a goal to automate and reduce subjective bias. He has a M.Sc. in Psychology from the University of Oslo and has previous experience with operational psychology within police and emergency rescue. Mr. Ernsten worked within the oil and gas industry at Aker Solutions before starting his PhD.



Tareq Ahram, PhD

University of Central Florida
Orlando, Florida
USA

Tareq Ahram, PhD, is the lead scientist and research manager working at the Institute for Advanced Systems Engineering (IASE) at the University of Central Florida. He holds a Master of Science degree in Human Engineering from the University of Central Florida, Master of Science degree in Engineering Management (2004) and Ph.D. (2008) in Industrial Engineering from the University of Central Florida with specialization in Human Systems Integration and large-scale information retrieval systems optimization (search algorithms). Dr. Ahram received the 2009 U.S. Exceptional Research Scientist Award and the 2013, 2014 IBM Research Faculty Award to support cutting-edge scientific research in data modelling and analytics. Dr. Ahram is currently working on multiple research projects, including a research project funded by the United States Office of Naval Research on modelling human performance and total ownership cost.



Annette Kluge, PhD

Professor, Work and Organizational Psychology
Ruhr-Universität Bochum
Germany

Annette Kluge is a professor at Work and Organizational Psychology in Ruhr-Universität Bochum, where she is also the chair of Industrial, Organizational and Business Psychology, Faculty of Psychology. Prof. Kluge is leading a research team on Human Factors. Her research team is focused on organizational safety concepts, training: skill acquisition and retention, safety related rule violations and organizational learning from errors. Before joining Ruhr-Universität Bochum, she was full time professor at in Business and Organizational Psychology, Faculty of Engineering, University of Duisburg-Essen, Germany. She is also in Counselling Board of the Reactor Safety Commission working for the Federal Ministry for the Environment and editor of several well knowns HF Journals.



Karsten Haegg

Chief Maritime Instructor
Maersk Training
Denmark

Karsten Haegg is Chief Instructor for the Maritime department at Maersk Training Svendborg with direct responsibility for the development and delivery of maritime courses. He went to sea as apprentice with A.P. Moller-Maersk at the age of 16 and finished his Master's degree in 1989. He has since then sailed with various vessel types: Tankers – LPG Carriers – Container vessels – Feeder Container vessels – Ferries and Offshore vessels. For 2 years he worked with a maritime insurance company with underwriting and claims. The past 17 years has been spent in the maritime offshore world as a navigating officer and captain, as well as working at Maersk training as Instructor, Lead Instructor and now Chief Instructor. In between periods at Maersk Training he has gained practical experience as Newbuilding superintendent, Fleet auditor and company representative.



Scott MacKinnon, PhD

Professor
Mechanics and Maritime Sciences
Chalmers University of Technology
Sweden

Dr. Scott MacKinnon is a professor of Human Factors at Chalmers University of Technology in Gothenburg, Sweden and a research associate at several international universities. His research has three primary foci: (a) health, safety, and survival in maritime and offshore gas and oil industries; (b) understanding how simulation and artificial intelligence can be used to acquire skill; and (c) knowledge translation in occupational health and safety. Dr. MacKinnon holds a PhD in biomedical engineering from the University of Cape Town.



Margareta Lützhöft, PhD

Professor
Maritime safety research group (Marsafe)
Western Norway University of Applied Sciences
Norway

Dr. Margareta Lützhöft is a master mariner, trained at Kalmar Maritime Academy in Sweden. After leaving the sea, she studied for a Bachelor's degree in Cognitive science and a Master's in Computer Science. In 2004 she received a PhD in Human-Machine Interaction. Presently she holds a position as Professor in the MarSafe group at the Western Norway University of Applied Sciences. Her research interests include human-centred design and the effects of new technology.



Christianne Falcao, PhD

Professor
Department of design
UNICAP
Brazil

Dr. Christianne Falcao is a Professor at Catholic University of Pernambuco, Brazil. She received her PhD in Design at the Federal University of Pernambuco and she was a visiting scholar at University Central Florida, USA. Currently, she is a researcher in the post-graduate program in Creative Industries and graduation in the department of Architecture and Urbanism, focusing on the application of emerging technologies in the design process. Her research field focuses on applying virtual/augmented reality, automation and prototyping to enhance the design evaluation.



Steven C. Mallam, PhD

Post-Doctoral Fellow
Department of Maritime Operations
University College of Southeast Norway
Norway

Dr. Steven Mallam is a Post-Doctoral Fellow at University College of Southeast Norway, Faculty of Technology, Natural Sciences and Maritime Sciences. Steven received his PhD in Maritime Human Factors from Chalmers University of Technology. Steven's primary research interests involve the analysis and optimization of end-users and their work processes within complex socio-technical systems. Particularly, he is interested in utilizing advanced technologies to enhance knowledge mobilization and pedagogics of individuals and teams. Steven has experience performing Human Factors and Ergonomics research in interdisciplinary projects within a variety of industries, including maritime transport, commercial fishing, offshore oil and gas, and aviation.



Salman Nazir, PhD

Associate Professor
Department of Maritime Operations
University College of Southeast Norway
Norway

Dr. Salman Nazir is an Associate Professor at University College of Southeast, Norway. He received his Masters and PhD in Chemical Engineering (focus on System Engineering and Human Factors) from Hanyang University, South Korea, and Politecnico di Milano, Italy, respectively. He is mainly focused on Human Factors research. His current research topics are: Effective training methods, performance assessment, training transferability and evaluation. He was awarded a Cum Laude (outstanding honour) with the title of his PhD. He is a co-chair of affiliated conference of Applied Human Factors and Ergonomics (AHFE) and also leading the research group: Training and Assessment Research Group (TARG).

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Programme

DAY 1: Monday, October 23rd, 2017

Session Chairs: Salman Nazir and Steven Mallam

09:30	Welcome and Introduction
10:00	Axel Schulte, Bundeswehr University Munich <i>Topic TBA</i>
11:00	Coffee Break and Light Refreshments
11:15	Stig-Einar Wiggen, Kongsberg Digital <i>Autonomy in KONGSBERG - a Gamechanger</i>
11:45	Margareta Holtensdotter Lutzhoft, HVL Human Factors and Autonomy in Maritime domain
12:15	Lunch
13:15	Bjørn-Morten Batalden, The Arctic University of Norway <i>How the maritime domain is coping with autonomy: from present to future</i>
13:45	Coffee Break and Light Refreshments
14:00	Jørgen Ernsten, University College of Southeast Norway <i>Automating Assessment in Seafarer Training</i>
14:30	Linda Sørensen, BW Fleet Management (Tentative) <i>Topic TBA</i>
15:00	End of Day 1 Program
16:00	Meet in Hotel Lobby for Cable Car Tour and Dinner

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Programme

DAY 2: Tuesday, October 24th, 2017

Session Chair: Salman Nazir and Steven Mallam

- 09:30** **Tareq Ahram, University of Central Florida**
The Role of Human Performance in Decision Making and Maritime Automated Systems Development: Implications of Autonomy in Naval and Maritime Command, Training and Assessment
- 10:30** **Coffee Break and Light Refreshments**
- 10:45** **Annette Kluge, Ruhr-Universität Bochum**
Training for Human-Autonomy-Teaming
- 11:15** **Karsten Haegg, Maersk Training**
Topic TBA
- 11:45** **Lunch**
- 12:45** **Scott MacKinnon, Chalmers University of Technology**
Continuum from Individual Workload to Complex Socio-Technical Systems in Autonomous Shipping
- 13:45** **Coffee Break and Light Refreshments**
- 14:00** **Panel Discussion + Workshop Wrap-up**
Panelists: Tareq Ahram, Stig-Einar Wiggen, Christianne Falcao and Salman Nazir
- 15:30** **End of Workshop**

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Registration

Click here for: [REGISTRATION](#)

or navigate to this link in your preferred internet browser:

<https://events.provisoevent.no/hsn/events/6th-international-workshop-on-training-and-assessment-the-role-of-autonomy-in-maritime-education-training-and-operations/register>

Registration			Fees (Inc. of Vat)
Attendance Category	Description		
Full Program ¹	<i>Lectures and Panel discussions Lunch and Coffee breaks Event 23th Dinner</i>		NOK 8000 ³
1 day attendance ²	<i>Lectures and Panel discussions Lunch and Coffee breaks Event 23th</i>		NOK 4000 ³
Full Program ² – Employees and students from MARKOM2020 institutions	<i>Lectures and Panel discussions Lunch and Coffee breaks Event 23th</i>		Free

Note:

1. Student participants get 50% off for full program.
2. Dinner not included. Can be reserved with NOK 1000 additional charge.
3. Early bird offer: 15 % off until 15th of August 2017.

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Accommodation

Scandic Ishavshotel

(location of workshop)



Stay right by the quayside in Tromsø, the 'Paris of the North', and enjoy fantastic views from the hotel.

Address: Fredrik Langesgate 2, Tromsø

Phone: +47 77666400

Email: ishavshotel@scandichotels.com

Single room with breakfast: 1500 NOK/night

Radisson Blu Hotel

(2 minutes' walk to workshop location)



Hotel in the city center lets you enjoy this arctic scenery along with snow sports and Tromsø's museums, shopping and concerts.

Address: Sjøgatan 7, Tromsø

Phone: +47 77600000

Email: sales.tromso@radissonblu.com

Single room with breakfast: 1400 NOK/night