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**8<sup>th</sup> Workshop on  
Training and Assessment**  
*Collaborative Training, Education and Operations in the Maritime Domain*  
**19<sup>th</sup> and 20<sup>th</sup> September 2018**  
**University of South-Eastern Norway**  
**Vestfold, Norway**

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Evolving complex socio-technical systems demand increased collaboration and interaction amongst humans and ever-advancing technologies (e.g. automated and intelligent systems, modern interfaces, artificial intelligence). Both human-to-human, and human(s)-to-technology collaboration is necessary within increasingly automated and autonomous systems. For advancing current knowledge, improvement in design and optimal utilization of technology to better support collaboration at different levels and dimensions in the maritime domain will require multi-disciplinary perspectives. The theoretical understanding and practical applications and tools for optimizing collaborative work systems and processes in training, education and operations require the latest knowledge and multidisciplinary perspectives across a variety of fields. This workshop aims to address these issues and will encompass the followings areas (but not limited to):

- Collaborative learning models and theories
- Human integration and collaboration with autonomous systems
- Virtual and Augmented Reality applications
- Teamwork in complex operations
- Current and future directions of academic research and industry interests/needs
- Situated learning and peer interaction in the maritime domain
- Computer-supported collaborative learning for maritime training
- Assessment of collaborative learning in maritime education and training
- Group cognition in maritime operations
- Design based research to support collaborative interaction in simulators.

The workshop speakers and panellist include academic researchers, industry stakeholders and policymakers in order to gain insights, facilitate dialogue and identify future opportunities in high-risk industries, in general and maritime sector in specific.

Looking forward to meeting you in September

*Salman Nazir*

Associate Professor

Head of Training and Assessment Research Group (TARG)

University of South-Eastern Norway

The workshop fee is 8000 NOK. This covers the registration fees for the 2-day workshop, including a technical tour, social event, lunch and 2 coffee breaks each day.

**Location for the workshop:**

**Day 01:** Quality Hotel KLUBBEN, Tønsberg (Nedre Langgate 493126 Tønsberg, Norway)

**Day 02:** Research Park, Campus Vestfold, University of South-Eastern Norway (Raveien 215, 3184 Borre)

**Limited seating available for each sector (academia, industry, and students, first come, first served basis).**

**For any questions, please contact Sanda Knutson, e-mail: [sanda.knutson@usn.no](mailto:sanda.knutson@usn.no)**

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**Location**

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**Tønsberg** is Norway's oldest town, founded back in the Viking Period. The world-famous Oseberg ship was uncovered right outside the town in 1904, and an exact copy has been created and positioned in the town port. In the summer months, thousands of people are drawn to the idyllic town, known for its long coastal line and many beaches. In the town centre Mount Slottsfjell, Scandinavia's largest ruin site, provides the opportunity to walk around in what remains of Castrum Tunsbergis, a fortress from the 13th century.

In close proximity to the city, you will find the charming islands Nøtterøy and Tjøme where many choose to enjoy sunny days by the sea. "The Worlds End" is located at the southern extremity of Tjøme, well known for "Vippefyret" - the lighthouse, made by stones from the local beaches.

**On Day 01, we are proud to invite you to experience 'The Worlds End'!**

It is a recreation area with a fantastic fjord view, rocks, fishing spots and skerries.

Verdens Ende (World's End) on the southern tip of Tjøme is best known for "Vippefyret" - the lighthouse, made by stones from the local beaches. The lighthouse is a replica built in 1932. The Færder National Park Center opened in June 2015.

For more info and how to get here, see <https://www.visitvestfold.com/en/tonsberg/articles/Verdens-Ende-The-Worlds-End/>

**Proceeding the trip to 'The Worlds End', we will meet back in the conference location for the Dinner at 20:00 hrs.**

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## Speakers' Profiles

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### **Petter Aasen**

Rector  
University of South-Eastern Norway  
Norway

Petter Aasen is the Rector of the University of South-Eastern Norway and a professor in educational science. Before his position as the Rector, he was the dean of Faculty of Social and Educational Sciences at NTNU Trondheim. He has been a member of and led several committees, councils and committees at institutional, regional, national and international level. Prof. Aasen has contributed to, among others, the Research Council of Norway, the Ministry of Education, Norwegian and Swedish universities, the Swedish Research Council and the Swedish State and the OECD. In 2012 he was appointed honorary doctorate at Uppsala University for outstanding scientific efforts and the work to promote educational science research.



### **Anne Kari Botnmark**

Institute leader  
Department of Maritime Operations,  
University of South-Eastern Norway  
Norway

Anne Kari Botnmark is the Head of Department at Faculty of Technology, Natural Sciences, and Maritime Sciences, USN for the Department of Maritime Operation. She has been in several leadership positions throughout her career and current representative of USN for MARKOM2020. She was a project manager in the Oslofjord technology project. She was a project manager for VRI Vestfold and has been leading projects for the development of study programs and research in engineering as well as the maritime department.



### **Anders Mørch**

Professor  
Department of Education  
University of Oslo  
Norway

Anders Mørch received his PhD in Informatics from the University of Oslo and an M.S. in Computer Science from the University of Colorado, Boulder. He developed educational software at NYNEX Science and Technology Center, New York. Mørch has been employed at Faculty of educational sciences, UiO since 2001. His general research interest is to understand how tools and artefacts help people learn and more specifically using methods such as design and collaboration (distance learning, computer-based scaffolding, end-user tailoring). During the past 5 years, Mørch has studied collaborative learning and end-user development in virtual worlds and social media. Previously he designed, built, and studied critiquing systems and pedagogical agents (precursor to learning analytics). Mørch participates in the following research communities: Computer supported collaborative learning (CSCL), human-computer interaction (HCI), end-user development (EUD), and computer supported cooperative work (CSCW). His current efforts include developing a design-based model of human learning and development (evolving artefacts framework).



### **Tone Merete Hansen**

Senior Vice President  
Kongsberg Digital  
Horten, Vestfold  
Norway

Tone-Merete Hansen is Senior Vice President of Maritime Simulation at Kongsberg Digital. She has been with KONGSBERG since 2008 and holds a master's degree in economics and business administration. Her long experience from KONGSBERG has provided her with a unique understanding of the simulation needs of the maritime industry. Tone-Merete was recently nominated as one of Norway's 50 most powerful tech women in 2018. The nomination was done by the Norwegian trade and employers association Abelia and the ODA network for women in tech. The jury emphasized that Tone-Merete Hansen, in her role, is leading the digital transformation of teaching and training tools for maritime industry in addition to developing the organization further enabling it to deliver advanced simulator solutions to, for example, digital twins, autonomous vessel testing, pre-studies and verifications of various offshore operations and ship and port studies for decision support.



### **John Huddlestone, PhD**

Senior Research Fellow in Human Factors  
Mobility and Transport Faculty Research Centre,  
Coventry University  
United Kingdom

Dr. John was a training specialist in the Royal Air Force, employed in a wide range of roles which included the analysis design, delivery and evaluation of training courses across engineering and flying training. He then moved to Cranfield University where he conducted research in human factors and training and provided consultancy for a range of clients including the CAA, the MOD, and the oil industry. He was part of the Human Factors Integration Defence Technology Centre team awarded the Ergonomics Society Presidents Medal in 2008 for our outstanding contribution to Human Factors Integration. In 2012 he represented the UK on the NATO Research Technology Group on Advancements in Distributed Learning Environment Support of Transformation. His research interests include training needs analysis, task analysis simulation and aviation safety and he is currently authoring a book on Team and Collective Training Needs Analysis for publication in the Ashgate Defence Human Factors Series.



### **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.



### **Helga Van Noten**

Lecturer & Lead DP instructor,  
Antwerp Maritime Academy  
Belgium

Helga has a master's degree in Nautical Sciences. She started her career at sea as an apprentice officer on oil carriers, worked as an officer on gas carriers and finished at sea as a DPO on (at that time) the world's largest pipelaying vessel Solitaire. Afterwards, she worked for 3 years as a safety and security auditor in the dredging industry and then became a lecturer at the Antwerp Maritime Academy, where she is an instructor on the navigation simulator for the 3rd Bach year and Master year in Nautical Sciences, and she is also the lead DP instructor. Besides, she is trying to start up a PhD on "Determining the influence of information overload due to augmented and virtual reality on the situation awareness of duty officers on navigation simulators".



### **Capt. Kurt Haukeberg**

Nautical Adviser  
Norwegian Pilot services  
Norwegian Coastal Administration (NCA)  
Norway

Kurt is the nautical adviser within the Pilot Directors operational staff in the Norwegian Pilot Services, Norwegian Coastal Administration. This position encompasses recruitment of new pilots, education/training of pilots, participation in maritime projects where Pilots are involved, purchase and development of equipment to the pilots (Navigational SW etc.) and operational analyses and works with the pilotage operations. His background is 15 years in the Norwegian Navy where he took his bachelor degree at Royal Norwegian Naval Academy within military and strategic leadership, Navigation. He has served 5 years as Captain, and several deployments within the maritime standing NATO groups worldwide. He took his master degree at NTNU, Master of Management, where the purpose of the study was to look at what motivates individuals to choose high performance when working in teams.



### **Odd Jarl Borch, PhD**

Professor  
Nord University Business School, Bodo  
Professor II, The Arctic University of Norway-UiT  
Norway

Odd Jarl Borch is a Professor of Strategy and Business Administration at the Nord University Business School, Bodo, Norway, and a part-time professor at UiT- The Arctic University of Norway. He received his M.Sc. from The Norwegian School of Economics and Business Administration in Bergen, Norway in 1979, and his PhD from Umea University in Sweden in 1990. He has a Master Mariner education from Bodin Maritime Academy. Dr. Borch is conducting research within the field of organization and strategic management, focusing on entrepreneurship and innovation within the marine and maritime industries. He is leading several projects on maritime safety, security and emergency preparedness, with special emphasis on the Arctic. He is the founder and first leader of the University of the Arctic thematic network on Arctic Safety and Security including 21 universities and research institutions in nine countries.



### **Rigmor Baraas**

Professor and Centre Director  
National Centre for Optics, Vision and Eye Care  
University of South-Eastern Norway  
Norway

Dr. Rigmor C. Baraas is a Professor at the University of South-Eastern Norway. She received her BSc in Optometry and Vision Science and PhD in Visual Neuroscience from University of Manchester, UK. Her research focuses on understanding the human eye and visual perception. Her current research topics are: The retina and visual function in health and disease; Development of refractive error and accommodation; Vision, visuomotor skills and learning. She is the Director of the National Centre for Optics, Vision and Eye Care, the Head of the Color Vision and Retinal Imaging laboratory and also leading the Southeast Norway Vision and Visuomotor Study (The SNOW Study). She is the organizer of the annual Kongsberg Vision Meeting, the editor-in-chief of Scandinavian Journal of Optometry and Visual Science and a feature editor Journal of the Optical Society of America A. She serves on several international committees within optics and vision science.



### **Scott Mackinnon, PhD**

Professor  
Mechanics and Maritime Sciences  
Chalmers University of Technology,  
Sweden

Dr. Scott Mackinnon is a professor of Human Factors at the 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.



### **Christen Vagle**

HC Manager Processes & Systems  
BW Offshore  
Norway

Christen Vagle is concluding his part-time Master of Science study in Maritime Management at the University of South-Eastern Norway. His full-time job the past eleven years has been with the Floating Production Storage and Offloading, (FPSO) designing, leasing and operating Company BW Offshore. Here he began as a Competence Executive and then later assumed the role as a Competence Manager, implementing a complete Competence Assurance & Training Program, later certified to the DNV-GL Standard ST-0049 for Competence Management Systems. He was also instrumental in establishing the BWO Academy, a global e-learning solution for knowledge sharing within BW Offshore. His previous position was held with the US Department of Defence where he served as a Training Manager for more than 7 years at the Office of Defence Cooperation at the US Embassy in Oslo, Norway.



### **Amit Sharma**

PhD Candidate  
Department of Maritime Operations  
University of South-Eastern Norway  
Norway

Amit Sharma is a PhD research fellow with TARG, situated at Department of maritime operations at the University of South-Eastern Norway. Amit has served onboard ships in the capacity of Navigator (2nd mate) and has a total sea experience spanning 7 years. His Bachelor degree is in Nautical Science (With distinction) and he has a Master of Science degree in maritime management with technical specialization. He is also a member of Nautical Institute - an international representative body for maritime professionals involved in the control of sea-going ships. His PhD research is aimed at developing, testing and validating collaborative learning interventions for maritime education and training.



### **Steven C. Mallam, PhD**

Post-Doctoral Fellow  
Department of Maritime Operations,  
University of South-Eastern Norway  
Norway

Steven Mallam is a Post-Doctoral Fellow at the University of South-Eastern Norway, Faculty of Technology and Maritime Sciences. Steven received his PhD in Maritime Human Factors from the Chalmers University of Technology, with his research focusing on the application of human-centred design and participatory approaches in naval architecture and engineering processes. Steven's primary research interests involve the analysis and optimization of end-users and their work processes within complex socio-technical systems. 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 of South-Eastern Norway  
Norway

Dr. Salman Nazir is an Associate Professor at the University of South-Eastern 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 honor) with the title of his PhD. He is a co-chair of the affiliated conference of Applied Human Factors and Ergonomics (AHFE) and also leading the research group: Training and Assessment Research Group (TARG). He is the coordinator for EU horizon 2020 project titled – Enhancing Human Performance in complex socio-technical systems, ENHANCE – aimed at improving human performance in process and maritime industries by developing new training and assessment methods.

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Programme**

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<b>DAY 1:</b>	<b>Wednesday, September 19<sup>th</sup>, 2018/ Location: Quality Hotel KLUBBEN, Tonsberg</b>
<b>Session Chair:</b>	<b>Salman Nazir &amp; Steven Mallam</b>
<b>09:00</b>	<b>Registration and coffee</b>
<b>09:30</b>	<b>Welcome and Introduction</b> <i>Petter Aasen</i>
<b>09:45</b>	<b>Department of Maritime Operations</b> <i>Anne Kari Botnmark</i>
<b>10:00</b>	<b>Summary previous workshop</b> <i>Salman Nazir</i>
<b>10:15</b>	<b>Anders Mørch, Department of Education, University of Oslo</b> <i>Creating Contexts for Collaborative Learning in a 3D Virtual World for Distance Education</i>
<b>10:45</b>	<b>Coffee break</b>
<b>11:00</b>	<b>Christen Vagle, BW Offshore Norway</b> <i>Global Access, Global Knowledge</i>
<b>11:30</b>	<b>Tone Merete Hansen, Kongsberg Digital</b> <i>Digitalization Trends in the Maritime Industry, including new opportunities within the collaborative maritime training</i>
<b>12:00</b>	<b>Lunch break</b>
<b>13:00</b>	<b>Kurt Haukeberg, Norwegian Coastal Administration (NCA)</b> <i>Recruiting and educating Norwegian Pilots; What have we done and what should we do?</i>
<b>13:30</b>	<b>Odd Jarl Borch, The Arctic University of Norway</b> <i>EMERGENCY PREPAREDNESS AND COMPETENCE NEEDS IN THE MARITIME ARCTIC -training and exercise schemes at NORDLAB</i>
<b>14:00</b>	<b>Coffee Break and Light Refreshments</b>
<b>14:30</b>	<b>Amit Sharma, University of South-Eastern Norway</b> <i>Need for collaborative learning in Maritime Education and Training</i>
<b>15:00</b>	<b>End of Day 1 Program</b>
<b>16:00</b>	<b>Meet in front of the workshop hotel for the trip to “The Worlds End” (Verdens Ende)</b>

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**Programme**

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**DAY 2:** Thursday, September 20<sup>th</sup>, 2018/ Location: Research Park, Bakkenteigen, USN

**Session Chair:** Steven Mallam & Salman Nazir

**09:30** John Huddleston, Coventry University, United Kingdom

*Specifying and evaluating team training environments*

**10:00** Rigmor Baraas, University of South-Eastern Norway (Kongsberg campus)

*The successful user of simulated visual environments — the good, bad and ugly — what you need to know about eyes and vision.*

**10:30** Coffee Break and Light Refreshments

**10:45** Scott Mackinnon, Chalmers University of Technology

*Topic- TBA*

**11:15** Visit to Simulation Park

**12:15** Lunch

**13:15** Helga Van Noten, Antwerp Maritime Academy

*Information overload on navigation simulators*

**13:45** Coffee Break and Light Refreshments

**14:00** Panel Discussion + Workshop Wrap-up

*Panellists: 1. Stig-Einar Wiggen*

*2. Helga Van Noten*

*3. Rigmor Baraas*

*4. Scott Mackinnon*

**15:30** End of Workshop

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**8<sup>th</sup> Workshop on  
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**Registration**

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Click here for: [REGISTRATION](#)

or navigate to this link in your preferred internet browser:

[https://events.provisoevent.no/hsn/events/8th Workshop on Training and Assessment Collaborative Training/register](https://events.provisoevent.no/hsn/events/8th_Workshop_on_Training_and_Assessment_Collaborative_Training/register)

<b>Registration</b>			<b>Fees (Inc. of Vat)</b>
<b>Attendance Category</b>	<b>Description</b>		
<b>Full Program <sup>1</sup></b>	<i>Lectures and Panel discussions Lunch and Coffee breaks Event 19<sup>th</sup> Dinner</i>	19 <sup>th</sup> and 20 <sup>th</sup> September	NOK 8000 <sup>3</sup>
<b>1-day attendance <sup>2</sup></b>	<i>Lectures and Panel discussions Lunch and Coffee breaks Event 19<sup>th</sup></i>	19 <sup>th</sup> and 20 <sup>th</sup> September	NOK 4000 <sup>3</sup>
<b>Full Program <sup>2</sup> – Employees and students from MARKOM2020 institutions</b>	<i>Lectures and Panel discussions Lunch and Coffee breaks Event 19<sup>th</sup></i>	19 <sup>th</sup> and 20 <sup>th</sup> September	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 10<sup>th</sup> August 2018.

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8<sup>th</sup> Workshop on  
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**Accommodation**

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## Quality Hotel Klubben



(the workshop location for the Day 01)

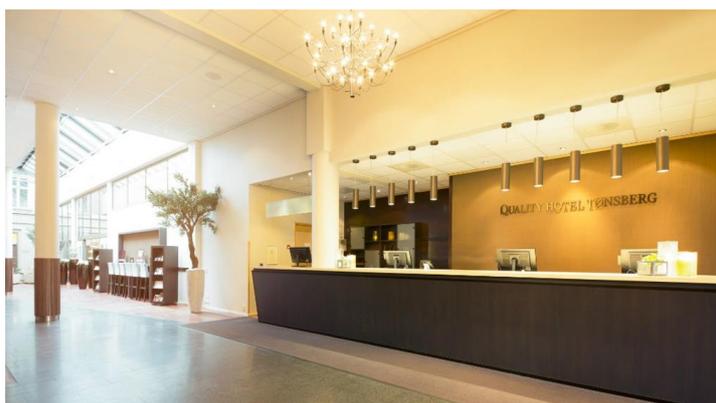
**Address:** Nedre Langgate 493126 Tønsberg, Norway

**Phone:** +47 33 35 97 00

**E-mail:** [g.klubben@choice.no](mailto:g.klubben@choice.no)

Single room starts from 1102 NOK/night.

## Quality Hotel Tønsberg



(500m from the workshop location for the day 01)

**Address:** Ollebukta 3, 3126 Tønsberg, Norway

**Phone:** +47 33 00 41 00

**E-mail:** [g.tonsberg@choice.no](mailto:g.tonsberg@choice.no)

Single room starts from 1121 NOK/night.