Jan Erik Vinnem Born: 19.10.1950 Nationality: Norwegian Present position: Professor NTNU, Trondheim Degrees: Master degree (siv.ing) in naval architecture and Ph.D (dr.ing) in system safety from Norwegian University of

Science and Technology (NTNU) in Trondheim, 1974 and 1979, respectively.

Member of Norwegian Academy of Technological Sciences. Member of editorial board for Journal of Loss Prevention.

Jan Erik Vinnem is professor of operational marine risk at NTNU, Trondheim (2014–), following part time professorship from 1994-2003 & 2013. He is also managing director of Preventor AS, a small private consultancy. His professional career includes about six years in the petroleum industry (Statoil and Total), 20 years as a private consultant (founder of Safetec Nordic AS and Preventor AS) and about 7-8 years in research and education. He has participated and led a large number of safety and risk related projects. Recently he has worked with research and development related to i.a. decision support tools, risk management, risk acceptance, risk analysis methods, and risk assessments reflecting human and organisational factors. He was consultant for Technica, London within safety, risk and emergency preparedness in 1983-84. He has published a large number of papers on risk and safety, and presented his work in a number of conferences. He has been invited as a speaker at conferences, e.g., plenary speaker at ESREL 1999. He is author of four books in risk analysis. He was the editor and principal author of the Petroleum Safety Authority's (PSA) annual Risk Level Project (2000–10), and has been responsible for and authored a high number of consultancy reports for clients, mainly for industry and authorities.

He was the founder chairman an honorary member of ESRA Norway, chairman 1994-98, and member of the board 1998-2004, and served on the board of ESRA International, 1995-1997. He was member of the board for ESREL 1998 conference in Trondheim, and Co-Chairman of ESREL conference in Stavanger, 2007. Jan Erik Vinnem has been member of the Oil Industry's Association (OLF) technical committee for risk analysis (1994-2004), including chairmanship 1995-97. He is member of ISO TC67 WG6 on risk assessment and technical safety (1995-), and was project leader for development of ISO17776 (2000), Guidelines on tools and techniques for hazard identification and risk assessment. He has been in charge of the issue of Norwegian standard NORSOK Z-013, risk and emergency preparedness, in three versions (1998, 2001, 2009).

During extensive work with area-based emergency response planning over 15 years for Norwegian Oil and Gas and PSA, he has been involved with challenges in Barents Sea and similar, and has been involved with several MSc and PhD projects addressing these challenges. He was in charge of the study work that resulted in OLF Guideline 064, and responsible for the updating of the Norwegian Oil and Gas Guideline 064 in 2010–11. An extensive background document was also issued during the updating process. The arctic is not explicitly part of Guideline 064, but a lot of evaluations were made in this regard. He was responsible for carrying out an <u>Overall assessment of the emergency preparedness on the Norwegian Continental Shelf</u> on behalf of PSA in 2008–09.

Dr Vinnem has since mid 1990ties been involved with development of risk analysis methodology for environmental risk analysis, as member of the steering committee for MIRA methodology as well as development of risk acceptance criteria for environmental risk. His focus area has been how QRA methodology and environmental risk analysis may be integrated. His most recent work in this regard are development of new approaches to environmental risk communication and development of a new approach for national risk picture for acute spill risk for the entire Norwegian Continental Shelf (refs).

Jan Erik Vinnem has since 1995 specialized in the integration of human and organizational aspects into quantitative operational risk analysis for fixed and floating offshore installations and shuttle tankers, and has managed a number of research projects in this field, with government and private funding, with a total budget of more than 30 million NOK. Another speciality is development of risk indicator for major hazards, which has been researched through cooperation with PSA and internal resources.

His main research topic during the last 10 years has been management of barriers & monitoring of major hazard risk, with extensive projects for PSA and oil companies, and a substantial scientific production, including the integration of human and organizational barriers as mentioned above.

Jan Erik Vinnem is a recognized lecturer in risk management and risk analysis, and has been responsible for and conducted courses for clients in Norway and for international clients and universities in Denmark, Portugal, Brazil, Nigeria, India, Russia and China.

Publications 2005-18:

Scientific papers in inter- national journals with review	Other scientific papers in journals, chapters in books, reports in public domain		Papers in international conference proceedings with referee	Total
About 30	About 10	2	About 45	About 80

Books (1985-)

Vinnem, Jan Erik, Hope, Bjarne, (1986) Offshore safety management : theoretical fundament and practical experiences, Tapir, ISBN 82-519-0758-6, 269 s

Vinnem, J E (1999). Offshore Risk Assessment, Kluwer Publishing, ISBN 0-7923-5860-0, 505p

Aven, T. and Vinnem, J.E. (2007) Risk Management, with Applications from the Offshore Oil and Gas Industry. Springer Vinnem, J E (2007). Offshore Risk Assessment -2^{nd} edition, Springer, ISBN 978-1-84628-716-9, 575p

Aven, T. and Vinnem, J.E. (2007) Risk, Reliability and Societal Safety, Proceedings of ESREL 2007, Stavanger, 25-27 June, 2007, Balkema

Vinnem, J E (2013). Offshore Risk Assessment – 3rd edition, Volumes 1 & 2, Springer, 950p

Papers in international journals with referee (2005-)

Abrahamsen, E., Aven, T., Vinnem, J. E. and Wiencke, H. (2005) Safety management and the use of expected values. *Risk Decision and Policy*, *9*, 347-358.

Aven, T. and Vinnem, J.E. (2005) On the use of risk acceptance criteria in the offshore oil and gas industry. *Reliability Engineering and System Safety*, 90, 15-24.

Vinnem, J.E., Aven, T., Husebø, T., Seljelid, J. and Tveit, O. (2006) Major hazard risk indicators for monitoring of trends in the Norwegian offshore petroleum sector. *Reliability Engineering & Systems Safety, Volume 91/7, July 2006, 778-791*

Aven, T., Vinnem, J.E. and W. Røed (2006) On the use of goals, quantitative criteria and requirements in safety management. *Risk Managm. an International Journal.* 8, 118-132.

Vinnem, J.E., and Aven, T. (2006) Case illustration of a decision framework for HES management, *Journal of Risk and Reliability*, 2006, **220**(O2), 115-121

Aven, T., Hauge, S. Sklet, S. and Vinnem, J.E. (2006) Methodology for incorporating human and organizational factors in risk analyses for offshore installations, *Int. J. of Materials & Structural Reliability*, *4*, *1-14*.

Aven, T., Vinnem, J.E. and Vollen, F. (2006) Perspectives on risk acceptance criteria and management for offshore installations – application to a development project. *Int. J. of Materials & Structural Reliability, 4, 15-25.*

Aven, T., Sklet, S., and Vinnem, J.E. (2006) Barrier and operational risk analysis of hydrocarbon releases (BORA-Release); Part I Method description, *Journal of Hazardous Materials, A137, 681-691*

Sklet, S., Vinnem, J.E., and Aven, T. (2006) Barrier and operational risk analysis of hydrocarbon releases (BORA-Release); Part II Results from a case study, *Journal of Hazardous Materials, A137, 692-708*

Aven, T., Vinnem, J.E. and Wiencke, H.S. (2007) A decision framework for risk management. *Reliability Engineering and System Safety*, 92, 433-448.

Vinnem, J.E., and Liyanage, J.P.. (2008) Human-Technical Interface of Collision Risk Under Dynamic Conditions: An Exploratory Learning Case from the North Sea, International Journal of Technology and Human Interaction (IJTHI), **4**, (2008) 1, pp 35–47

Osmundsen, P. Aven, T and Vinnem, J.E. (2008) Safety, economic incentives and insurance in the Norwegian Petroleum Industry, *Reliability Engineering and System Safety*, 93, 137-143.

Røed, W., Mosleh, A., Vinnem, J.E. and Aven, T. (2008), On the Use of Hybrid Causal Logic Method in Offshore Risk Analysis, *Reliability Engineering and System Safety, Reliability Engineering and System Safety*, 94, 445-455

Vinnem, J.E., Seljelid, J., Haugen, S., Sklet, S. and Aven, T. (2009) Generalized methodology for operational risk analysis of offshore installations, *Proc. IMechE, Part O: J. Risk and Reliability*, 2009, **223**(O1), 87-97

Vinnem, J.E. (2010) Risk analysis in the planning processes of hazardous facilities – a case of an LNG plant in an urban area, *Reliability Engineering and System Safety* **95** (2010), pp. 662-670

Vinnem, J.E. (2010) Risk indicators for major hazards on offshore installations, Safety Science 48, pp. 770-787

Vinnem, J.E., Hestad, J.A., Kvaløy, J.T. & Skogdalen, J.E. (2010) Analysis of root causes of major hazard precursors (hydrocarbon leaks) in the Norwegian offshore petroleum industry, *Reliability Engineering and System Safety*, **95/11**, 2010, Pp 1142-1153

Vinnem, JE. (2011) Evaluation of offshore emergency preparedness in view of rare accidents, Safety Science, 49, pp178-191 Skogdalen, J.E., Utne, I.B. & Vinnem, J.E. (2011) Developing safety indicators for preventing offshore oil and gas deepwater drilling blowouts, *Safety Science* **49**, pp. 1187–1199

Skogdalen, J.E., Vinnem, J.E., (2011). Quantitative risk analysis offshore-Human and organizational factors. *Reliability Engineering & System Safety*, **96**, 468–479.

Skogdalen, J.E., Khorsandi, J.D. & Vinnem, J.E., (2012). Escape, Evacuation, And Rescue Experiences From Offshore Accidents Including The Deepwater Horizon. *Loss Prevention in the Process Industries*, 25/1, Pp 148-158

Skogdalen J.E., Vinnem J.E., (2011). Combining precursor incidents investigations and QRA in oil and gas industry. *Reliability Engineering & System Safety*, **101**, pp. 48-58

Skogdalen, J.E., Vinnem, J.E., (2012). Quantitative risk analysis of oil and gas drilling, using Deepwater Horizon as case study. *Reliability Engineering & System Safety*, **100**, 58–66.

Vinnem, J.E., Bye, R., Gran, B.A., Kongsvik, T., Nyheim, O.M., Okstad, E.H., Seljelid, J. & Vatn, J. (2012). Risk modelling of maintenance work on major process equipment on offshore petroleum installations, *Loss Prevention in the Process Industries* **25**/2, pp 274-292

B.A. Gran, R. Bye, O.M. Nyheim, E.H. Okstad, J. Seljelid, S. Sklet, J. Vatn, J.E. Vinnem (2012). Evaluation of the risk model of maintenance work on major process equipment on offshore petroleum installations, *Loss Prevention in the Process Industries*, **25**/3, pp. 582–593

Vinnem, J.E., (2012). On the Analysis of Hydrocarbon Leaks in the Norwegian Offshore Industry, *Loss Prevention in the Process Industries*, **25/4**, pp. 709–717

Vinnem, J.E., (2013). Use of accident precursor event investigations in the understanding of major hazard risk potential in the Norwegian offshore industry, *Journal of Risk and Reliability*, **227/1**, 66–79

Vinnem, J.E., (2013). On the development of failure model for hydrocarbon leaks during maintenance work in process plants on offshore petroleum installations, *Reliability Engineering & System Safety*, **113/1**, 112–121

Hannisdal, E., Ariansen, H., Braut, GS., Schlichting, E. & Vinnem, JE. (2013) A risk analysis of cancer care in Norway: The top 16 patient safety hazards, The Joint commission Journal on quality and patient safety, November 2013, 39/11 Vinnem, J.E., (2014). Analysis of Hydrocarbon Leaks and Verification as an Operational Barrier, *Journal of Risk Research*, DOI:10.1080/13669877.2014.913661

Vinnem, J.E., Røed, W. (2014). Norwegian Oil and Gas Industry Project to Reduce Hydrocarbon Leaks, SPE-164981-PA, SPE Economics & Management, 6/02, pp 88 – 99

Vinnem, J.E. (2014). Uncertainties in a risk management context in early phases of offshore petroleum field development, *Loss Prevention in the Process Industries*, **32**, pp. 767–776

Vinnem, J.E. (2015). Evaluation of the Norwegian major hazard risk management approach for offshore installations in the concept selection phase, *Journal of Risk and Uncertainty in Engineering Systems, Part B. Mechanical Engineering* 1(1), Feb 27, 2015, 12 pages

Haugen, S & Vinnem, JE (2015) Perspectives on risk and the unforeseen, *Reliability Engineering & System Safety*, **137**, 1–5 Kongsvik, T., Almklov, P.,Haavik, T., Haugen, S., Vinnem, J.E. and Schiefloe, P.M. (2015). Decisions and decision support for major accident prevention in the process industries, *Journal of Loss Prevention in the Process Industries*, 35, pp 85-94 Vinnem, J.E., Utne, I.B. and Schølberg, I. (2015) On the need for online decision support in FPSO - Shuttle Tanker collision risk reduction, *Ocean Engineering*, 101, pp 109-117

Vinnem, J.E., Røed, W. (2015). Root Causes of Hydrocarbon Leaks on Offshore Installations, *Loss Prevention in the Process Industries*, DOI: 10.1016/j.jlp.2015.05.014

Vinnem, Jan Erik. (2015) Analysis of hydrocarbon leaks and verification as an operational barrier. *Journal of Risk Research*. 18/9, pp 1130-1144

Vinnem, Jan Erik; Haugen, Stein; Okoh, Peter. (2016) Maintenance of petroleum process plant systems as a source of major accidents?. *Journal of Loss Prevention in the Process Industries*, 40, pp 348-356

Jens Christen, Rolfsen; Haugen, Stein; Vinnem, Jan Erik; Antonsen, Stian; Heggland, Jon Erling; Lootz, Elisabeth. (2015) Soft Causes with Hard Consequences: The role of organisational factors in the creation of structural integrity. Safety Science Monitor. Vol. 19 (2).

Okoh, Peter; Haugen, Stein; Vinnem, Jan Erik. (2016) Optimization of recertification intervals for PSV based on major accident risk. *Journal of Loss Prevention in the Process Industries*. vol. 44.

Haugen, Stein; Edwin, Nathaniel John; Vinnem, Jan Erik; Brautaset, Olav; Nyheim, Ole Magnus; Zhu, Tiantian; Tuft, Vegard Larsen. (2016) Activity-based risk analysis for process plant operations. *Institution of Chemical Engineers Symposium Series*. vol. 2016-January (161).

Rokseth, Børge; Utne, Ingrid Bouwer; Vinnem, Jan Erik. (2017) A systems approach to risk analysis of maritime operations. *Proceedings of the Institution of Mechanical Engineers. Part O, Journal of risk and reliability*. vol. 231 (1). Hassel, Martin; Utne, Ingrid Bouwer; Vinnem, Jan Erik. (2017) Allision risk analysis of offshore petroleum installations on the Norwegian Continental Shelf—an empirical study of vessel traffic patterns. *WMU Journal of Maritime Affairs (JoMA)*. Dong, Yining; Vinnem, Jan Erik; Utne, Ingrid Bouwer. (2017) Improving safety of DP operations: learning from accidents and incidents during offshore loading operations. EURO Journal on Decision Processes. vol. 5.

Rokseth, Børge; Utne, Ingrid Bouwer; Vinnem, Jan Erik. (2018) Deriving Verification Objectives and Scenarios for Maritime Systems Using the Systems-Theoretic Process Analysis. Reliability Engineering & System Safety. vol. 169. Vinnem, J.E. (2018) FPSO Cidade de São Mateus gas explosion – Lessons learned, Safety Science 101:295-304 Jan 2018 Zhen, Xingwei; Vinnem, Jan Erik; Peng, Changyi; Huang, Yi. (2018) Quantitative risk modelling of maintenance work on major offshore process equipment. Journal of Loss Prevention in the Process Industries. vol. 56.

Other scientific papers in journals, chapters in books, reports in public domain (2000-)

Operational safety of FPSOs: Initial Summary report, HSE report OTO2000/086, 2001 Operational safety of FPSOs: Shuttle tanker collision risk summary report, HSE RR113, 2003 Risk Level Project, Annual Main and Summary reports, 2000-2010, Petroleum Safety Authority Risk Level Project, Motoring of risk for unwanted events that may cause acute spills, Methodology report for pilot project (in Norwegian only), 2010, Petroleum Safety Authority

Papers in conference proceedings (2005–)

Aven, T., Vinnem, J.E. and Vollen, F. (2005) Perspectives on risk acceptance criteria and management for offshore installations – application to a development project. 16th *European Safety and Reliability Conference* (ESREL 2005).

Røed, W., Vinnem, J.E. and Aven, T. (2005) A discussion of the IEC standards 61508 and 61511 in a risk management context. 16th European Safety and Reliability Conference (ESREL 2005).

Sklet, S., Aven, T., Hauge, S. and Vinnem, J.E. (2005) Incorporating human and organizational factors in risk analyses for offshore installations, 16th *European Safety and Reliability Conference* (ESREL 2005)

Jødestøl, K.A., Fredheim, B., Hoell, E.E., Wakili, S., Vinnem, J.E., Myhrvold, A.U., Hasle, J.R., Ytterborg, G. (2005) Achieving an industry standard in the assessment of environmental risk: Oil spill risk management and the MIRA method, 2005 International Oil Spill Conference, IOSC 2005, pp. 81-91.

Vinnem, J.E., Husebø, T., Aven, T., Seljelid, J. and Tveit, O. (2006) Leading indicators for major hazard risk in offshore Petroleum operations, presented at PSAM8, New Orleans, 14-19 May, 2006

Vinnem, J.E., Aven, T., Seljelid, J. and Sklet, S., (2006) Integrated barrier analysis – a methodology to Reveal weaknesses in offshore petroleum operations, presented at PSAM8, New Orleans, 14-19 May, 2006

Vinnem, J.E. (2006) On the analysis of operational barriers on offshore Petroleum installations, presented at PSAM8, New Orleans, 14-19 May, 2006

Vinnem, J.E., Kvitrud, A. and Nilsen, L.R. (2006) Quantitative Risk Analysis of Stability for Floating Offshore Installations, presented at ESREL2006, Estoril, 18-22 September, 2006

Vinnem, J.E., Witsø, E. and Kristensen, V. (2006) Use of ALARP evaluations and risk acceptance criteria for risk informed decisionmaking in the offshore petroleum industry, presented at ESREL2006, Estoril, 18-22 September, 2006

Vinnem, J.E. and Ravdal, B.A. (2006) Analysis of barrier indicators, presented at ESREL2006, Estoril, 18-22 September

Vinnem, J.E., Seljelid, J., Aven, T. and Sklet, S., (2006) Analysis of barriers in operational risk assessment – a case study, presented at ESREL2006, Estoril, 18-22 September, 2006

Kvitrud, A. Nilsen, L.R., Næss, T.I., Dalsgaard, L.J. and Vinnem, J.E. (2006) In service experiences 1996-2005 in Norway, and risk analysis of anchoring systems, presented at ESREL2006, Estoril, 18-22 September, 2006

Røed, W. and Vinnem, J.E. (2006) Evaluation of accidents and incidents in the offshore oil and gas industry by use of Safety barrier performance diagrams, presented at ESREL2006, Estoril, 18-22 September, 2006

Røed, W. and Vinnem, J.E. (2006) Safety barrier performance diagrams - a contribution to accident investigations, presented at ESREL2006, Estoril, 18-22 September, 2006

Vinnem, J.E. et al. (2007) Operational Safety Condition - Concept Development, presented at ESREL2007, Stavanger, 25-27 June, 2007

Vinnem, J.E., Seljelid, J., Haugen, S. and Husebø, T. (2007) Analysis of Hydrocarbon Leaks on Offshore Installations, presented at ESREL2007, Stavanger, 25-27 June, 2007

Vinnem, J.E., Seljelid, J., Haugen, S., Sklet, S. and Aven, T. (2007) Generalised Methodology for Operational Risk Analysis, presented at ESREL2007, Stavanger, 25-27 June, 2007

Heide Knudsen, B., Vinnem, J.E. and Aven, T. (2007) Methods to monitor risk for onshore petroleum plants, presented at ESREL2007, Stavanger, 25-27 June, 2007

Chen, H., Moan, T. and Vinnem, J. E. (2007) Safety of shuttle tanker offshore loading operations with emphasis on the human barrier, presented at ESREL2007, Stavanger, 25-27 June, 2007

Vinnem, J.E (2008) Challenges in analysing offshore hazards of an operational nature, presented at PSAM9, Hong Kong, 18-23.5.08

Vinnem, J.E. (2008) On the risk to personnel in the offshore industry, presented at PSAM9, Hong Kong, 18-23 May, 2008

Heide, B., Vinnem, J.E. & Lambert, J. (2008) Methods to Monitor the Risk of Electric Power Systems, presented at PSAM9, Hong Kong, 18-23 May, 2008

Vinnem, J.E. (2008) On causes and dependencies of errors in human and organizational barriers against major accidents, presented at ESREL2008, Valencia, 22-25 September, 2008

Vinnem, J.E. (2009) Risk indicators for major hazards on offshore installations, Proceedings of the ASME 28th International Conference on Ocean, Offshore and Arctic Engineering, OMAE2009, 31.5 – 5.6, 2009, Honolulu, Hawaii

Skogdalen, J.E., Haugen, S., Heldal, F., Holo, B., Okstad, E. & Vinnem, J.E. (2009) Analysis of barriers in marine operations on offshore oil installations, Proceedings of the ASME 28th International Conference on Ocean, Offshore and Arctic Engineering, OMAE2009, May 31 - June 5, 2009, Honolulu, Hawaii

Skogdalen, J.E. & Vinnem, J.E. (2009) Risk influencing factors related to evacuation from offshore installations, presented at ESREL2009, Prague, 7-10 September, 2009

Vinnem, JE (2009) Analysis of risk indicators for major accidents on offshore installations, presented at ESREL2009, Prague, 7-10.9.09 Okstad, E, Sørli, F, Wagnild, BR, Skogdalen, JE, Haugen, S, Seljelid, J, Sklet, S & Vinnem, JE (2009) Human and organizational factors effect on safety barriers in well operations, presented at IADC Drilling HSE Europe conference, 23–24 September, 2009, Amsterdam

Skogdalen, JE & Vinnem, JE. 2010. Risk influence factors related to helicopter operations in the North Sea , presented at PSAM10, Seattle, 7-11. June 2010

Vinnem, JE. 2010. Major hazard indicators, status and future outlook, presented at ESREL2010, Rhodos, 5-9.9.2010

Vinnem, JE. 2010. On the ethics of risk assessment, presented at ESREL2010, Rhodos, Greece, 5-9 September 2010

Hestad, JA., Kvaløy, JT., Lilleheier, T. & Vinnem, JE: 2010. Using mixed effects Poisson regression models to analyse incident data, presented at ESREL2010, Rhodos, Greece, 5-9 September 2010

Nyheim, OM., Gran, BA., Pedersen , LM. Seljelid, J., Vinnem, JE: & Vatn, J. 2010. Use of Bayesian network for modeling Risk Indicator Factors, presented at ESREL2010, Rhodos, Greece, 5-9 September 2010

Haugen, S., Vinnem, JE. & Seljelid, J. 2011. Analysis of Causes of Hydrocarbon Leaks from Process Plants, presented at SPE European Health, Safety and Environmental Conference in Oil and Gas Exploration and Production, Vienna, Austria, 22–24 February 2011

Vinnem, J.E., Wagnild; B.R. & Heide, B. 2011. New Approach to Risk Monitoring for Acute Environmental Spill to Sea on the Norwegian Continental Shelf, presented at SPE European Health, Safety and Environmental Conference in Oil and Gas Exploration and Production held in Vienna, Austria, 22–24 February 2011

Gran, BA, Nyheim, OM, Seljelid, J & Vinnem, JE. 2011. A BBN risk modell of maintenance work on major process equipment on offshore petroleum installations, presented at ESREL2011, Troyes, France, 18–22 September, 2011

Vinnem, JE. 2012. On the analysis of hydrocarbon leaks from offshore installations in a work process context, presented at PSAM/11ESREL2012, Helsinki, Finland, 24-28.6.2012

Røed, W, Vinnem, JE and Nistov, A. (2012) Causes and Contributing Factors to Hydrocarbon Leaks on Norwegian Offshore **Installations**, SPE-156846, presented at SPE/APPEA International Conference on Health, Safety, and Environment in Oil and Gas Exploration and Production, Perth, Australia, 11–13 September 2012.

Vinnem, JE and Røed, W. (2013) Norwegian Oil and Gas Industry Project to Reduce the Number of Hydrocarbon Leaks with emphasis on Operational Barriers Improvement, presented at SPE Europe HSE Conference and Exhibition, London, UK, 16–18 April 2013.

Vinnem, JE. (2013) Updated Requirements to Area Based Cooperation in Emergency Response Reflecting 10 Years of Norwegian Success, presented at SPE Europe HSE Conference and Exhibition, London, UK, 16–18 April 2013.

Røed W. and Vinnem JE. (2013) Initial Achievements in Norwegian Oil and Gas Industry Project to Reduce the Number of Hydrocarbon Leaks. Presentation at ESREL 2013, Amsterdam, September 29th to October 2nd 2013.

Hassel, M., Utne, I.B., Vinnem, J.E. and Kristiansen, S. (2014). Analysis of The Main Challenges With The Current Risk Model for Collisions Between Ships and Offshore Installations on the Norwegian Continental Shelf. Probabilistic Safety Assessment & Management conference (PSAM); 2014-06-22 - 2014-06-27, NTNU

Hassel, Martin; Utne, Ingrid Bouwer; Vinnem, Jan Erik. (2015) Challenges with bringing collision risk models used in the north sea and norwegian sea to the Barents Sea. Proceedings - International Conference on Port and Ocean Engineering under Arctic Conditions.

Dong, Yining; Rokseth, Børge; Vinnem, Jan Erik; Utne, Ingrid Bouwer. Analysis of Dynamic Positioning System Accidents and Incidents with Emphasis on Root Causes and Barrier Failures. I: Risk, Reliability and Safety: Innovating Theory and Practice : Proceedings of ESREL 2016 (Glasgow, Scotland, 25-29 September 2016). CRC Press 2017 ISBN 9781138029972. s. 166-172

Haugen, Stein; Edwin, Nathaniel John; Vinnem, Jan Erik; Brautaset, Olav. Dynamic risk analysis for operational decision support. I: Risk, Reliability and Safety: Innovating Theory and Practice : Proceedings of ESREL 2016 (Glasgow, Scotland, 25-29 September 2016). CRC Press 2017 ISBN 9781138029972. s. 776-772

Ramos, Marilia Abilio; Utne, Ingrid Bouwer; Vinnem, Jan Erik; Mosleh, Ali. (2018). Accounting for human failure in autonomous ship operations. I: Safety and Reliability – Safe Societies in a Changing World. Proceedings of ESREL 2018, June 17-21, 2018, Trondheim, Norway. Taylor & Francis 2018 ISBN 9781351174657. s. 355-364

Vinnem, Jan Erik; Utne, Ingrid Bouwer. (2018). Risk from cyberattacks on autonomous ships. I: Safety and Reliability - Safe Societies in a Changing World, Proceedings of ESREL 2018, June 17-21, 2018, Trondheim, Norway. Taylor & Francis 2018 ISBN 978-1-351-17466-4. s. 1485-1492