Curriculum vitae

Personal Information

Basic information

Birth: 07/1980;

Address: 2-307B, S. P. Andersens 3, 7491, Trondheim, Norway

Email: yiliu.liu@ntnu.no

Academic links

Official webpage: https://www.ntnu.edu/employees/yiliu.liu

Google Scholar: https://scholar.google.no/citations?user=URBJIYwAAAAJ&hl=en

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Professional experiences

- Associate professor (permanent) in reliability engineering,
  Department of Mechanical and Industrial Engineering (MTP), Faculty of Engineering, NTNU, Jan. 2013-
- Associate professor (temporary) in reliability engineering
  Department of Production and Quality Engineering (IPK), Faculty of Engineering Science, NTNU, Mar. 2012-Dec. 2012
- Post doc fellow,
  Department of Production and Quality Engineering (IPK), Faculty of Engineering Science, NTNU, Mar. 2011-Feb. 2012

Research interests

- Barrier theory, engineering approaches and management
- System reliability, safety and resilience analysis
- Product reliability engineering and warranty analysis
- Prognostics and maintenance optimization
- Methods to resolve risk and maintenance issues in
  - healthcare,
  - transportation, especially in railway, and
  - energy industries, including oil & gas and renewable energy

Educational backgrounds

- Ph. D (specialized in Management Science and Engineering) 2008-2010
  Department of Industrial Engineering, College of Management and Economics, Tianjin University, Tianjin, China; with 1 year in *the RAMS group, NTNU*, Trondheim, Norway
  (The only one in the whole college who finishes the PhD program in a shorter time of 2.5 years due to the excellent research works)
- Master of management (by Research, major in Management Science and Engineering) 2002-2005
  Department of Industrial Engineering, School of Management, Tianjin University, Tianjin, China
- Bachelor of Engineering (major in Mechanical and Electronic Engineering) 1998-2002
  Mechanical Engineering School, Tianjin University, Tianjin, China

Research experiences abroad

1. *B. John Garrick Institute for the Risk Sciences, Department of Materials Science and Engineering, University of California Los Angeles (UCLA)*, Los Angeles, USA, hosted by Prof. Ali Mosleh, Jan. 2020 – Jul. 2020;
2. *Asset management group, Department of Mechanical, Materials & Mechatronics Engineering, University of Wollongong*, Wollongong, Australia, hosted by Prof. Tieling Zhang, May. 2019 – Jun. 2019;
3. *Department of Industrial Engineering, Tsinghua University*, Beijing, China, hosted by Prof. Yanfu Li, Jun. 2018 – Jul. 2018.

Language abilities

- English: Fluent as working language
- Mandarin: Native language
- Norwegian Bokmål: Daily reading and writing, and basic communication. Pass Level 3 of NTNU Norwegian language courses.

Scientific Works and Publications

* Underlines are PhD/master students or visiting students under my supervision when working on the papers

International journal papers (with peer reviews)

1. Wang YK, Li XP, Chen JY, Liu **YL**. A condition-based maintenance policy for multi-component systems subject to stochastic and economic dependencies, accepted by *Reliability Engineering & System Safety*;
2. Omeiri H, Innal F, **Liu YL**. Consistency Checking of the IEC 61508 PFH formulas and new formulas proposal based on the Markovian approach, accepted by *European Journal of Automated Systems* (*Journal Européen des Systèmes Automatisés*);
3. Zhang YP, Cai BP, **Liu YL**, Jiang QQ, Li WC, Feng Q, Liu YH, Liu GJ. Resilience assessment approach of mechanical structure combining finite element models and dynamic Bayesian networks. Reliability Engineering & System Safety 2021, 216: 108043;
4. Xie L, Lundteigen MA, **Liu YL**. Performance analysis of safety instrumented systems against cascading failures during prolonged demands, *Reliability Engineering & System Safety*, 2021, 216: 107975;
5. Zhu TT, Haugen S, **Liu YL**. Risk information in decision-making: definitions, requirements and various functions, *Journal of Loss Prevention in the Process Industries*, 2021, 72: 104572;
6. Xie L, Lundteigen MA, **Liu YL**. Performance assessment of K-out-of-N safety instrumented systems subject to cascading failures, accepted by *ISA Transactions*, 2021, 118: 35-43;
7. Cai BP, Li WC, **Liu YL**, Shao XY, Zhang YP, Zhao Y, Liu ZK, Ji RJ, Liu YH. Modeling for evaluation of safety instrumented systems with heterogeneous components, *Reliability Engineering & System Safety*, 2021, 215: 107823;
8. Li M, Liu ZX, **Liu YL**, Li XP, Lv L. Optimal follow-up policies for monitoring chronic diseases based on virtual age, accepted by *International Journal of Production Research*, 2021;
9. Bensaci C, Zennir Y, Pomorski D, Innal F, **Liu YL**. Distributed vs. hybrid control architecture using STPA and AHP - application to an autonomous mobile multi-robot system, *International Journal of Safety and Security Engineering*, 2021, 11(1)1: 1-12;
10. Fan DM, Ren Y, Feng Q, **Liu YL**, Wang ZL, Lin J. Restoration of smart grids: Current status, challenges, and opportunities, *Renewable and Sustainable Energy Reviews*, 2021, 143: 110909;
11. Qi XG, Wang HQ, **Liu YL**, Yang M, Chen GM. Bi-directional connectivity diagram for accident propagation analysis considering the interactions between multiple-process units, *Journal of Loss Prevention in the Process Industries*, 2021, 104442 ;
12. Fan DM, Zhang AB, Feng Q, Cai BP, **Liu YL**, Ren Y. Group maintenance optimization of subsea Xmas trees with stochastic dependency, accepted by *Reliability Engineering & System Safety*, 2021, 209: 107450;
13. Zhang AB, Srivastav H, Barros A, **Liu YL**. Study of testing and maintenance strategies for redundant final element in SIS with imperfect detection of degraded state, *Reliability Engineering & System Safety*, 2021, 209: 107393;
14. **Liu YL**. Safety Barriers: Research advances and new thoughts on theory, engineering and management, *Journal of Loss Prevention in the Process Industries*, 2020, 67: 104260;
15. Yang K, **Liu YL**, Yao YN, Fan SD, Mosleh A. Operational time-series data modeling via LSTM network integrating principal component analysis based on human experience, accepted by *Journal of Manufacturing Systems*, 2020;

16. Feng HH, Zhang MJ, Liu PF, **Liu YL**, Zhang XS. Evaluation of IoT-enabled monitoring and electronic nose spoilage detection for salmon freshness during cold storage, *Foods*, 2020, 9(11), 1579;
17. Wang YK, **Liu YL**, Chen JY, Li XP. Reliability and condition-based maintenance modeling for systems operating under performance-based contracting, *Computers & Industrial Engineering*, 2020, 142: 106344;
18. Zhang AB, Zhang TL, Barros A, **Liu YL**. Optimization of maintenances following proof tests for the final element of a safety-instrumented system, *Reliability Engineering & System Safety*, 2020, 196: 106779;
19. Omeiri H, Hamaidi B, Innal F, **Liu YL**. Verification of the IEC 61508 PFH formula for 2oo3 configuration using Markov chains and Petri nets, *International Journal of Quality & Reliability Management*, 2020, DOI 10.1108/IJQRM-09-2019-0305;
20. Bensaci C, Zennir Y, Pomorski D, Innal F, **Liu YL**, Tolba C. STPA and Bowtie risk analysis study for centralized and hierarchical control architectures comparison, *Alexandria Engineering Journal*, 2020, DOI: https://doi.org/10.1016/j.aej.2020.06.036;
21. Benhamlaoui W, Rouainia M, **Liu YL**, Medjram MS. Comparative study of STPA and Bowtie methods: Case of hazard identification for pipeline transportation, *Journal of Failure Analysis and Prevention*, 2020, DOI: https://doi.org/10.1007/s11668-020-01010-9;
22. Xie L, **Liu YL**, Lundteigen MA. Reliability and barrier assessment of series-parallel systems subject to cascading failures, *Proceedings of the Institution of Mechanical Engineers Part O-Journal of Risk and Reliability*, 2020, 234(3): 455-469;
23. Qi XG, Wang HQ, **Liu YL**, Chen GM. Flexible alarming mechanism of a gas detection system for explosive accidents caused by leakages, *Process Safety and Environmental Protection*, 2019, 132: 265-272;
24. Zhang AB, Barros A, **Liu YL**. Performance analysis of redundant safety-instrumented systems subject to degradation and external demands, *Journal of Loss Prevention in the Process Industries*, 2019, 62: 103946;
25. Fan DM, Ren Y, Feng Q, Zhu BY, **Liu YL**, Wang ZL. A hybrid heuristic optimization of maintenance routing and scheduling for offshore wind farms, *Journal of Loss Prevention in the Process Industries*, 2019, 62: 103949;
26. Wu SN, Zhang LB, Zheng WP, **Liu YL**, Lundteigen MA. Reliability modeling of subsea SISs partial testing subject to delayed restoration, *Reliability Engineering & System Safety*, 2019, 191: 106546;
27. Li M, Liu ZX, Li XP, **Liu YL**. Dynamic risk assessment in healthcare based on Bayesian approach, *Reliability Engineering & System Safety*, 2019, 189: 327-334;
28. Wang YK, **Liu YL**, Li XP, Chen JY. Multi-phase reliability growth test planning for repairable products sold with a two-dimensional warranty, *Reliability Engineering & System Safety*, 2019, 185: 315-326;
29. Xie L, Håbrekke S, **Liu YL,** Lundteigen MA. Operational data-driven prediction for failure rates of equipment in safety-instrumented systems: a case study from the oil and gas industry, *Journal of Loss Prevention in the Process Industries*, 2019, 60: 96-105;
30. Ahmed AAA, **Liu YL**. Throughput-based importance measures of multistate production systems, *International Journal of Production Research*, 2019, 57(2): 397-410;
31. Wang YK, **Liu YL**, Zhang AB. Preventive maintenance optimization for repairable products

considering two-dimensional warranty and customer satisfaction, *Proceedings of the Institution of Mechanical Engineers Part O-Journal of Risk and Reliability*, 2019, 233(4): 553-566;

32. Zhang JT, Kim HJ, **Liu YL**, Lundteigen MA. Combining system-theoretic process analysis and availability assessment: a subsea case study, *Proceedings of the Institution of Mechanical Engineers Part O-Journal of Risk and Reliability*, 2019, 233(4): 523-536;
33. Jiang L, **Liu YL**, Wang XM, Lundteigen MA. Operation-oriented reliability and availability evaluation for onboard high-speed train control system with dynamic Bayesian network, *Proceedings of the Institution of Mechanical Engineers Part O-Journal of Risk and Reliability*, 2019, 233(3): 455-469;
34. Zhang JT, Haskins C, **Liu YL**, Lundteigen MA. A systems engineering based approach for framing reliability, availability and maintainability- A case study for subsea design, *Systems Engineering*, 2018, 21(6): 576-592 (**Top downloaded paper in 2018-2019 of the journal**);
35. Jiang L, Wang XM, **Liu YL**. Reliability evaluation of Chinese train control system level 3 by using a fuzzy approach, *Proceedings of the Institution of Mechanical Engineers Part F-Journal of Rail and Rapid Transit*, 2018, 232(9): 2244-2259;
36. Cai BP, Xie M, Liu YH, **Liu YL**, Feng Q. Availability-based engineering resilience metric and its corresponding evaluation methodology, *Reliability Engineering & System Safety*, 2018, 172: 216-224 (**Top 1% highly cited paper in the academic field of Engineering in Web of Science**);
37. Wu SN, Zhang LB, Barros A, Zheng WP, **Liu YL**. Performance analysis for subsea blind shear ram preventers subject to testing strategies, *Reliability Engineering & System Safety*, 2018, 169: 281-298;
38. Zhang JY, Cai BP, Mulenga K, **Liu YL**, Xie M. Bayesian network-based risk analysis methodology: A case of atmospheric and vacuum distillation unit, *Process Safety and Environmental Protection*, 2018, 117: 660-674;
39. Wu SN, Zhang LB, Lundteigen MA, **Liu YL**, Zheng WP. Reliability assessment for final elements of SISs with time dependent failures, *Journal of Loss Prevention in the Process Industries*, 2018, 51: 186-199;
40. Wang YK, **Liu YL**, Li XP, Liu ZX. On reliability improvement program for second-hand products sold with a two-dimensional warranty, *Reliability Engineering & System Safety*, 2017,167: 452-463;
41. Jigar AA, **Liu YL**, Lundteigen MA. Spurious activation analysis of safety-instrumented systems, *Reliability Engineering & System Safety*, 2016, 156: 15-23;
42. Innal F, Lundteigen MA, **Liu YL**, Barros A. PFDavg generalized formulas for SIS subject to partial and full periodic tests based on multi-phase Markov models, *Reliability Engineering & System Safety*, 2016, 150: 160-170;
43. **Liu YL**, Rausand M. Proof-testing strategies induced by dangerous detected failures of safety-instrumented systems, *Reliability Engineering & System Safety*, 2016, 145: 366–372;
44. Wu SN, Zhang LB, Zheng WP, **Liu YL**, Lundteigen MA. A DBN-based risk assessment model for prediction and diagnosis of offshore drilling incidents, *Journal of Natural Gas Science and Engineering*, 2016, 34: 139-158;
45. Liu KZ, Zhang JF, Yan XP, **Liu YL**, Zhang D, Hu WD. Safety assessment for inland waterway transportation with an extended fuzzy TOPSIS, *Proceedings of the Institution of Mechanical Engineers Part O-Journal of Risk and Reliability*, 2016, 230(3): 323–333;
46. Lu JM, Innal F, **Liu YL**, Wu XY, Lundteigen MA. Two-terminal reliability analysis for multi-phase communication networks, *Eksploatacja i Niezawodnosc - Maintenance and Reliability*, 2016, 18(3):

418–427;

47. Lu JM, Lundteigen MA, **Liu YL**, Wu XY. Flexible truncation method for the reliability assessment of phased mission systems with repairable components, *Eksploatacja i Niezawodnosc - Maintenance and Reliability*, 2016, 18(2): 229-236;
48. **Liu YL**, Lundteigen MA. Reliability importance of the channels in safety instrumented systems, *Lecture Notes in Electrical Engineering*, 2015, 349, 1041-1054;
49. Wang YK, Liu ZX, **Liu YL**. Optimal preventive maintenance strategy for repairable items under two-dimensional warranty, *Reliability Engineering & System Safety*, 2015, 142, 326-333;
50. Lu JM, Wu XY, **Liu YL**. Lundteigen MA. Reliability analysis of large phased-mission systems with repairable components based on the success-state sampling, *Reliability Engineering & System Safety*, 2015, 142, 123-133;
51. **Liu YL**. Optimal staggered testing strategies for heterogeneously redundant safety systems, *Reliability Engineering & System Safety*, 2014, 126, 65-71;
52. **Liu YL**. Discrimination of low- and high-demand modes of safety-instrumented systems based on probability of failure on demand adaptability, *Proceedings of the Institution of Mechanical Engineers Part O-Journal of Risk and Reliability*, 2014, 228(4), 409-418;
53. Dai LJ, Zhang PQ, **Liu YL**. Modeling the operation of service vessels in offshore wind farms by using stochastic activity networks, *Ship Technology Research*, 2014, 61(1): 48-59;
54. Zhang XH, Zhong SQ, **Liu YL**, Wang XL. A framing link based Tabu search algorithm for large-scale multi-depot vehicle routing problems, *Mathematical Problems in Engineering*, 2014, DOI: dx.doi.org/10.1155/2014/152494;
55. **Liu YL**, Rausand M. Reliability effects of test strategies on safety-instrumented systems in different demand modes, *Reliability Engineering & System Safety*, 2013, 119, 235-243;
56. **Liu YL**, Liu ZX, Wang YK. Customized warranty offering for configurable products, *Reliability Engineering & System Safety*, 2013,118, 1-7;
57. **Liu YL**, Testing strategies of redundant safety instrumented systems with dangerous detected failures, *Chemical Engineering Transactions*, 2013, 33, 373-378;
58. Wang T, **Liu YL**, Tang J, Wang H, Wang LW. Study on the curve reconstructing in the process of blade repairing, *Advanced Materials Research*, 2013, 819, 86-90;
59. Cao LS, Liu ZX, **Liu YL**, Wang WJ. Research on the warranty management survey and improving measures of Chinese manufacturing: an empirical study, *Advanced Materials Research*, 2012, 452-453: 669-673;
60. **Liu YL**, Rausand M. Reliability assessment of safety instrumented systems subject to different demand modes, *Journal of Loss Prevention in the Process Industries*, 2011, 24: 49-56;
61. Liu ZX, Ni X, **Liu YL**, Song QL, Wang YK. Gastric esophageal surgery risk analysis with a fault tree and Markov integrated model, *Reliability Engineering & System Safety*, 2011, 96: 1591-1600;
62. **Liu YL**, Zhang ZY, Liu ZX. Customized configuration for hierarchical products: component clustering and optimization with PSO, *International Journal of Advanced Manufacturing Technology*, 2011, 57(9-12): 1223–1233;
63. Wang T, **Liu YL**, Wang LW, Wang H, Tang J. Digitally reverse modeling for the repair of blades in aeroengines, *Applied Mechanics and Materials*, 2011, 141: 258-263;
64. **Liu YL**, Liu ZX. An integration method for reliability analyses and product configuration, *International Journal of Advanced Manufacturing Technology*, 2010, 50(5-8): 831-841;
65. **Liu YL**, Liu ZX. Multi-objective product configuration involving new components under

uncertainty, *Journal of Engineering Design*, 2010, 21(4): 473-494;

66. **Liu YL**, Ma YS, Lee SSG, Thimm G. Product module partition and optimization for customization, *International Journal of Advanced Manufacturing Systems*, 2007, 10(1): 9-14.

International conference papers (with peer reviews)

1. Abbas MM, **Liu YL**, Cai BP. Digital twin-based prognostics and health management for subsea systems: Concepts, opportunities and challenges, *2021 European Safety and Reliability Conference (ESREL 2021)*, Angers, France, Sep. 2021;
2. Zhao YX, **Liu YL**. Condition-based maintenance for systems with dependencies: A review on related concepted, challenges and opportunities, *2021 European Safety and Reliability Conference (ESREL 2021)*, Angers, France, Sep. 2021;
3. Zhang AB, Jiang L, Xie M, Kassa E, Liu YL. Functional safety of railway signaling systems: performance requirements and evaluation methods, *2021 European Safety and Reliability Conference (ESREL 2021)*, Angers, France, Sep. 2021;
4. Chao Y, Cai BP, Shao XY, Liu YH, **Liu YL**, Feng Q, Liu GJ, Wang HH. Application of digital twins in condition-based maintenance, *2021 European Safety and Reliability Conference (ESREL 2021)*, Angers, France, Sep. 2021;
5. Kozłowski E, Borucka A, **Liu YL**, Mazurkiewicz D. Conveyor belts joints remaining life time forecasting with the use of monitoring data and mathematical modelling, *2020 International Conference of Innovation Engineering*, Guimarães, Portugal, Jun. 2021;
6. Zhang AB, Srivastav H, Barros A, Mazurkiewicz D, **Liu YL**. Performance analysis of redundant safety-instrumented systems considering the imprecision of information in proof tests, *ESREL 2020 – PSAM 15*, Venice, Italy, Jun. 2020;
7. Yang RC, Utne IB, Paltrinieri N, **Liu YL**. Dynamic risk assessment of the operation of autonomous underwater vehicle using dynamic Bayesian network, *ESREL 2020 – PSAM 15*, Venice, Italy, Jun. 2020;
8. Zhang AB, **Liu YL**, Barros A, Kassa E. A degrading element of safety-instrumented systems with combined maintenance strategy, *2019 European Safety and Reliability Conference (ESREL 2019)*, Hamburg, Germany, Sep., 2019;
9. Zhu TT, Haugen S, **Liu YL**. Human factor challenges and possible solutions for the operation of highly autonomous ships, *2019 European Safety and Reliability Conference (ESREL 2019)*, Hamburg, Germany, Sep., 2019;
10. Xie L, Lundteigen MA, **Liu YL**, Kassa E, Zhu SY. Performance assessment of safety-instrumented systems subject to cascading failure in high-demand mode, *2019 European Safety and Reliability Conference (ESREL 2019)*, Hamburg, Germany, Sep., 2019;
11. Wang YK, **Liu YL**. Reliability modeling for systems subject to degradation and external shocks considering changing degradation rate, *the 11th International Conference on Mathematical Methods in Reliability (MMR2019)*, Hong Kong, Jun., 2019;
12. Xie L, Lundteigen MA, **Liu YL**. Performance assessment of safety-instrumented systems subject to cascading failures, *the 11th International Conference on Mathematical Methods in Reliability (MMR2019)*, Hong Kong, Jun., 2019;
13. Wang YK, **Liu YL**. Optimal reliability growth program for repairable and warranted products, *the 65th annual Reliability and Maintainability Symposium (RAMS 2019)*, Orlando, FL, the United States, Jan., 2019;
14. Xie L, Lundteigen MA, **Liu YL**. Safety barriers against common cause failure and cascading

failures: A review and pilot analysis, *2018 IEEE International Conference on Industrial Engineering and Engineering Management*, Bangkok, Thailand, Dec., 2018;

15. Innal F, Omeiri H, **Liu YL** and Lundteigen MA. A comparative study of KooN configurations' PFH formulas, *2018 the 3rd International Conference on System Reliability and Safety*, Barcelona, Spain, Nov., 2018;
16. Pang ZP, Yao JY, **Liu YL**. A calendar life assessment of airborne products considering epistemic and aleatory uncertainty, *the 12th International Conference on Reliability, Maintainability and Safety (ICRMS 2018)*, Shanghai, China, Oct. 2018;
17. Zhu TT, Haugen S, **Liu YL**, Kim HJ. Case study of major accident to demonstrate the possibility of prediction of conditions for accidents, *the 14th Probabilistic Safety Assessment & Management Conference (PSAM 14)*, Los Angeles, CA, the United States, Sep. 2018;
18. Zhang AB, **Liu YL**, Barros A, Wang YK. Prognostic and health management for safety barriers in infrastructures: opportunities and challenges, *2018 European Safety and Reliability Conference (ESREL 2018)*, Trondheim, Norway, Jun. 2018;
19. Xie L, Lundteigen MA, **Liu YL**. Common cause failures and cascading failures in technical systems: similarities, differences and barriers, *2018 European Safety and Reliability Conference (ESREL 2018)*, Trondheim, Norway, Jun. 2018;
20. Lv B, **Liu YL**, Zhang J, Huang Y. A method of road network vulnerability identification taking into account travelers' heterogeneous risk attitudes, *2018 European Safety and Reliability Conference (ESREL 2018)*, Trondheim, Norway, Jun. 2018;
21. Li XP, Liu ZX, Wang YK, **Liu YL**. Optimal burn-in for repairable products sold with two-dimensional warranties considering preventive maintenance, *2018 European Safety and Reliability Conference (ESREL 2018)*, Trondheim, Norway, Jun. 2018;
22. Yao JY, Wu H, Jiang TM, **Liu YL**. Research on Bayesian reliability growth evaluation method for mechanical products, *2018 European Safety and Reliability Conference (ESREL 2018)*, Trondheim, Norway, Jun. 2018;
23. Joung T, Kim H, Kim Y, Cho S, Kang K, **Liu YL**, Lundteigen MA, Hazard Identification for a Dynamic Positioning and Mooring System in Arctic condition: Comparison between HAZID and STPA, *2018 European Safety and Reliability Conference (ESREL 2018)*, Trondheim, Norway, Jun., 2018;
24. Cai BP, Xie M, Liu YH, **Liu YL**, Ji RJ, Feng Q. A novel critical infrastructure resilience assessment approach using dynamic Bayesian networks, *the 2nd International Conference on Materials Science, Resource and Environmental Engineering (MSREE 2017)*, Wuhan, China, Oct., 2017;
25. Wang XF, **Liu YL**, Lundteigen MA, Gao C, Huang JY, Design option analysis of SRAM-based FPGAs in safety-critical systems, *the 23rd ISSAT International Conference on Reliability and Quality in Design*, Chicago, USA, Aug., 2017;
26. Zhang JT, **Liu YL**, Lundteigen MA, Framing reliability specification in early design phase of subsea systems, *the 23rd ISSAT International Conference on Reliability and Quality in Design*, Chicago, USA, Aug., 2017;
27. Yao JY, Wu H, **Liu YL**, Wang XF, Study on acceleration reliability growth test method under double-stress, *the 23rd ISSAT International Conference on Reliability and Quality in Design*, Chicago, USA, Aug., 2017;
28. Yao JY, Pang ZP, **Liu YL**, The inspection strategy of the subsea gas boosting system considering imperfect test effect, *the 2nd International Conference on Reliability Systems Engineering (ICRSE*

2017), Beijing, China, Jul., 2017;

29. Lee S, Paltrinieri N, **Liu YL**, On the dynamic modelling of safety barriers, *2017 European Safety and Reliability Conference (ESREL 2017)*, Portoroz, Slovenia, Jun., 2017;
30. Jiang L, Wang XM, **Liu YL**. Reliability assessment of CTCS-3 onboard system with a fuzzy fault tree, *2017 European Safety and Reliability Conference (ESREL 2017)*, Portoroz, Slovenia, Jun., 2017;
31. Lee S, Lundteigen MA, Paltrinieri N, **Liu YL**, Rød M, Dale J. A new design concept of blowout preventer for decision support, *2017 European Safety and Reliability Conference (ESREL 2017)*, Portoroz, Slovenia, Jun., 2017;
32. Kim B, Kim H, Ha S, **Liu YL**, Choi K, A literature study for the state-of-the-art on Arctic issues in risk and structural analysis for floating ices and subsea operations, *Port and Ocean Engineering under Arctic Conditions in 2017 (POAC 2017)*, Busan, South Korea, Jun., 2017;
33. Zhang JY, Cai BP, Xie M, **Liu YL**. Risk analysis of atmospheric and vacuum distillation unit using Bayesian networks, *the 11th International Conference on Reliability, Maintainability and Safety*, Hangzhou, China, Oct., 2016;
34. Jiang L, Wang XM, **Liu YL**. Reliability assessment of ZPW-2000A track circuit using Bayesian network, *the 11th International Conference on Reliability, Maintainability and Safety*, Hangzhou, China, Oct., 2016;
35. Zhang JT, **Liu YL**, Lundteigen MA, Bouillaut L. Using Bayesian networks to quantify the reliability of a subsea system in the early design, *2016 European Safety and Reliability Conference (ESREL 2016)*, Glasgow, Scotland, UK, 404-411, Sep., 2016;
36. Wu SN, Zhang LB, Liu S, **Liu YL**, Barros A, Lundteigen MA, Liu J. Reliability assessment for subsea HIPPS valves with partial stroke testing, *2016 European Safety and Reliability Conference (ESREL 2016)*, Glasgow, Scotland, UK, 2679-2686, Sep., 2016;
37. Jigar AA, **Liu YL**, Lundteigen MA. New availability allocation method for decision support, *2015 European Safety and Reliability Conference (ESREL 2015)*, Zurich, Switzerland, Sep., 2015;
38. Wang YK, **Liu YL,** Liu ZX. A new preventive maintenance strategy for warranted products considering customer satisfaction, *2015 European Safety and Reliability Conference (ESREL 2015)*, Zurich, Switzerland, Sep., 2015;
39. Innal F, **Liu YL**, Rausand M, Lundteigen MA, Barros A. PFDavg and PFH formulas for SIS subject to partial and full periodic tests, *2015 European Safety and Reliability Conference (ESREL 2015)*, Zurich, Switzerland, Sep., 2015;
40. **Liu YL**, Lundteigen MA. Partial testing of safety-instrumented systems: Analytical formulas and the Petri net models, *2015 International Conference on Quality, Reliability, Risk, Maintenance, and Safety Engineering*, Beijing, China, Jul., 2015 (**Best paper award**);
41. Zhang JF, **Liu YL**, Yan XP. An extended fuzzy TOPSIS by interval lengths in risk assessment, *the 8th IMA International Conference on Modeling in Industrial Maintenance and Reliability*, Oxford, UK, Jul., 2014;
42. **Liu YL**, Rausand M. Proof testing of safety-instrumented systems: New testing strategy induced by dangerous detected failures, *the 12th Probabilistic Safety Assessment & Management Conference (PSAM 12)*, Honolulu, Hawaii, the United States, Jun., 2014;
43. **Liu YL**, Dai LJ. Maintenance-based warranty for offshore wind turbines, *2013 IEEE International Conference on Industrial Engineering and Engineering Management*, Bangkok, Thailand, Dec., 2013;

44. **Liu YL**, Cao LS, Liu ZX. An empirical study on warranty improvements involving design teams, *2013 International Conference on Quality, Reliability, Risk, Maintenance, and Safety Engineering*, Emeishan, China, Jul., 2013;
45. **Liu YL**, Rausand M, Jin H. Reliability modeling and assessment of 3-channel safety-instrumented systems, *2012 IEEE International Conference on Industrial Engineering and Engineering Management*, Hong Kong, China, Dec., 2012;
46. **Liu YL**, Lundteigen MA, Rausand M. Reliability assessment of safety-instrumented systems: The influence of demand rates and demand durations, *the 11th Probabilistic Safety Assessment & Management Conference & European Safety and Reliability Conference 2012 (PSAM 11 & ESREL 2012)*, Helsinki, Finland, Jun., 2012;
47. **Liu YL**, Zhang ZY. A Literature Review on Modularity in Product Lifecycle, *International Workshop of Advanced Manufacturing and Automation 2012*, Trondheim, Norway, Jun., 2012;
48. Jiang DK, **Liu YL**, Cao LS, Tan JY, Ding C, Zhao JS. Integrated production-distribution scheduling problem with multiple independent manufacturers, *International Workshop of Advanced Manufacturing and Automation 2012*, Trondheim, Norway, Jun., 2012;
49. Yang HX, **Liu YL**, Sun CL. Research on supervising performance assessment method of public projects under the ideas of activity-based cost, *2010 International Conference on E-Product E-Service and E-Entertainment*, Henan, China, Nov., 2010;
50. **Liu YL**, Rausand M, Dai LJ. Reliability centered maintenance for floating offshore wind energy production system, *2010 International Conference on Risk and Reliability Management*, Beijing, China, Oct., 2010;
51. **Liu YL**, Liu ZX. Warranty offering customization for configurable products, *Informs 2010 MSOM Annual Conference*, Haifa, Israel, Jun., 2010;
52. **Liu YL**, Liu ZX, Zhong SQ. Application of GATS in forecasting budget logistic cost, *the 36th International Conference on Computer and Industrial Engineering*, Taipei, Jun., 2006;
53. Liu ZX, **Liu YL**, He Z. Cost optimization mode of BOM based on simulated annealing, *IEEE International Engineering Management Conference 2004*, Singapore, Nov., 2004;
54. Liu ZX, **Liu YL**, He Z. Study on solving warranty cost of fault tree with simulated annealing, *the 11th ISPE International Conference on Concurrent Engineering: Research and Applications*, Beijing, China, Jul., 2004.

Contributions to internationally scientific books (with peer reviews)

1. Boral S, Chaturvedi SK, **Liu YL**, Howard I. Chapter: Integrated fuzzy MCDM frameworks in risk prioritization of failure modes, in *Advances in Performability Engineering*, edited by Karanki DR, Springer, 2021;
2. Liu ZJ, **Liu YL**. Chapter: Resilience-oriented availability allocation in a railway system, in *Resilience Engineering and Modelling of Networked Infrastructure*, edited by Remenyte-Prescott R, *ESReDA*, 2021;
3. Rekabi MM, **Liu YL**. Chapter: A hybrid analysis method for train driver errors in railway systems, in *Soft Computing Methods for System Dependability*, edited by Mellal MA, *IGI Global*, Dec. 2019;
4. **Liu YL**, Jiang L. Chapter 23: Reliability modeling and analysis of European Train Control System (ETCS), in *Handbook of RAMS in Railway Systems: Theory and Practice*, edited by Mahboob Q and Zio E, CRC Press, Mar. 2018;
5. **Liu YL**. Chapter 5: Reliability quantification, in *Reliability of Safety-Critical Systems*, mainly written by Rausand M, Wiley, Feb. 2014;

6. **Liu YL**. Chapter 8: Average probability of failure on demand, in *Reliability of Safety-Critical Systems*, mainly written by Rausand M, Wiley, Feb. 2014.

Local journal papers (with peer reviews)

1. Lv B, Gao ZQ, Guan XY, **Liu YL**. Resilience assessment of urban road system based on daily-changing transportation flow distribution, *Journal of Southwest Jiaotong University*, 2020 (in Chinese);
2. Lv B, Gao ZQ, **Liu YL**. Assessment of resilience of road transportation systems and sectional importance, *Journal of Transportation Systems Engineering and Information Technology*, 2020, 02: 114-121 (in Chinese);
3. Jiang L, Wang XM, Liu YL, Chen GW. Dynamic Bayesian network-based operational reliability and availability assessment for CTCS 3-300T onboard systems, *Journal of the China Railway Society*, 2020, 42(3): 85-92 (in Chinese);
4. Lv B, **Liu YL**, Liu HX, Pu Y. Urban road network design model considering vulnerability and reliability, *Journal of Southwest Jiaotong University*, 2019, 5:1093-1103 (in Chinese)
5. Wang T, Ding HP, **Liu YL**, Lei JB. LDMD-oriented blade remanufacturing based on CSC character reconstruction and defect model extraction, *Transactions of Chinese Society for Agricultural Machinery*, 2015, 46(8): 333-337 (in Chinese);
6. Wang WJ, **Liu YL**. Relationships between supplier management and warranty service: An empirical study in Chinese manufacturing, *China Quality*, 2012, 4: 21-23 (in Chinese);
7. Cao LS, Liu ZX, **Liu YL**. Warranty estimation systems for the overall product life cycle, *Journal of Xidian University (Social Science Edition)*, 2012, 3: 80-84 (in Chinese);
8. **Liu YL**, Liu ZX. Warranty cost analysis for product family based on mapping from fault trees, *Industrial Engineering Journal*, 2012, 15(1): 26-30 (in Chinese);
9. Yang HX, **Liu YL**, Xu J. The study on value upgrade of product warranty management movement based on principal component analysis, *Journal of Beijing Institute of Technology (Social Sciences Edition)*, 2010, 12(3): 13-16 (in Chinese);
10. Liu ZX, **Liu YL**, Cui ZF. Cost estimation in design based on wavelet neural network, *Journal of Machine Design*, 2005, 22(5): 4-6 (in Chinese);
11. **Liu, YL**. Study of Chinese traditional culture of enterprises dynamic collaboration, *Chinese & Foreign Corporation Culture*, 2005(5): 110-112 (in Chinese);
12. **Liu YL**, Yu Y. Cost management based on mass customization mode, *Science and Technology Management Research*, 2005(3): 9-10 (in Chinese);
13. Zhao DZ, Liao H, **Liu YL**. Critical chain method: a new project scheduling approach, *Journal of Tianjin Institute of Technology*, 2005(2): 8-12 (in Chinese).

Scientific translations (selected)

1. **Liu YL**, Wang YK. *System reliability theory: Models, statistical methods, and applications (3rd ed.)*, Beijing: *Tsinghua University Press*, to be published in 2021 (750 pages), originally written by Rausand M and Barros A;
2. **Liu YL**, Yang X. *Risk assessment: Theory, methods, and applications (2nd ed.)*, Beijing: *Tsinghua University Press*, 2021, originally written by Rausand M and Haugen S;
3. **Liu YL**. *Risk assessment: Theory, methods, and applications*, Beijing: *Tsinghua University Press*, Jun. 2012, originally written by Rausand M;
4. **Liu YL**. Chapter 60: Queuing models in manufacturing and service systems, *Handbook of Industrial Engineering, 3rd Ed*, Beijing: *Tsinghua University Press*, Feb. 2007, cooperated with

Prof. Liu ZX (50 pages), originally written by Buzacott JA and Shanthikumar JG.

Pedagogical Activities

Pedagogical diploma

1. Diploma of *NTNU* pedagogical development program, 2016
   Pedagogical training in Norwegian from August 2015 to May 2016

Regular teaching activities

PhD level -

1. *PK8224 – System resilience and dynamic risk analysis*, course founder, coordinator and main lecturer from 2019
   The course is for 5-10 PhD students, with considering resilience measurement metrics and dynamics in system risk assessment.
2. *PK 8201- System reliability*, coordinator and main lecturer from 2019, and selected lectures from 2013
   The course is for 5-10 PhD students, and the contents include assessment measures of safety systems and their applicability, modeling approaches for system reliability analysis.

Master level -

3. *TPK 5165-RAMS engineering and data analytics*, coordinator and main lecturer from 2013
   The course is for around 30 of the 1st and 2nd year master students, and its main contents include development of a RAMS program, statistic and data analysis skills for RAMS engineering, requirement analysis, RAMS allocation, robust design and Taguchi method, accelerated RAMS tests, reliability growth tests, statistical process control, burn-in and acceptance tests and warranty analysis.
4. *TPK 5115-Risk management in projects*, selected lectures from 2017, and coordinator and main lecturer in 2015-2016
   The course is for around 100 of the 1st and 2nd year master students, and its main contents include project stakeholder analysis, probability theory for risk management, project scheduling, risk-informed decision-making, Bayesian decision-making, expert judgment, and life cycle costing.
5. *TPK 4450-Condition Monitoring and Maintenance Optimization*, coordinator and selected lectures from 2020
   The course is for around 20 of the 2nd year master students. The main contents include statistical methods and Machine Learning for diagnosis, model-based methods and data-driven methods for prognosis, decision optimization: concepts, methods and tools to define and to optimize preventive decisions.
6. *TPK 5170- Design and reliability analysis of digitalized safety systems*, selected lectures from 2014, coordinator and main lecturer in 2013
   The course is for around 20 of the 2nd year master students. Now the contents in my selected lectures include Petri net modeling for system reliability and availability analysis. The course will be merged into TPK4450 from 2021.
7. *TPK 4120-Reliability and safety analysis*, selected lectures from 2012
   The course is for 150 of 1st year master students and the 3rd year bachelor students, and the contents in my module include independent component analysis in a system and reliability importance.
8. *ME 690-Safety, health and environment, University of Dar es Salaam, Dar es Salaam, Tanzania*
   The 30-hour (one-week) course is compulsory for 8-12 students in the program of Master of Science

in the oil & gas engineering, which is supported by a long-term EnPE project of NTNU. The contents include the concepts of safety and reliability, risk identification, risk assessment, probability theory, reliability modeling, safety-critical systems and life cycle assessment.

Bachelor level -

9. TMM 4121-*Engineering design*, selected lectures from 2019,
   The course is for around 100 of the 2nd year bachelor students. The contents in my selected lectures include system design rules for reliability, maintainability and safety.

Development of teaching materials for regular courses

1. Compendia for *PK 8201 - System reliability*
2. Compendia for *PK 8224 - System resilience and dynamic risk analysis*.
3. Lecture notes for *TPK 5165-RAMS engineering and data analytics* (version 3 up to 2018, 350 pages);
   The lecture notes cover all contents in TPK 5165. Multi-media lecturing materials are also included.
4. Compendia for *TPK 5115-Risk management in projects* (version 1 up to 2018);
5. Compendia for *TPK 5170-Design and reliability analysis of digitalized safety systems* (2013);

Intensive courses

1. *Resilience engineering for sociotechnical systems*, *Beijing Institute of Technology*, virtual, 5th-9th Jul. 2021
   The 48-hour course is for 25 PhD and master students from Beijing Institute of Technology and some other Chinese universities. The contents include conceptualization of resilience engineering, resilience metrics, design and operational strategies for resilience.
2. *Supply chain analytics and risks in healthcare industry*, *Tianjin University*, Tianjin, China, 17th-24th, Jun. 2019
   The three-day course is for 50 students from Norway, China and Japan, who attend the summer school of Health 4.0. The course includes lectures, group works and field visits. I am the coordinator of the whole summer school and lecture the risk management modules.
3. *Risk analysis and barrier engineering*, *Xiamen University*, Xiamen, China, 11th Jun. 2019
   The one-day course is for 40 master students with different backgrounds from more than 10 countries, who attend in a summer school held by Worldwide energy university consortium. The contents include basics of risk, risk analysis, barrier theory and methods in barrier engineering.
4. *Introduction of Reliability and safety engineering*, *Ton Duc Thang University*, Ho Chi Min City, Vietnam, 18th-21st Dec. 2018
   The one-week course is for senior students from the departments of electrical and electronic engineering, and mechanical engineering. The contents will include investigation and analysis for the industrial accidents in the ASEAN countries, reliability engineering of complex systems with aims to improve safety.
5. *Safety and reliability analysis for railway systems*, *Southwest Jiaotong University*, Emeishan, China, 27th Jun. – 3rd Jul. 2016
   The one-week course is for 15 teachers in the Department of Railway Signaling, with the main purpose of providing them with the competence of reliability analysis in their engineering design and operations of railway systems. The contents include probability theory, reliability and safety modeling, and case studies in railway.
6. *Safety and reliability analysis in maritime transportation*, *Wuhan University of Technology*, Wuhan,

China, 20th-24th Jun. 2016

The one-week course is for 50 master students with the major in maritime engineering and transportation engineering. The contents include reliability and safety modeling, dynamic system modeling, and case studies in maritime.

Communicational Activities

Plenary speeches at international conferences

1. Digital-twin based approach for maintenances in the oil & gas industry, at *International Conference on Advanced Engineering in Petroleum Industry (ICAEPI'2021)*, Skikda, Algeria, Nov. 2021;
2. Data-driven and dynamic integrity analysis of safety-instrumented systems, at *International Conference on Advanced Engineering in Petroleum Industry (ICAEPI'2019)*, Skikda, Algeria, Nov. 2019;
3. A new assessment method for regularity and safety in oil and gas production, *2014 Global Summit on Process Safety* by *CCPS*, Mumbai, India, Dec. 2014;

Invited speeches and guest lectures

1. Condition-based maintenance of safety-critical systems, at *China University of Petroleum*, Beijing, China, Dec. 2021;
2. Digital twin approach of condition-based maintenance for safer offshore production, the 3rd *Conference of Computational Methods and Ocean Technology (CoTech)*, Stavanger, Norway, Nov. 2021;
3. Barrier engineering and digital twin approach, at *Beijing Institute of Technology*, Beijing, China, Aug. 2021;
4. Educational and research collaborations of NTNU with Asian partners in the fields of reliability and safety engineering, *NTNU Energy low-middle income countries (LMICs) webinar*, Trondheim, Norway, Sep. 2021;
5. Protection system reliability, guest lecture for PhD course FEI3390 Reliability Evaluation of Sustainable Electric Power Systems, together with Fan DM and Lin J, at *KTH Royal Institute of Technology*, Stockholm, Sweden, Jun. 2021;
6. Digital twin and safety: Opportunities and research challenges, *SUBPRO Digital Twin seminar*, Trondheim, Norway, Nov. 2020;
7. RAMS research advances in Norway, at *University of California at Los Angeles*, Los Angeles, California, Feb. 2020;
8. Data-driven prediction for failure rates of SISs, *MTP conference*, Trondheim, Norway, Dec. 2019;
9. Experiences shared in the Norway-China-Japan consortium for safe and efficient operation in Health 4.0, *the 2nd NTNU-China forum*, Trondheim, Norway, Nov. 2019;
10. Safety barriers: new thoughts on theory, engineering, and management, at *University of Nottingham*, Nottingham, UK, Sep. 2019;
11. Quantitative methods in the performance analysis of safety-critical systems, at *China University of Petroleum (Beijing)*, Beijing, China, Jun. 2019;
12. Theories and models in barrier engineering and management, at *New South Wales University*, Canberra, Australia, May 2019;
13. RAMS research advances and applications in Norway, at *University of Wollongong*, Wollongong, Australia, May 2019;
14. Synchronization of production optimization and maintenance optimization, at *INTPART seminar* at *Petrobras*, Rio de Janeiro, Brazil, Apr. 2019;
15. Health 4.0: Concepts and research trends, at *Tokyo Institute of Technology*, Tokyo, Japan, Jul. 2018;
16. RAMS analysis in high speed railways, at *Beijing Jiaotong University*, Beijing, China, Jul. 2018;

17. Safety barriers in subsea production, at *China University of Petroleum (East China)*, Qingdao, China, Mar. 2018;
18. Recent studies on safety barriers, at *Tsinghua University*, Beijing, China, Mar. 2018;
19. Safety barriers in subsea production, at *City University of Hong Kong*, Hong Kong, Feb. 2018;
20. Sharing of experiences and lessons in running a NOR-VIS project, at *SIU NORPART program seminar*, Bergen, Norway, Jan, 2018;
21. Safety and reliability of subsea production and operation in the arctic environment, a series of speeches at *Korean Maritime and Ocean University*, Busan; *Korean Registration*, Busan; *Hyundai Heavy Industry*, Ulsan; *Korean Research Institution of Ship and Ocean*, Daejeon; and *Seoul National University*, Seoul, South Korea, Jun. – Jul. 2017;
22. NOR-VIS project for strengthening the collaborations between Norway and Vietnam in industrial safety, at *Hanoi University of Mining and Geology*, Hanoi, Vietnam, Apr. 2017;
23. Norway-Vietnam consortium initiatives for accident prevention under global operations, at *Ton Duc Thang University*, Ho Chi Minh City, Vietnam, Jul. 2016;
24. Norwegian higher education and Norwegian University of Science and Technology, at *University of Electronic Science and Technology of China*, Chengdu, China, Jun. 2016;
25. Performance analysis of safety-critical systems, at *National University of Defense Technology*, Changsha, China, Jun. 2016;
26. Responsiveness of safety-critical systems, at *Southwest Jiaotong University*, Emeishan, China, Jul. 2015;
27. Reliability assessment of safety-critical systems, at *Wuhan University of Technology*, Wuhan, China, Dec. 2014;
28. Reliability assessment of safety-critical systems, at *Northwest Polytechnic University*, Xi'an, China, Jun, 2014;
29. Assessment of safety instrumented systems, at *Shanghai University*, Shanghai, China, Jun, 2014;
30. Reliability assessment of safety-critical systems, at *Beihang University*, Beijing, China, Dec. 2013;
31. Reliability assessment of safety-critical systems, at *City University of Hong Kong*, Hong Kong, Dec. 2013;
32. Accident prevention and risk assessment, at *Beijixing Forum*, Trondheim, Norway, Oct. 2012;
33. Advances in the research of warranty analysis, at *Tianjin University*, Tianjin, China, Dec. 2010;
34. Higher education and researches in Norway, Singapore and China: my own experiences, at *Tianjin University*, Tianjin, China, Dec. 2010;
35. Investigation of IT investment trend of Chinese manufacturing firms, at *Epicor 2008 Asia Customer Summit*, Shanghai, China, Nov. 2008.

Books to the public

1. Han H, **Liu YL.** Standard English: Oral Dictionary and Common Vocabulary, Beijing: *Beijing Language and Culture University Press*, Jan., 2011.

Disseminations to the public (selected, without peer review)

1. Zhang JT, Lundteigen MA, **Liu YL**, Methods and approaches to apply for reliability and availability analyses in the early phase of novel subsea technologies, ESRA Newsletter, Dec., 2018;
2. **Liu YL**, Measuring safety instrumented system, *Control Engineering*, 2015, 7;
3. **Liu YL**. Analysis with modular design for Toyota's brake gate, *Journal of Industrial Design*, 2010, 3;
4. **Liu YL**, Dairy safety in control in China, *Control Engineering*, 2009, 56(11): 14-16;

5. **Liu YL**. Design with social network, *Manufacturing Business Technology China*, 2009;
6. **Liu YL**. Automated Olympics, *Control Engineering*, 2008, 55(8): 34-35;
7. **Liu YL**. Conference season, *Manufacturing Business Technology China*, 2008, 12: 2;
8. **Liu YL**. Turn point, *Manufacturing Business Technology China*, 2008, 10: 2;
9. **Liu YL**. Standards protect Chinese manufacturing, *Software*, 2008, 2;
10. **Liu YL**. Multi-orientation irregular wave generation system in harbor basin, *Software*, 2007, 12.

Academic Supervisions

PhD supervisions (as the main supervisor)

1. Emefon Ekerette Dan, Digitalized prognosis for subsea systems, 2021-2024 (on going);
2. Mohsin Malik Abbas, Condition-based maintenance decisions and digital twin for subsea systems, 2020-2023 (ongoing);
3. Yixin Zhao, Predictive maintenances of interdependently cyber-physical systems for public safety, 2020-2023 (ongoing);
4. Lin Xie, Performance analysis of safety-critical systems under a complex environment, with the co-supervision from Lundteigen MA, *MTP*, *NTNU*, 2017-2020 (maternal leave, to finish in 2021);
5. Aibo Zhang, Prognostic and health management for safety-critical systems: Approaches of degradation modeling and decision-making, with the co-supervision from Barros A, *Centralesupelec*, 2017-2020 (finished in 2020);

PhD supervisions (as a co-supervisor)

1. Cosmin Aron, Digital technologies for the sustainability of supply networks, with the main supervision from Sgabossa F, *Department of Mechanical and Industrial Engineering*, *NTNU*, 2021-2024 (ongoing);
2. Sutthipong Yungratog, Data privacy of customer relation management systems in maritime, in collaboration with Punurai W and Thammaboosadee S, *Faculty of Engineering*, *Mahidol University*, Thailand, 2021-2024 (ongoing);
3. Sandeep Prakash, Autonomous production optimization with degrading equipment, with the main supervision from Jaschke J, *Department of Chemical Engineering*, *NTNU*, 2020-2023 (ongoing);
4. Tiantian Zhu, Risk information for decision making under uncertainty, with the main supervision from Haugen S, *Department of Marine Technology*, *NTNU*, 2017-2021 (ongoing);
5. Xinge Qi, Research on the risk assessment and prevention technology of gas cloud explosion in open space, staying in NTNU between Aug. 2018-Aug. 2019, with the main supervision from Wang HQ, *China Petroleum University*, China, 2016-2020 (finished in 2020);
6. Juntao Zhang, Contribution to reliability and availability analysis of novel subsea technologies – Methods and approaches to apply in early design phase, co-supervisor, with the main supervision from Lundteigen MA, *MTP*, *NTNU*, 2015-2018 (finished in 2018);
7. Lei Jiang, Reliability and availability modeling and assessment of high-speed railway signaling systems, staying in *NTNU* between Nov. 2016-Nov. 2017, with the main supervision from Wang XM, *Southwest Jiaotong University*, China, 2015-2020 (finished in 2020);
8. Abraham Almaw Jigar, Reliability engineering of safety-critical systems, with the main supervision from Lundteigen MA, *MTP*, *NTNU*, 2014-2017 (finished in 2017).

Master student supervisions (as the main supervisor)

1. Tina Kazemitalachi, Probabilistic approach for infection-free healthcare facility, with the co-supervision from Cao GY, *EPT*, *NTNU* (to finish in 2022);
2. Lelan Khalaf, Resilience assessment of a food supply chain (to finish in 2021);
3. Ingeborg Ulevåg, Resilience analysis of healthcare facilities in emergency (finished in 2021);
4. Wanwan Zhang, Condition-based opportunistic maintenance of hydropower stations, with the co-supervision from Kong JH and Skjelbred HI, *SINTEF Energy* (finished in 2021);
5. Romeo Jr Gianan Avila, Layer of protection analysis (LOPA) for high-demand safety-critical

systems, with the co-supervision from Qian FB, *DNV GL* (to finish in 2021);

6. Imran Naseem, Risk analysis of dynamic positioning (DP) systems in different applications, with the co-supervision from Qian FB, *DNV GL* (to finish in 2021);
7. Hyun Soo Dong, Inspection-based preventive maintenance model with a semi-Markov process for aviation fueling facilities, with the co-supervision from Okoh P, *Autronica AS* (finished in 2021);
8. Ahmed Oglu Ahmedov, Machine learning methods for failure rate prediction (finished in 2020);
9. Greatania Juardi, Safety assessment for unmanned traffic management, with the co-supervision from Kalvakunta RG, *Indra Navia AS* (finished in 2020);
10. Alexandra Norbach, Investigation of mitigating measures in a gas process facility, together with Hjørnevik K, with the co-supervision from Rogstadkjernet L, *Gexcon AS* (finished in 2020);
11. Karoline Hjørnevik, Investigation of mitigating measures in a gas process facility, together with Norbach A, with the co-supervision from Rogstadkjernet L, *Gexcon AS* (finished in 2020);
12. Christoffer Vikebø Nesse, STPA in ice management, with the co-supervision from Kim HJ, *Southeast University of Norway* (finished in 2019);
13. Zhijin Liu, Availability estimation and allocation for ERTMS (finished in 2019);
14. Huweiyang Jin, Reliability management in the subway sector, in collaboration with *Alstom* (finished in 2019);
15. Mohammed Manar Rekabi, Bayesian safety analysis of railway systems with driver errors, with the co-supervision from Dai LJ, *Rambøll AS* (finished in 2018);
16. Raja Gopal Kalvakunta, Reliability modeling of ERTMS/ETCS, with the co-supervision from Lundteigen MA, *MTP, NTNU*, and van der Meulen M, *Bane Nor* (finished in 2017);
17. Ahmed Awil Abdrahman Ahmed, New importance measures for multistate systems, (finished in 2017);
18. Ashutosh Kumar, Prediction of failure rates for subsea equipment, with the co-supervision from Paltrinieri N, *IPK, NTNU* (finished in 2016);
19. Shenae Lee, Availability assessment of electrically-operated blowout preventers, with the co-supervision from Lundteigen MA, *IPK, NTNU*, and Rød M, *Electrical Subsea & Drilling* (finished in 2016);
20. Ekaterina Zhitkova, Design and verification of a SIL-rated shutdown function for a subsea power grid, with the co-supervision from Karvonen A, *Siemens AS* (finished in 2016);
21. Yining Dong, Methodology for identification of dangerous combinations of output states of SIS, with the co-supervision from Dahl-Olsen H, *Lloyds' Register Consulting* and Lundteigen MA, *IPK, NTNU* (finished in 2015);
22. Solomon Ademola Taiwo, Analytic Assessment of safety instrumented systems operating in high-demand mode, (finished in 2015);
23. Soheil Sobhani, Reliability modeling in wireless instrumented systems, with the co-supervision from Petersen S, *SINTEF* (finished in 2015);
24. Jie Zhang, Hybrid prognostic model for residual useful life estimation of degraded equipment (finished in 2015);
25. Juntao Zhang, New Model for reliability and availability assessment of subsea BOP system, with the co-supervision from Laurent Bouillaut, *IFSTTAR*, France (finished in 2015);
26. Emeka Obike, Subsea high integrity pressure protection system design per IEC 61508 (finished in 2015);
27. Shanshan Huo, Prediction of plant-specific failure rates, main supervisor, with the co-supervision

from Rausand M, *IPK, NTNU* (finished in 2014);

28. Wenjing Sun, Determination of beta-factor for safety-instrumented systems (finished in 2013);

Master student supervisions (as a co-supervisor)

1. Cagla Mert, Accelerated testing of reliability and lifetime of slot-less machines for aerial applications, with the main supervision from Olsen A, MTP, NTNU (to finish in 2022);
2. Mohamad Osama Aldaher, Effects of smart maintenance on resilience of subsea systems, with the main supervision from Schjølberg P, *MTP, NTNU* (finished in 2021):
3. Maarten van der Drift, Condition-based maintenances of offshore wind turbines with prognosis information, with the main supervision from Gao Z, *IMT, NTNU,* and co-supervision from *TU Delft* (finished in 2020);
4. Quynh Nguyen Thuy, Risk management in Vietnamese construction industry, with the main supervision from *National University of Civil Engineering*, Vietnam (finished in 2020);
5. Pauline Haavind Jensen, Cascading failures in dynamic networks, with the main supervision from de Wijn AS, *MTP, NTNU* (finished in 2019);
6. Yohana Majubwa Y, Assessment of safety practices in Tanzania oil and gas industry, co-supervisor for the master student in *University of Dar es Salaam*, Tanzania, with the main supervision from Mwaluko G, *University of Dar es Salaam*, Tanzania (finished in 2018);
7. Helene Mjelde Gjerde, Uncertainty analyses of time in construction projects, with the main supervision form Olsson N, *MTP, NTNU* (finished in 2017);
8. Dash Ishita, Provision of reliability data for new technology equipment in subsea production systems, with the main supervision from Rausand M, *IPK, NTNU* (finished in 2012).

Holding visiting researchers and PhD students (1 month or longer)

1. Anna Borucka, visiting experienced researcher from Military University of Technology, Poland, May. – Jul. 2021 (partly virtual);
2. Edward Kozłowski, visiting experienced researcher from Lublin University of Technology, Poland, May. – Jul. 2021 (partly virtual);
3. Oto-Obong Udofot, Data driven reliability analysis of safety instrumented systems, visiting PhD student from Tampere University, Finland, main supervisor, 2020-2021 (partly virtual);
4. Benhamlaoui Wafia, Risk analysis for transports of hazardous materials, ERASMUS visiting PhD students, from *1955 Skikda University*, Algeria, main supervisor, Mar.- Jun. 2019;
5. Chima Bensaci, STPA method in risk analysis of autonomous systems, ERASMUS visiting PhD students, from *1955 Skikda University*, Algeria, main supervisor, Mar.- Jun. 2019;
6. Fares Innal, PFH formulas for safety-critical systems, ERASMUS+ visiting experienced researcher, from *1955 Skikda University*, Algeria, main contact person, Mar.- Apr. 2019;
7. Ngo Tu Quynh, Safety analysis of autonomous vehicles, visiting PhD student, from *Monash University*, Australia, main supervisor, Jan.-May. 2019;
8. Byungmo Kim, Safety analysis of systems in the icy environment based on structure reliability, visiting PhD student from *Korean Maritime and Ocean University*, South Korea, main supervisor, with the co-supervision from Kim HJ, *MTP, NTNU,* Aug. 2018-Nov. 2018;
9. Xiaopeng Li, Warranty analysis in consideration of burn-in tests, visiting PhD student from *Tianjin University*, China, main supervisor, Dec. 2017-Dec. 2018;
10. Yukun Wang, Two-dimensional product warranty analysis, main contact person, visiting experienced researcher from *Tianjin Chengjian University*, China, main contact person, Aug. 2017-Aug. 2018. She got the young talent project supported by *National Natural Science of Foundation*

of China during the visit in 2018;

11. Xiangfen Wang, Availability assessment for FPGA systems, visiting PhD student from *Beihang University*, China, main supervisor, Sep. 2016-Sep. 2017;
12. Jinyong Yao, Reliability engineering and testing for complex systems, visiting experienced researcher from *Beihang University*, China, main contact person, Jul. 2016-Jul. 2017;
13. Baoping Cai, Resilience engineering of complex systems, visiting experienced researcher from *City University of Hong Kong*, Hong Kong, main contact person, Nov. 2016-Dec. 2016;
14. Shengnan Wu, Reliability assessment of subsea safety-critical systems, visiting PhD student from *China Petroleum University (Beijing)*, China, main supervisor, Dec. 2015-Dec. 2016, who got the young talent project supported by *National Natural Science of Foundation of China* after the visit in 2018.

In addition, I hold 5-8 Vietnamese senior/master students each semester since 2017, who study in *NTNU* for 5 months with the fund by the NOR-VIS project.

Academic Management Experiences

1. Director of RAMS international master program of *NTNU*, 2015-

   Each year, the RAMS international MSc program recruits around 15 international students and 5 Norwegian students.

   Duties of program management:

   - Running a committee to evaluate and rank all qualified applicants for the mater program;
   - Designing ranking criteria and coordinating with the international office of *NTNU*;
   - Designing and updating the structure of the master program;
   - Determining the study plan and synergizing all involved courses;
   - Campaigning for resources from the faculty to the master program;
   - Developing new study and internship opportunities for students;
   - Surveying those graduates from the program and employers for their evaluations;
   - Composing annual self-evaluation reports for the program;
   - Promoting the program via different channels, including college roadshows and the cooperation with recruitment websites and education exhibitions.

   Duties of student advising:

   - Organizing matriculation and orientation events for newcomers;
   - Organizing other social networking events with student delegates;
   - Answering all questions from students for the study program;
   - Listening and evaluating to claims from students and seeking for solutions;
   - Evaluating and approving the applications from students for course changing and exchange and oversea studies.
   - Participating in the administration of the closure procedures of students in the program.

2. Director of *RAMS Lab* of *NTNU*, 2018-

   A new RAMS lab was established in the autumn of 2018. Now the lab owns rotor kits, drones, ultrasonic testing kits, flaw testing kits, thermal cameras and several other devices for reliability and failure tests. With the intensive supports from Pedersen VGB, the director is responsible for:

   - Planning experimental activities in the lab for RAMS education and research;
   - Purchasing equipment and monitoring the budget;
   - Documenting and managing the uses of equipment in the lab;
   - Developing lab using rules and safety regulations;
   - Coordinating with the lab manager of department in resource utilization.

Projects and Contracted Researches

Projects as the principal investigator/project manager

1. Norway-ChINa-JApan-South Korea network for smart, safe and sustainable healthcare (NINJAS4CARE), a UTFORSK project funded by *DIKU*, with the funding of 4,182,908 NOK 2021-2025, (UTF-2020/10099)
2. Norway-ASEAN consortium in risk management for safer and sustainable ocean (NESS), a NORGLOBAL 2 project, funded by Research Council of Norway, with the funding of 5,400,000 NOK, 2021-2025 (322410);
3. Safe, sustainable and smart health care (S3Care), a Gemini center, funded by *NTNU*, *SINTEF AS* and *St. Olav Hospital*, with funding of 400,000 NOK, 2020-2024;
4. Norway-China-Japan consortium for safe and efficient operations of Health 4.0 (NINJA), a UTFORSK project funded by the *Norwegian Ministry of Foreign Affairs*, and managed by *Norwegian Center for International Cooperation in Education (SIU)*, with the funding of 1,850,000 Norwegian Crowns (NOK, around 200,000 euro), 2018-2021 (UTF-2017-four-year/10058);
5. Norway-Vietnam industry and infrastructure safety consortium (NOR-VIS), a NORPART project funded by the *Norwegian Ministry of Education and Research* and the *Norwegian Ministry of Foreign Affairs*, and managed by *SIU*, with the funding of 4,600,000 NOK, 2017-2021 (NORPART-2016/10023);
6. Performance analysis of safety barriers under complex environment, a researcher project co-funded by *NTNU* and *Statensveivesen (Road Administration Norway)*, with the funding of 3,400,000 NOK, 2017-2020;
7. Norway-(South) Korea consortium in arctic subsea operations (NOKRAS), a High North project funded by the *Norwegian Ministry of Foreign Affairs*, and managed by *SIU*, with the funding of 500,000 NOK, 2017-2019 (HNPla-2016/10059) (one-year extension to 2020 with extra funding due to excellent results);
8. Consortium on innovation design and qualification of safety critical systems, an ERASMUS+ Global mobility project, in collaboration with *1955 Skikda University*, Algeria, funded by *European Commission*, with the funding of 350,000 NOK, 2017-2019;
9. Performance engineering of complex networked systems, an ERASMUS+ Global mobility project, in collaboration with *Bar-Ilan University*, Israel, funded by *European Commission*, with the funding of 280,000 NOK, 2017-2019.

Projects as a co-investigator/work-package (WP) leader

1. VET education 4.0 for Industry 4.0, under the Education Programme financed from the Financial Mechanism of the European Economic Area, co-investigator from Norway, with the funding of 237485 euro, 2022-2024;
2. AutoPRO - Digitalization for Autonomous Prognosis and Production Optimization in Offshore Production Systems, co-investigator and leader of WP3: Condition-based maintenance decisions and digital twin for subsea systems, with the allocated funding of 4,050,000 NOK among 12 million, 2020-2023 (309628);
3. Rail Infrastructure Systems Engineering Network, a *H2020 Maria Curie RISE* project, leader for the research topics of safety and risk of high-speed railways, with the allocated funding of 540,000 NOK, 2016-2020;

4. Brazilian-Norwegian Subsea Operations Consortium (BN-SOC), an INTPART project supported by *Norwegian Research Council* and *SIU*, leader in the RAMS fields, 2017-2019;
5. BRANORTECH, a UTFORSK project between Norway and Brazil in signaling processing and communication, jointly supported by *Norwegian Ministry of Education and Research*, and *Brazilian Federal Agency for Support and Evaluation of Graduate Education (CAPES)*, the co-investigator of NTNU, 2017-2018;
6. Incorporating reliability and availability in the early design phase, co-investigator of work-package 3.2 (with the allocated funding of 3,300,000 NOK) under *SFI SUBPRO*, supported by *Norwegian Research Council*, 2015-2018;
7. RAMS in Ferry free E39, supported by *Statensveivesen (Road Administration Norway)*, leader of WP2: Managing the RAMS related challenges from the systems engineering perspective, 2015-2016;

Projects as a co-investigator or participant

1. Research on methods of performance-based warranty policy design for complex equipment considering dependencies, oversea advisor (ranks No. 2 in all participants) of the young talent project supported by *National Natural Science of Foundation of China*, 2019-2021;
2. Research on failure mechanism and fault diagnosis methodology of deep-water Christmas tree systems under submarine complex environment, an oversea partner (ranks No. 2 in all participants) of the researcher project supported by *National Natural Science of Foundation of China*, 2018-2021;
3. Quality estimation and warranty management, an oversea partner of the key project supported by *National Natural Science of Foundation of China*, 2015-2019.
4. Warranty strategy design and service system optimization in automobile industry, an oversea partner, key project supported by *National Natural Science of Foundation of China*, 2012-2015;
5. Cost control and key technologies in health care service for DRG, a main participant for model development, supported by *National Natural Science of Foundation of China*, 2008-2010;
6. Control methods and applications for product warranty cost in manufacturing enterprises, a main participant for model development, supported by *National Natural Science of Foundation of China*, 2007-2009;
7. Systematic product lifecycle analysis and management with the unified-feature approach, the beneficiary, supported by *Nanyang Technological University* of Singapore, 2005-2006;
8. Systematic integration methods and modes of cost management systems in manufacturing, a main participant for model development, supported by *National Natural Science Foundation of China*, 2003-2005.

Awards and grants

1. Grant for the sabbatical visit in 2020 to *University of California at Los Angeles*, from *NTNU*, 2018;
2. Project development grant for Norway-Vietnam collaboration, from *SIU*, Norway, 2016
3. Best paper award of *International Conference on Quality, Reliability, Risk, Maintenance, and Safety Engineering*, from the technical committee of the conference, 2015;
4. Statoil publication grant, from *Statoil AS* in Norway, 2014;
5. SPD Bank scholarship (first class), from *Tianjin University*, China, 2010;
6. One-year oversea research grant, from *China Scholarship Council (CSC)*, China, 2009.

International Profile/Academic Services

International responsibilities

1. Chair of *Technical Committee of Healthcare and Medical Industry*, *European Safety and Reliability Association*, 2019-;

   The technical committee aims to provide a forum for industry, academia, clinicians and international societies to develop and promote advancements related to medical safety and reliability technology.
2. Contact person in Norway of *IEEE Reliability Society Norway-Sweden Joint Section*, 2021-;

Evaluation expert for projects/grants

1. Evaluation expert, for the projects of ERAMSMUS+ Key Action 2 - Capacity Building in the field of Higher Education, managed by the *Education, Audiovisual and Culture Executive Agency (EACEA)* of *European Commission*, 2018-;
2. Reviewer, for NWA-ORC grant, managed by *The Netherlands Organization for Scientific Research (NWO)*, 2019-;
3. Reviewer, for *FONDECYT Initiation into Research 2019*, managed by the *Chilean National Science and Technology Commission*;
4. Reviewer, for the Seed Research Program of Singapore, managed by *Ministry of Defense of Singapore* and *Singaporean University of Technology and Design, 2015-2016*.

Member of editorial board

1. *International Journal of Quality & Reliability Management*
2. Journal of *Aviation*
3. Journal of *Processes*

Guest editor for special issues

1. *SI Reliability and safety in offshore and marine engineering, the Journal of Loss Prevention in the Process Industries*, with Cai BP, Xie M, Khan F, and Abbassi R, 2019;

Organizer of conferences, special sessions, and seminars

1. Special session of Industrial AI driven digital twins for PHM, *IEEE Global Reliability and Prognostics & Health Management Conference*, Nanjing, China, Oct. 2021;
2. Special session of digital twin approach in safety and reliability engineering, at the *European Reliability and Safety Conference 2021*, Angers, France, Sep. 2021;
3. Special session of smart, safe and sustainable healthcare, at the conference of *Healthy Buildings 2021*, Oslo, Norway, Jun., 2021;
4. Member of organizing committee, *the 1st annual MTP Conference*, Trondheim, Norway, Dec. 2019;
5. Organizing chair, *International Workshop on Healthcare Management with Big Data*, Tianjin, China, Jun., 2019;
6. Special session of reliability modeling in offshore and marine engineering, at the *11th International Conference on Mathematical Methods in Reliability (MMR2019)*, Hong Kong, Jun., 2019;
7. Organizing chair, *Norway-Vietnam joint seminar in industrial safety*, Ho Chi Minh City, Vietnam, Dec. 2018.

Referee for international academic journals

1. *Reliability Engineering & System Safety (outstanding reviewer from 2018)*

2. *IEEE Transaction on Reliability*
3. *IEEE/ASME Transactions on Mechatronics*
4. *International Journal of Production Research*
5. *IISE Transactions*
6. *Quality Engineering*
7. *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*
8. *Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability*
9. *Journal of the Operational Research Society*
10. *The Service Industries Journal*
11. *ISA Transactions*
12. *Journal of Engineering Design*
13. *Industrial Management & Data System*
14. *Accident Analysis & Prevention*
15. *Artificial Intelligence for Engineering Design, Analysis and Manufacturing*
16. *Materials Research Innovations*
17. *Environmental Engineering and Management Journal*
18. *International Journal of Naval Architecture and Ocean Engineering*
19. *PLOS One*
20. *Transactions of Tianjin University (English version)*
21. *Iranian Journal of Management Studies*
22. *Computers & Industrial Engineering*
23. *IEEE Transactions on Automation Science and Engineering*
24. *Neural Computing and Applications*
25. *Proceedings of the Institution of Mechanical Engineers, Part M: Journal of Engineering for Maritime Environment*
26. *Chemical Engineering Science (outstanding reviewer in 2017)*
27. *Ocean Engineering*
28. *Applied Science*
29. *Process Safety and Environmental Protection*
30. *International Journal of Critical Infrastructure Protection*
31. *Journal of Operations Research Society of China*
32. *Journal of Industrial and Production Engineering*
33. *Journal of Manufacturing Systems*
34. *Journal of Marine Science and Application*
35. *International Journal of Hydrogen Energy*

Reviewer of books

1. *Reliability Models of Complex Systems for Robots and Automation*, by CRC Press;
2. *Supply Chain Management Models: Forward, Reverse, Uncertain, and Intelli*gent, by CRC Press.
3. *Reliability Analysis Using Minitab and Python*, by CRC Press.

Member of committees/Reviewer for PhD defenses

1. Federico Ustolin, Modelling of accident scenarios from liquid hydrogen transport and use, *NTNU*, Trondheim, Norway, Jul. 2021;
2. Olumide Emmanuel Oluyisola, Towards smart production planning and control: Frameworks and

case studies investigating the enhancement of production planning and control using internet-of-things, data analytics and machine learning, *NTNU*, Trondheim, Norway, Jun. 2021;

3. Liu MQ, Managing the uncertainty in product design and development, *Tsinghua University*, Beijing, China, Jun. 2021;
4. Matthew Naybour, Applying reliability engineering techniques to the process of community pharmacy dispensing, *University of Nottingham*, Nottingham, UK, Sep. 2019;

Member of scientific/technical committees of conferences

1. 2021 5th International Conference on System Reliability and Safety (ICSRS 2021), Palermo, Italy, Nov. 2021;
2. *2021 European Reliability and Safety Conference (ESREL 2021)*, Angers, France, Sep. 2021;
3. *IEEE International Workshop on Predictive Maintenance (PM 2020)*, Macau, Dec. 2020;
4. *The 17th IEEE International Conference on Networking, Sensing and Control*, Nanjing, China, Mar. 2020;
5. *The 5th International Conference of Transportation Information and Safety (ICTIS2019)*, Liverpool, UK, Jul. 2019;
6. *The 11th International Conference on Mathematical Methods in Reliability (MMR2019)*, Hong Kong, Jun. 2019
7. *The 3rd International Symposium on Stochastic Models in Reliability Engineering, Life Sciences and Operations Management (SMRLO'19)*, Beijing, China, May 2019;
8. *The 3rd International Conference on System Reliability and Safety*, Barcelona, Spain, Nov. 2018;
9. *The International Conference on Advanced Engineering – Theory and Applications 2018*, Ostrava, Czech Republic, Sep. 2018
10. *The 8th International Conference on Safety & Environment in Process & Power Industry (CISAP8)*, Milan, Italy, Sep. 2018
11. *The Workshop on Configuration 2018 (ConfWS'18)*, Graz, Austria, Sep. 2018;
12. *2018 European Reliability and Safety Conference (ESREL 2018)*, Trondheim, Norway, Jun. 2018;
13. *2017 IEEE International Conference on Industrial Engineering and Engineering Management*, Singapore, Dec. 2017;
14. *The 4th International Conference on Advanced Engineering – Theory and Applications 2017*, Dec. 2017;
15. *The 19th Configuration Workshop 2017*, Paris, France, Sep. 2017;
16. *The 7th International Conference on IT Convergence and Security*, Seoul, South Korea, Sep.,2017;
17. *The 4th International Conference on Transportation Information and Safety (ICTIS2017)*, Banff, Canada, Aug. 2017;
18. *The 2nd International Conference on Reliability Systems Engineering*, Beijing, China, Jul. 2017;
19. *2017 European Reliability and Safety Conference (ESREL 2017)*, Portoroz, Slovenia, Jun. 2017;
20. *The 4th iCatse Conference on Information, Management Science and Applications (ICIMSA 2017)*, Seoul, Republic of Korea, Jun. 2017;
21. *2016 IEEE International Conference on Industrial Engineering and Engineering Management*, Bali, Indonesia, Dec. 2016;
22. *2015 International Conference on Reliability System Engineering*, Beijing, China, Oct. 2015;
23. *2015 Prognostic and System Health Management Conference*, Beijing, China, Oct. 2015;
24. *2015 International Conference on Industrial Engineering, Management Science and Applications*, Tokyo, Japan, May. 2015;

25. *2015 IEEE International Conference on Industrial Engineering and Engineering Management*, Singapore, Dec. 2015;
26. *2014 IEEE International Conference on Industrial Engineering and Engineering Management*, Kuala Lumpur, Malaysia, Dec. 2014;
27. *2013 IEEE International Conference on Industrial Engineering and Engineering Management*, Bangkok, Thailand, Dec. 2013.

Membership of professional organizations

1. Member of *European Reliability and Safety Association*
2. Member of *IEEE*, at *Reliability Society*
3. Project group member of Resilience Engineering in *European Safety, Reliability & Data Association (ESReDA)*
4. Member of *NTNU Low-middle income country team*

Other Working Experiences

1. Adjunct professor (10%) for railway RAMS engineering, 2015-2017
   Department of Computer Science, *Southwest Jiaotong University*, China
2. Editor-in-chief/Technical editor, 2007-2009
   Control Engineering/Manufacturing Business Technology China, under *Reed Elsevier*
3. Pre-sale engineer/Trainer, 2006 (part-time)
   St. Hua Private Ltd. (A technical education provider and retailer of Siemens PLM Software), Singapore
4. Fellowship beneficiary, 2005-2007
   School of Mechanical and Aerospace Engineering, *Nanyang Technological University*, Singapore
5. Project engineer, 2005
   Capital Engineering & Technology Incorporation Ltd (The biggest engineering contractor in steel & iron industry of China), Beijing, China
6. GRE/TOEFL/IELTS Lecturer, 2003-2005 (part-time)
   New Oriental School (No.1 private education services provider in China, NYSE: EDU), Tianjin & Jinan, China