2018 Annual Research Outcome Report of the Liverpool Logistics, Offshore and Marine (LOOM) Research Institute

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LOOM members in 2018
Dr. Ariyan Ashkanfar (AA)
Dr. David R. Allanson (DRA)
Dr. Milad Armin (MA)
Dr. Musa Bashir (MB)
Dr. Eduardo Blanco-Davis (EBD)
Dr. Steve Bonsall (SB)
Dr. Chia-Hsun Chang (CHC)
Dr. Robert Darlington (RD)
Prof. Stephen Fairclough (SF)
Dr. Fang Bin Guo (FBG)
Prof. Ian Jenkinson (IJ)
Dr. Karl Jones (KJ)
Dr. Christos Kontovas (CK)
Dr. Linghai Lu (LL)
Dr. Dante Ben Matellini (DBM)
Dr. Sean Makleson (SM)
Dr. Marco Messina (MM)
Dr. Trung Thanh Nguyen (TTN)
Dr. Robyn Pyne (RP)
Dr. Dimitrios Paraskevadakis (DP)
Dr. Jun Ren (JR)
Dr. Mehdi Seddighi (MS)
Dr. Alan Wall (AW)
Prof. Jin Wang (JW)
Prof. Zaili Yang (ZY)
Dr. Qian Zhang (QZ)

Other members involved in PhD supervision at LOOM
Prof. D. Andrews (DA), UCL, UK
Dr. A. Cunningham (AC), Trelleborg Offshore UK Ltd, UK
Mr. P. Davies (PD)
Prof. Y. Jin (YJ), Surrey University
Ms B. Kelly (BK)
Professor Roland Lark. University of Applied Sciences, Germany
Prof. K. X. Li (KXL), Chung Ang Univ.
Dr. S. Miri Lavasani (SML)
Dr. Constantine Michailides (CM), Cyprus University of Technology
Prof. C. Morecroft (CM), Pharmacy and Biomolecular Sciences
Prof. S. Nazir (SN), University College of Southeast Norway
Dr. A. Ng (AN), University of Manitoba, Canada
Mr. G. Phylip-Jones (GP)
Dr. Z. Qu (ZQ)
Dr. R. Rizzi (RR), Columbia Shipmanagement, Germany
Dr. F. Saeed (FS)
Prof. S. Yang (SY), De Montford University

It has been identified that the LOOM’s research emphasis in 2019 is:
1. To further develop national and international collaboration.
2. To ensure sustainable research growth.
3. To enhance on research output quality and research impact generation.
4. To enhance research infrastructure.

1. Research publications (published in 2018)
The following are the outputs published in 2018 (for details, see Appendix 1):
• 2 books/edited books.
• 1 book chapter.
• 35 SCI-cited refereed journal papers (incl. ESCI).
• 17 refereed conference papers.
• 5 other publications.

Visiting researchers
Dr. Shahrum Abdullah
Prof. Ahmad Kamal Ariffin
Dr. S. Dong
Dr. H. Li
Orawan Mokkhavas
Dr. Y. Wang
Dr. Wonsiri Punurai
Dr. Rizauddin Ramli
Dr. Ozkan Uğurlu
Yang
Mr. Serdar Yildiz
Dr. D. Zhang
2. Doctoral, postdoctoral and international research visiting projects (completed, on-going and started in 2018)

2.1 Research projects completed in 2018

PhD projects
3. Dr. A. Atiyah, “A novel harmonised decision-making support system (HDMSS) to enhance the reliability and efficiency of port pilotage operations” (2018). (ZY, et al.)
10. Dr. R. Wang, “Discrete-event simulation for the bin-packing and berth planning optimisation for ports” (2018), funded by LJMU (TTN, et al.)

Postdoctoral project

Visiting research projects
15. Dr. S. Abdullah, “Vehicle component monitoring using time-frequency localisation of strain loadings” (7-9/2018), from Universiti Kebangsaan Malaysia and funded by EU. (Stanciuciu, et al.).
17. Dr. S. Dong, “Resilience of transport systems using traffic simulation” (8/2017-8/2018), from Wuhan University of Technology, funded by the Chinese Government. (ZY, et al.)
18. Prof. Ahmad Kamal Ariffin Mohd Isran, “Vehicle computational mechanics” (10-11/2018), from Universiti Kebangsaan Malaysia and funded by EU. (Li, AA & Rothwell).
19. Orawan Mokkhavas, “Port logistics system: sustainable assessment of automated container ports” (5-10/2018), from Mahidol University, Thailand and funded by EU. (EBD, et al.)
20. Dr. Wonsiri Punurai, “Structural assessment and health monitoring of marine structures” (6-7 & 10/2018), from Mahidol University, Thailand and funded by EU. (JW, et al.)
22. Dr. Ozkan Uğurlu, “Lessons learned from the last twenty years of passenger ship accidents and accident-free future” (10/2017-8/2018), Karadeniz Technical University and funded by the Scientific and Technological Research Council of Turkey (TUBITAK). (JW, et al.)
24. Mr. Serdar Yildiz, “Analysis of ship grounding accidents using HFACS and Bayesian Network” (4-7/2018), Karadeniz Technical University and funded by the Scientific and Technological Research Council of Turkey (TUBITAK).
25. Dr. D. Zhang “Safety of stowage of general ships” (01/2018-01/2019), from Dalian Maritime University, funded by China Scholarship Council. (ZY, et al.)
26. Mr. V.T. Vu “Co-evolution techniques in multi-objective optimization” (7/2018-10/2018), from Le Quy Don University, funded by the Newton Fund and NAPOSTED. (TTN, et al.)

2.2 On-going research projects in 2018

Doctoral projects
31. A. Bury, “Short sea shipping as part of an East/West axis in European logistics” (2011-2018), funded by the EU. (AW, et al.)
35. J. Ender, “A research into interaction among humans, machines and networks across the digitised industry at present and in the future” (2017-2020), funded by HS Wismar - University of Applied Sciences, Germany. (FBG, et al.)
36. Miss S. Fan, “The influence of seafarer’s emotion on navigation safety” (2017-2020), dual PhD, funded by Wuhan University of Technology and LJMU. (EBD, et al.)
41. C. Kelly, “Investigation into the uses of life cycle analysis as an alternative method of certifying tidal power schemes” (2016-2019), funded by a scholarship from the Faculty of Engineering and Technology. (EBD, et al.)
45. E. Shaw, “Investigation and analysis into the current status and future direction relating to the application of complex computer technology for safety-critical systems in the marine sector” (2017-2020), funded by LJMU scholarship. (DBM, et al.)

Postdoctoral projects

Visiting research projects

2.3 Research projects started in 2018
Doctoral projects
58. S. Jones, “Reciprocity and Mutuality: A Study into the Emergence of a New Maritime Economy in the Liverpool City Region. (II, et al.)

Visiting research projects
60. H. Li “Clustering of shipping routing for risk analysis” (05/2018-05/2019), from Wuhan University of Technology, funded by China Scholarship Council (ZY et al.)
61. Dr. D. Cooper, “Safety and Engineering Risk Management” (2018-2021), Visiting Professor from Risktac and funded by the Royal Academy of Engineering. (DBM)

Postdoctoral projects
63. Dr. D. Agarwal, “Rotorcraft simulation fidelity”, funded by EPSRC. (LL)
64. Dr. C. Lersteau, “Anticipating and mitigating reactionary delays in rail” (2018-19), funded by the Rail Safety and Standard Boards. (TTN, et al.)

3. LOOM monthly seminars in 2018
13 LOOM monthly seminars were organised in 2018. The following external speakers delivered their presentations at LOOM’s monthly seminars:
- Prof. Paul Tae-Woo Lee (external speaker), Professor of Maritime Transport and Logistics and Director of Institute of Maritime Logistics at Ocean College, Zhejiang University, China.
- Dr. Wonsiri Punurai (external speaker), Mahidol University, Thailand.
- Dr. Ozkan Ugurlu, Mr Serdar Yildiz (external speaker), Karadeniz Technical University, Turkey.
- Prof. Lirong Cui (external speaker), School of Management & Economics at Beijing Institute of Technology, China.
4. Research grants in 2018

4.1 External grants

Grants completed in 2018

- ST4W funded by EU, Smart Tracking Data Network (2018) £4,000 (DP)
- CSC - Green innovation in heavily polluted industries (2017-18) £1,000 (LZ)
- CSC - Seismic behaviour of offshore wind turbines (2017-2018) £1,000 (MB, et al.)
- ARCHER, Computational resources (2018) £8,000 (MS)
- Newton Fund, Modelling and optimising rail operations (2017-18) £18,000 (TTN, et al.)
- UK BEIS, Maritime logistics research (2015-2018) £300,000 (TTN, et al.)
- Red Ninja Ltd. Route Optimisation through simulation (2015-18) £30,000 (ZY, et al.)
- AECOM, Climate adaptation in transportation (2015-2018) £30,000 (ZY et al.)
- Dept. for Transport, Cycling safety management (2017-2018) £16,400 (ZY, et al.)

On-going grants in 2018

- Royal Acad. of Eng. - VP in Maritime technology (2016-18) £30,000 (JW, et al.)
- Research In geopolymer concretes (EU H2020, 2016-2020) £180,000 (out of £161k) (JW, et al.)
- EU Interreg - ARCWIN – Floating wind energy (2017-2020) £400,437 (out of £4m) (JW, et al.)
- SeaConAZ - Exploring sea containers (RC Norway, 2015-19) £30,000 (out of £700,000) (ZY, et al.)

Grants started in 2018

- EU ERDF Interreg - Atlantic Blue Port Services (2017-2019) £185,400 (CK, et al.)
- RAEng., VP in Risk Management (2018-2021) £30,000 (DBM, et al.)
- Resilience of offshore wind energy platforms, Royal Soc. £12,000 (JW, et al.)
- UK EPSRC - Rotorcraft simulation fidelity (2018-2021) £365,697 (LL)
- RSSB – Anticipating/mitigating rail delays (2018-19) £86,000 (TTN, et al.)
- EU ERDF – LCR Green Sustainable Corridors (2018-2021) £673,000 (out of £8.35m) (TTN, et al.)
- UK EPSRC – Vechicle Cleanliness (2018-2021) £50,000 (ZY)
- UK DfT – Cycling risk prediction (2018-2020) £55,000 (ZY, et al.)

Grants awarded in 2018

- IAMU - Cybersecurity in the maritime industry (2019-2020), £20,000 (CHC)
- CILT - Risk evaluation of autonomous surface ships (2019-2020), £7,500 (CHC)
- CSC - Supply chain research (2017-20) £32,000 (QZ, et al.)
- EU H2020 – Human reliability and training (2019-2022) £173,000 (out of £1m) (ZY, et al.)
- EU Interreg - Innovative knowledge transfer for blue economy £480,000 (out of £2.43m) (ZY, et al.)
- EU RoCS - Rotorcraft Certification by Simulation (2019-2022) £140,000 (out of £3m) (LL)
- InnovateUK & DfT – Customer information system (2019-2020) £265,000 (TTN, et al.)

5. Evidence of national and international peer esteem in 2018

a. Invited plenary addresses/keynote paper/presentation at international conferences/research seminar


b. Other invited presentations

- Blanco-Davis E., “Perspective of clean fuels on maritime technologies for the reduction of GHG emission in the maritime industry”, Invited expert speaker at the workshop funded by the Panamanian Maritime Authority and the British Embassy in Panama, Panama City, Panama, 12-14 November 2018.
- Blanco-Davis E., “Presenting process flowsheet development, condition monitoring”, Invited lecturer to University of South-Eastern Norway (USN), Vestfold, Norway, July 9th to 11th, 2018.
- Chang, C.H., “The development of autonomous ship operations”, 14 Dec 2018, National Kaohsiung University of Science and Technology, Taiwan. (CHC)
- Kontovas C., “Maritime OR opportunities for a green future”, Invited Talk, Greenbelt workshop, University of Southampton, 17 July 2018. (CK)
- Loughnany S., “How automation can make offshore installations safer”, The IChemE Chester & North Wales MG in collaboration with the University of Chester STEM Society, Thornton Science Park, University of Chester, Pool Lane, Chester, CH2 4NU, 23rd October 2018.
- Ren J., “Decision making methods in REMESH”, in the research seminar of Mahidol University, Bangkok, Thailand, 12 June 2018.
- Ren J., “System dynamics modelling in SC management”, Invited presentation in the research seminar of Southwest China Petroleum University, Chengdu, China, 23 June 2018.

c. Participation in journal editorial boards
- Member of Editorial Board International Journal of Transportation Engineering and Technology. (DP)
- Member of the Review Board of Journal of Shipping and Ocean Engineering. (EBD)
- Member of the Review Board of International Journal of Ocean Systems Engineering (2013-date). (JR)
- Member of the Review Board of International Journal of Agile Systems and Management. (JR)
- Member of the Editorial Board for the American Journal of Neural Networks and Applications. (KJ)
- Member of the Editorial Board of Maritime Policy and Management. (JW)
- Deputy Editor of Journal of Marine Science and Technology. (JW)
- Associate Editor of Marine Engineering and Technology. (JW)
- Member of the Editorial Board for the International Journal of Intelligent Systems and Applications in Engineering. (KJ)
- Member of the Scientific Board for the Informatica Economica Journal (http://revistaie.aese.ro). (KJ)
- Member of the Editorial Board for the Journal of Mathematical Control Science and Applications. (KJ)
- Member of editorial board of the Journal of Mechanical Engineering Research. (MA)
- Lead Guest Editor of a Special Issue in Mathematical Problems in Engineering. (QZ)
- Member of the Review Board of Marine Policy. (RP)
- Co-Editor of Frontiers in Human Neuroscience research theme “Detection and Estimation of Working Memory States and Cognitive Functions Based on Neurophysiological Measures”. (SF)
- Member of the Editorial Board for IEEE Transactions on Affective Computing. (SF)
- Editor of Springer’s Lecture Notes in Computer Science book Vol. 10784. (TTN)
- Member of Editorial Board of European Journal of International Management. (ZY)
- Member of Editorial Board of Journal of Marine Science and Engineering. (ZY)
- Member of Editorial Board of Journal of Transportation Research Part E: Logistics and Transportation Review. (ZY)
- Associate Editor of IMA Journal of Management Mathematics. (ZY)
- Member of Editorial Board of Asian Journal of Shipping and Logistics. (ZY)

d. Participation in national or international advisory, review, funding, standards or planning bodies
- Reviewer for the Cyprus Research Promotion Foundation (RPF), RESTART 2016-2020 Programmes for Research, Technological Development and Innovation. (CK)
- Evaluator for the Croatian Science Foundation, Call identifier: IP-01-2018. (CK)
- Reviewer for the (CK) NERC Natural Environment Research Council, 2018 Research Grant Call. (CK)
- Reviewer for the International Association of Maritime Universities’ (IAMU) research grants programme, 2019. (EBD)
- Advisor on the Ports and Terminals Advisory Group for UK Trade & Investment (UKTI). (IJ)
- Member of the IMO Formal Safety Assessment Experts Group. (JW)
- The external expert reviewer for EU-funded project LEANWIN. (JW)
- Reviewer and expert panel member of the Research Promotion Foundation Programmes for Research, Technological Development and Innovation “Restart 2016 – 2020”, Cyprus. (JW)
- Member of sub-panel 12 (criteria phase, Engineering) in Research Excellence Framework (REF) in the UK 2021. (JW)
- Member of the UK EPSRC peer review college of experts. (JW, ZY)
- Reviewer for EPSRC (UK). (LL)
- Reviewer for The Netherlands Organisation for Scientific Research (NWO). (LL)
- Editorial Advisor, Cambridge Publishing Group. (TTN)
- External expert, National Science Centre Poland. (TTN)
- Member of the IEEE Task Force on Evolutionary Computation in Dynamic and Uncertain Environments. (TTN)
- Adviser of Maritime Transportation Safety, European Safety and Reliability Association (ESRA). (JW)
- Member of the Maritime Innovation Committee of the Royal Institution of Naval Architects. (JW)
- Member of Institute of Electrical and Electronics Engineers. (LL)
- Member of American Institute of Aeronautics and Astronautics. (LL)
- Member of American Helicopter Society; Royal Aeronautical Society. (LL)
- Member of EG38 GARTEUR (Aeronautics research collaboration in Europe). (LL)
- Committee member of the Merseyside West Cheshire IET (RD)

e. Learned society involvement
- Committee member of the North West Branch of the IMarEST. (GPJ & EBD)
- Committee member of the Consortium of Manufacturing Engineering Heads. (IJ)
- Member of Council for the Institute of Measurement and Control. (KJ)
- Chairman of Maritime Transportation Safety, European Safety and Reliability Association (ESRA). (JW)
- Member of the Maritime Innovation Committee of the Royal Institution of Naval Architects. (JW)
- Member of Institute of Electrical and Electronics Engineers. (LL)
- Member of American Institute of Aeronautics and Astronautics. (LL)
- Member of American Helicopter Society; Royal Aeronautical Society. (LL)
- Member of EG38 GARTEUR (Aeronautics research collaboration in Europe). (LL)
- Committee member of the Merseyside West Cheshire IET (RD)
President of Psychophysiology in Ergonomics (an international working group of the International Ergonomics Association). (SF)

Founding director of International Association of Transport, Trade and Service Studies (IATTSS). (ZY)

Member of International Association of Maritime Economics (IAME). (ZY)

f. External PhD examinership

- 1 PhD examination at the University of Exeter. (AA)
- 1 PhD examination at the University of Central Lancashire. (JR)
- 1 PhD examination at the University of Derby. (JR)
- 1 PhD examination at the University of Stavanger (2018). (JW)
- 1 PhD examination at Luleå University of Technology. (MS)
- 1 PhD examination at the University of Manchester. (MS)
- 1 PhD examination at Warwick University. (RD)
- 1 PhD examination at Aberdeen University. (ZY)
- 1 PhD examination at Nanyang Technological University. (ZY)
- 1 PhD examination at Royal Melbourne Institute of Technology. (ZY)
- 1 PhD examination at the University of Reading. (ZY)
- 1 PhD examination at the University of Manchester. (ZY)

g. Involvement of conference organisation

- Chairman of the 15th conference track “Evolutionary Algorithms in Stochastic and Dynamic Environments (EvoSTOC)” as a part of the international EvoStar 2018 conference. (TTN)
- Co-Chair of the 4th International Conference on Structural Nano Composites (NANOSTRUCT 2018), May 23-24, 2018, Berlin. (MM)
- Chairman of the Reliability and Safety Engineering and Technology for large maritime engineering systems (RESET) / Maritime Safety and Smart Shipping (MSSS) Workshop, 20-21 June 2018, Trondheim, Norway. (JW)

h. Prizes/honours

- Best paper award nomination, 21st EvoApplications conference, Parma, Italy, 2018. (D. Yazdani, TTN, JW)
- The 64th annual winner of the prestigious “Award for Risk Reduction in Mechanical Engineering” for outstanding contribution in risk reduction of maritime/mechanical systems from the Institute of Mechanical Engineers (IMechE) in 2018. (JW)
- Recipient of prestigious 2017 RINA – Lloyd’s Register Maritime Safety Award for Lifetime Achievement for improvement of the safety of life at sea and the protection of the maritime environment through novel and improved design, construction and operational procedures, from Royal Institution of Naval Architecture (one award from the global marine community each year). (JW)
- Recipient of prestigious ‘Outstanding Contribution to Marine Safety’ award for 2017 from the Institute of Marine Engineering, Science and Technology. (JW)
- Emerald Literati Award Highly Commended Paper, paper title: ‘Application of Bayesian networks in analysing tanker shipping bankruptcy risks’, awarded by Emerald in Emerald Literati Award 2018. (ZY et al.)
- North East Asian Logistics Award by Incheon University, Asian Association of Shipping and Logistics and Ministry of Korean Ocean and Fishery, for outstanding research contribution to the North East Asian Logistics industry. (ZY)

i. Consultancy

- Advisor to ARUP Consulting for the Resilience Shift project https://www.resilienceshift.org/ (DP)
- Currently advising Transport for the North (TFN) through the 6019MAR Transport Policies and Practices module produced report titled as “How new thinking in the North West could be a catalyst for the development of a Pan-Northern Multimodal Freight Connectivity”. (DP)
- AO.com. (SF)
- Analysis of smoke and gas dispersions on oil and gas platforms using CFD techniques for MMI Engineering, UK. (SM)
- Merseyrail, Merseytravel, Peloton, Vauxhall. (TTN)
- UK DfT, AECOM, Transport Systems Catapult, TIGM, Mersey Travel, TfN. (ZY)

j. Others

- MSc thesis by Hazel Bryan came second in the Maritime Masters competition by Maritime UK. (DP)
- Member of Expert Panel for the Re-Accreditation of the Faculty of Maritime Studies, University of Split, Croatia, as appointed by the Agency for Science and Higher Education, Split, Croatia, 14-18 May 2018. (EBD)
- Chair of the Ballast Water Treatment Exemption Workshop, event promoted by Mersey Maritime and LJMU, Birkenhead, UK, 22 May 2018. (EBD)
- Working in partnership with Risktec Solutions delivering distance learning and face-to-face modules. (DBM)
- Development of a collaborative PhD programme in maritime and logistics management with Ningbo University China. (ZY et al.)
Appendix 1: Publications published in 2018

Books

Book chapter

Refereed academic journals (SCI cited)*

* IF: Impact Factor.
Robust optimization over time by l


Refereed conference papers


Poo M.C.P., Yang Z., Dimitriu D., Qu Z., “Climate adaptation for seaports by Climate Change Risk Indicators (CCRIs)”, 1st Conference of The Yangtze River Research and Innovation Belt (YRIB), 2-5 December 2018, Zhourshan, China.

Poo M.C.P., Dimitriu D., Qu Z., Galatiioto F., Ruston C., Lee T.W., Yang Z., “Prioritizing Vehicle Cleanliness (PVC) using Key Performance Indicators (KPI)”, Project Logistics Conference (PROLOG2018), 28-29 June 2018, Hull, UK.


Wang T., Qu Z, Nichol T., Yang Z., Dimitriu D., Clarke G., Bowden D., “How can the UK road system be adapted to the impacts posed by climate change? By creating a climate adaptation framework”, Project Logistics Conference (PROLOG2018), 28-29 June 2018, Hull, UK.


Zhoushan, China.


Other publications

Hassan S., “Cross country pipeline risk-based failure prediction using hybrid fuzzy evidential reasoning in FMEA”, the 18th HSE biennial conference on the oil and gas industry, 26-28 November, 2018, Lagos, Nigeria.


Poo M.C.P., Yang Z., Dimitriu D., Qu Z., “Development of climate change risks Indicators (CCRIs) for seaports and airports”, International Workshop towards an International Consortium on Climate Change and Adaptation Planning for Ports, Transportation Infrastructures, and the Arctic (CCAPPTIA), 3-5 May 2018, Manitoba, Canada.


Wang T., Qu Z, Nichol T., Yang Z., Dimitriu D., Clarke G., Bowden D., “Rail network adaptation to climate change: A UK case”, International Workshop towards an International Consortium on Climate Change and Adaptation Planning for Ports, Transportation Infrastructures, and the Arctic (CCAPPTIA), 3-5 May 2018, Manitoba, Canada.
Structural condition has changed, the actual measurement data have to be evaluated and compared to the reference values which derive from the undamaged state of the monitored structure. Therefore, abuse of authority was considered separately. Furthermore, minor modifications have been made to the headings under the second level of HFACS-PV to facilitate analyzing the human factor in passenger vessel accidents. In addition to the core HFACS structure, we have defined an additional Environment level; the violations framework has been divided into the three sub-categories of rule violations, procedure violations, and abuse of authority, instead of the two broad categories of routine and exceptional violations. Abuse of authority is an intentional violation made knowingly and wilfully. Therefore, abuse of authority was considered separately. Furthermore, minor modifications have been made to the headings under the second level of HFACS-PV to facilitate analyzing the human factor in passenger vessel accidents. In addition to the core HFACS structure, we have defined an additional Environment level; the violations framework has been divided into the three sub-categories of rule violations, procedure violations, and abuse of authority, instead of the two broad categories of routine and exceptional violations. Abuse of authority is an intentional violation made knowingly and wilfully. Therefore, abuse of authority was considered separately. Furthermore, minor modifications have been made to the headings under the second level of HFACS-PV to facilitate analyzing the human factor in passenger vessel accidents. In addition to the core HFACS structure, we have defined an additional Environment level; the violations framework has been divided into the three sub-categories of rule violations, procedure violations, and abuse of authority, instead of the two broad categories of routine and exceptional violations. Abuse of authority is an intentional violation made knowingly and wilfully. Therefore, abuse of authority was considered separately.
the damage detection is considered as an optimization inverse problem and the unknown parameters of damage can be forecasted automatically and accurately through the deviation minimization between experimental and simulated natural frequencies. This research discusses the use of adaptive metaheuristics algorithm to provide an automatic detection of denting damage in an offshore structure. A model is developed combining with the percentage of the dent depth of damaged member diameter and is used to assess the performance of the method. It is demonstrated that the small changes in the diameter of individual damaged bracing members of the fixed offshore jacket platform are detectable from measurements of global structural

1st August
Zhisen Yang  “Data-driven BN model of PSC inspections”
Sean Loughney “Utilizing the evidential reasoning approach to determine the most suitable wireless sensor network orientation for use in asset integrity monitoring of an offshore electrical generation system”

5th September
Yannis Ancele “Dynamic Multi-Objective Vehicle Routing Problem with Request Prediction”
Ademola Ishola “Safety modelling approach for risk management of petroleum and gas refineries”

18th September
Prof. Lirong Cui (external speaker), School of Management & Economics at Beijing Institute of Technology, China
Presentation title: “Reliability team in BIT and its research works”
Abstract: In this talk, we first introduce our university: Beijing Institute of Technology (BIT), then give an introduction to our reliability team in school of management & economics, BIT, in which our faculty, students and their research works are introduced. Two research works: (1) Reliability modelling on consecutive-k systems, symmetry balanced systems, cascading failures and (2) Maintenance modelling and analysis by using aggregated stochastic processes, are discussed in detail. Finally, the possible targets/outputs for collaborations are proposed.

Fourth Quarter – Chairing person: Dr. D.B. Matellini / Dr. Milad Armin / Dr. C. Kontovas
3th October
Lei Wang Research on risk management methods for healthcare supply chain in hospital - An investigation of the efficiency of complemented risk mitigation strategy in healthcare supply Chains
Augustine Ehiagwina “Modelling ship emissions using an agent-based approach: An introduction to the research”

18th October, 15:00 to 16:00, Room 302, James Parsons Building
Professor Jasmine Lam Siu Lee (external speaker), Nanyang Technological University, Singapore.
Presentation title: “Cyclone Risk Mapping and Model for Critical Coastal Infrastructure”
Abstract: Seaport as a critical coastal infrastructure is vulnerable to natural hazards. Cyclone-induced hazards to coastal areas include strong wind, rain, high waves, storm surge/tide, and floods. This presentation covers cyclone risk mapping for critical coastal infrastructures and a cyclone risk model for container terminals. Risk mapping at a regional level serves significant purposes at identifying and mapping risk hotspots to prioritise the need for risk-reduction strategies and improve risk management. The cyclone risk model considers physical vulnerability based on geographical location, and spatial distribution of infrastructures and assets for risk assessment. Practical examples are used for illustration.

7th November
Shamsudeen Hassan “Cross country pipeline risk-based failure prediction using hybrid fuzzy evidential reasoning in FMEA”
Gregory Asuelimen “Advanced risk management for marine arctic seismic survey operation”

3rd December, Room 301, James Parsons Building, Presented at a technical event at the IMarEST North West England Branch,
Cameron Kelly “Sit selection of tidal power devices”
Ahmed Makki “Effect of Liverpool container terminal expansion on road congestion”.
Loughney S., Pemberton K An investigation identifying trends between the enforcement of offshore safety case regulations and the occurrence of vessel to platform collision incidents”