

# 2013 Annual Research Outcome Report of Liverpool Logistics, Offshore and Marine (LOOM) Research Institute



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## LOOM members in 2013:

Dr. David R. Allanson (DRA)  
Dr. Steve Bonsall (SB)  
Dr. Andrew Cunningham (AC)  
Dr. Robert Darlington (RD)  
Dr. Stephen Fairclough (SF)  
Prof. Ian Jenkinson (IJ)  
Dr. Karl Jones (KJ)  
Dr. Dante Ben Matellini (DBM)  
Dr. Trung Thanh Nguyen (TTN)  
Dr. Jun Ren (JR)  
Dr. Ramin Riahi (RR)  
Dr. Charles Roberts (CR)  
Dr. Alan Wall (AW)  
Prof. Jin Wang (JW)  
Dr. Zaili Yang (ZY)

## Members involved in PhD supervision at LOOM in 2013:

Prof. David Andrews (DA) of UCL, UK  
Miss Pauline Floode (PF)  
Prof. Wlodzimierz (Vlad) Kaczynski (WK), Univ. of Washington  
Ms Barbara Kelly (BK)  
Dr. S. Miri Lavasani (SML)  
Prof. Kevin X. Li (KXL)  
Dr. E. Maistralis (EM)  
Mr. Geraint Phylip-Jones (GPJ)  
Capt. F. Saeed (FS)  
Prof. Jens U. Schroeder-Hinrichs (USH) of WMU, Sweden  
Dr. Yuhong Wang (YW), Napier University

## LOOM researchers (doctoral/postdoctoral) in 2013:

Ayman Alghanmi  
Saleh Fahed Saleh Al-Khatib  
M. Asuguo  
Denis Atehnijia  
H. Al Yami  
A. Babader  
A. Bury  
Dr. E. Chukwuka  
A. Dantsoho  
I. C. (Chris) Ikewete  
D. Franks  
M. Ha  
Wanzul Bin Abdul Halim  
S. Haddad  
I. C. Ikewete  
A. John  
M. Kasaeyan  
S. Kavakeb  
J.Y. Lee (Dr.)  
C. Li  
D. McNamara  
Fayas Ahmad Najib  
I. Nawaz  
D. Paraskevadis  
S. Pristrom  
Z. Qu  
F. Saad  
M. Said  
N. H. B. M. Salleh  
A. Y. Taha  
A.Y. Usman  
A. Waddah  
H. Wang (Dr.)

This report outlines the research outcomes produced by the LOOM Research Institute from January to December 2013 in terms of the following:

- Research publications.
- Doctoral, postdoctoral and other research projects.
- Research grants.
- Evidence of national and international peer esteem.

Grades 1-10 are used to self-assess each of the above where 1 stands for “unsatisfactory” and 10 “outstanding”.

In the UK’s REF 2014, 9 LOOM members were returned in LJMU’s UoA 12 submission (total number of submitted FTEs: 13). Dr. Jun Ren was promoted as Reader in Logistics and Supply Chain Management in 2013.

It has been identified that the emphasis in 2014 is:

1. To develop international collaboration.
2. To ensure sustainable research growth.
3. To focus on research quality.

## 1. Research publications (only those already published in 2013)

### Self-assessment: 7 out of 10

The following are the outputs published in 2013 (for details, see Appendix 1):

- 4 PhD theses.
- 1 book.
- 4 book chapters.
- 15 SCI-cited refereed journal papers.
- 1 other journal paper.
- 10 refereed conference papers.
- 2 abstract refereed conference papers.
- 1 workshop paper.

## **2. Doctoral, postdoctoral and international research visiting projects (completed, on-going and started in 2013)**

***Self-assessment: 7 out of 10***

### **2.1 Research projects completed in 2013**

#### *Postdoctoral projects or projects*

1. J.Y. Lee, "Simulation in port operations" (2011-2013), funded by EU - InTraDE: Intelligent Transportation for Dynamic Environment. (ZY, TTN, SB)
2. T.T. Nguyen, "Optimisation and simulation in port operations" (2011-2013), funded by EU - InTraDE: Intelligent Transportation for Dynamic Environment. (ZY, JW, SB)

#### *Doctoral projects*

1. A. John, "Resilience and risk management of maritime infrastructure and transportation systems" (2010-2013), funded by EU. (JW, RR, ZY)
2. D.B. Matellini, "A fire and rescue management system" (2009-2013), funded by the EPSRC. (JW, AW, IJ)
3. D. McNamara, "Development of models using Monte Carlo simulation to analyse the efficiency of the operation of marine systems" (2009-2013), funded by LJMU. (AC, JW, IJ)
4. S. Pristrom, "Development of a model to suppress piracy and other maritime crimes using scientific reasoning" (2009-2013). (JW, ZY, SB)

#### *Visiting researcher projects*

1. Miss J.Y. Pak, "Logistics supply chain studies" (Feb.-Mar. 2013), funded by Incheon University. Dr. Pak also completed her PhD at Incheon University with ZY as a co-supervisor.
2. V. Moigner, "Simulation for container terminals" (April – August 2013), funded by Lille Polytech (TTN, ZY).

### **2.2 On-going research projects in 2013**

#### *Doctoral projects*

1. H. Al Yami, "Assessment and its application to sea port systems" (2010-2014), funded by Saudi Arabian Government. (ZY, Riahi, JW)
2. D. Franks, "Risk assessment of royal fleet auxiliary services" (2009-2015), funded by MoD. (JW, AW, ZY)
3. S. Haddad, "A study of the implementation of relationship marketing (RM) approach in supply chain performance" (2010-2014), partially funded by Arab Academy for Science, Technology & Maritime Logistics. (JR, JW, AW)
4. M. Asuguo, "Development of an efficient planned maintenance framework for marine and offshore machineries operating under highly uncertain environment" (2012-2015). (RR, JW, GPJ)
5. D. Atehnijia, "Formal safety assessment of dry docking operations" (2012-2015), funded by the Commonwealth Scholarship. (ZY, RR, JW, KJ)
6. M. Ha, "Port logistics performance measurement" (2012-2015). (ZY, *et al.*)
7. C. Ikewete, "A study into wind farm foundation failure" (2012-2015). (AC, RR)
8. C. Li, "A system dynamics approach for chemical supply chain risk management: modelling and simulation" (2012-2015), partially funded by a EU grant. (JR, *et al.*)
9. I. Nawaz, "A study on risk-based management in offshore operations" (2012-2015), funded by Lloyds Register. (DBM, JW, AC)
10. Z. Qu, "Analytical quality control in shipping operation using Six Sigma principles" (2012-2014). (IJ, JW)
11. N. H. B. M. Salleh, "Supply chain risk assessment and management in liner shipping industry under high uncertainties" (2012-2015), funded by Malaysian Government. (RR, JW, ZY)
12. A.Y. Usman, "Research on quantifying risk assessment of container terminal operations" (2012-2015). (JR, JW, KJ)
13. F. Saeed, "An analysis of deck officer training and assessment for crisis management situation" (2010-2015). (AW, CR, PD)
14. M. Said, "Risk and Safety Assessment of Pilotage Operations" (2010-2014), funded by Malaysian Government. (AW, JW, USH)
15. A. Waddah, "Research on evaluating logistics performance and benchmarking container business in Egypt" (2008-2012), partially funded by Arab Academy for Science, Technology & Maritime Logistics. (JR, CR, JW)
16. A. Babader, "Environmental impact modelling and optimisation of waste packaging" (2011-2014), funded by Saudi Arabian Government (JR, JW, KJ).
17. A. Bury, "Short sea shipping as part of an East/West axis in European logistics" (2011-2015), funded by EU. (AW, JW, JR)
18. A. Dantsoho, "Risk assessment of onshore petroleum terminals and tank farms" (2011-2015), funded by the Nigerian Port Authority. (AW, JR)
19. S. Kavakeb, "Optimisation of Container Port Operations" (2011-2014), funded by EU. (TTN, ZY, IJ).
20. D. Paraskevakis, "An importance-performance analysis of intermodal freight transport chain infrastructures and strategic decision making towards optimisation" (2011-2015), funded by EU. (JR, JW, AW)
21. A.Y. Taha, "Use of it for onboard training of marine officers" (2011-2015), funded by Arab Academy (AW, MJ, BK).
22. M. Kasaeyan, "Advanced risk management of mobile offshore drilling units" (2011-2014). (JW, SB, IJ, SML)
23. Barbara Kelly, "Development of merchant navy qualifications". (AW, *et al.*)

### **2.3 Research projects started in 2013**

#### *Doctoral projects*

1. S. Fahed Saleh Al-Khatib, "Integrated models for strategic evaluation and selection of logistics service providers" (2013-2017), funded by Yarmouk University, Jordan. (RD, ZY, TTN)
2. F. Ahmad Najib, "Development of decision making techniques for analysing the designation of the Northern Sea Route (NSR)" (2013-2017), funded by Universiti Malaysia Terengganu. (DBM, JW, WK)

3. A. Alghanmi, "The movement of liquid bulk cargo from the gulf countries to the world" (2013-2017), funded by the Saudi government. (AC, *et al.*)
4. W.M. Abdul Halim, "Shipping network analysis" (2003-2017), funded by Universiti Malaysia Terengganu. (ZY, TTN, YW.)

#### *Visiting researcher project*

1. Dr. H. Wang, "Modelling of emergency scenarios associated with oil spills" (2013-2014), funded by China Scholarship Council.

### **3. LOOM monthly seminars in 2013**

8 LOOM monthly seminars were organised in 2013. The following external speakers kindly delivered their presentations at LOOM's monthly seminars:

- Prof. Michael Beer, Director of Director, Institute for Risk & Uncertainty, Liverpool University.
- Dr. Paul Laidlaw, Cluster PEX Manager, The Maersk Line (UK) Ltd.
- Prof. Changhe Li, China University of Geosciences.
- Dr. Royce Francis, The George Washington University, USA.
- Dr. Di Zhang, Wuhan University of Technology.

The detailed LOOM monthly seminars in 2013 are shown in Appendix 2.

### **4. Research grants in 2013**

#### **Self-assessment: 6 out of 10**

#### **4.1 External grants**

##### *Grants completed in 2013*

• Study of maritime regulations (Leverhulme Trust, 2011-2013)	£42,281	(JW)
• RESCUE - Maritime security (ESRC, 2012-1013)	£4,720	(JW, RR)
• Treatment of waste vegetable oil (KTP, 2010-2013)	£155,116	(DRA, IJ)

##### *On-going grants in 2013*

• Intrade - Intelligent Transportation for Dyn. Env. (EU, 2010-2014)	£470,000 (of €3.5m)	(ZY, JW, SB)
• Westflows – freight movements in NWE (EU, 2011-2015)	£320,000 (of €4.5m)	(JW, ZY, JR, AW, SB)
• REFERENCE – Risk assessment (EU, 2012-1016)	€384,300	(JW, ZY, AC)

##### *Grants started in 2013*

• Science and Technology Facilities Council (2013)	£6,000	(AC)
• International Association of Maritime Universities (2013-2014)	\$54,000	(RR, FS, JW, ZY)
• ENRICH – Integrated Container Supply Chains (EU, 2013-1017)	€592,000	(ZY, JW, RR)
• FETCH: Future Edu. & Training in Computing (EU, 2013-2016)	€29,548 (of €1.127k)	(KJ)
• KTP with Northstone/Cubis (KTP 8079, 2013-2014)	£77,558	(RD)

##### *Grants awarded in 2013*

• Virtual port simulation (CILT, 2014-2015)	£7,500	(TTN)
• MPC - Marine Policy Comparison (Korean Gov., 2014-2015)	\$10,000	(ZY)
• InTraDE1 – Transferability of IAVs (EU INTERREG, 2014-2015)	€32,000	(ZY, TTN, JW)

#### **4.2 Internal grants**

• Faculty Research Funding Award (2012-2013)	£3,000	(TTN, <i>et al.</i> )
• LJMU student enhancement funding (2012-2013)	£5,300	(YZ, CR, PF)
• PGR Conference Travel Fund (2013)	£300	(JR)
• PGR Conference Travel Fund (2013)	£300	(TTN)
• Change Liverpool (2013)	£5,300	(ZY)
• Internal travel grant for EU bids (2013)	£5,000	(ZY)

### **5. Evidence of national and international peer esteem in 2013**

#### **Self-assessment: 6 out of 10**

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

- Invited presentation, "Use of Bayesian networks to analyse the dependency of the factors influencing tanker shipping financial performance and bankruptcy risks", Southern Economic Association Conference 2013, November 23-25, Florida, USA. (ZY as a co-author)
- Invited presentation, "Advanced research into freight, logistics, and maritime transport: implications for policy", Invited speech in the Liverpool Chamber of Commerce, April 24, 2013, Liverpool, UK. (ZY)
- Invited presentation, "Port safety and security - prioritising the security risks and threats in ports", Maritime Security Conference in Transport Security Expo 2013, November 13-14, 2013, London, UK. (ZY)
- Invited presentation, "Applying Information Technology to Container Ports - Where Automation Technologies Meet Decision Sciences" (invited talk/tutorial), the Fifth International Conference of Soft Computing and Pattern Recognition SoCPar 2013. (TTN)
- Invited talk/tutorial in the Third World Congress on Information, Communication and Technology WICT 2013. (TTN)
- Invited presentation in the research seminar of Henan Institute of Technology, Zhengzhou, China, 21 November 2013. (JR)

- Invited presentation, “Maritime Safety and Security: Recent Developments”, Maritime Policy & Management 40th Anniversary Conference at Chung-Ang University, Seoul, June 21, 2013. (JW)
- Keynote speech, “Challenges and Developments in Maritime Safety and Security Assessment”, 2nd International Conference on Transportation Information and Safety, Wuhan, China, June 28 - July 1, 2013. (JW)

#### ***b. Participation in journal editorial boards***

- Member of the Editorial Board of International Journal of Agile Systems and Management. (JR)
- International Journal of Ocean Systems Engineering. (JR)
- Associate Editor of International Journal of Information and Systems Sciences (IJISS). (JR)
- Member of the Editorial Board of the UK Safety and Reliability Society Journal. (JW)
- Member of the Editorial Board of Reliability Engineering and Quality International. (JW)
- Associate Editor of the International Journal of Automation and Computing. (JW)
- Member of the Editorial Board of Tourism Today. (JW)
- Member of the Editorial Board of Journal of Transportation Engineering. (JW)
- Member of the Editorial Board of Journal of Marine Science and Application. (JW)
- Member of the Editorial Board of Maritime Policy and Management. (JW)
- Member of the World Maritime University Journal. (JW)
- Deputy Editor of Journal of Marine Science and Technology (since 2013). (JW)
- Editorial board member of Asian Journal of Shipping and Logistics (since 2013). (JW)
- Editorial board member of Journal of Shipping and Ocean Engineering (since 2013). (JW)
- Guest Editor of Growth and Change: An International Journal. (ZY)
- Associate Editor of IMA Journal of Management Mathematics. (ZY)
- Member of Editorial Board of Asian Journal of Shipping and Logistics. (ZY)
- Member of Editorial Board of Advanced Shipping and Ocean Engineering. (ZY)
- Member of Editorial Board of International Journal of Marine Science and Engineering. (ZY)
- Member of Editorial Board of Journal of Shipping and Ocean Engineering. (ZY)
- Member of Editorial Board of Engineering Management Research. (ZY)
- Member of the Editorial Board for the International Journal of Intelligent Systems and Applications in Engineering. (KJ)
- Member of the Editorial Board for the Journal of Mathematical Control Science and Applications. (KJ)
- Member of the Scientific Board for the Informatica Economica Journal (<http://revistaie.ase.ro/>). (KJ)

#### ***c. Participation in national or international advisory, review, funding, standards or planning bodies***

- Member of sub-panel 12 (Mech. Eng.) in Research Excellence Framework (REF) 2014 in the UK. (JW)
- Member of the UK EPSRC peer review college of experts. (JW)
- Member of the IMO Formal Safety Assessment Experts Group. (JW)
- Review of grant applications for EU, EPSRC, Research Council of Norway, the Leverhulme Trust, *etc.* (most LOOM members)
- Member of committee for Deck Officer Qualifications & Standards of IAMI. (AW)
- Advisor on the Ports and Terminals Advisory Group for UK Trade & Investment (UKTI). (IJ)
- Joined the Education board for planned University Training College – Liverpool Superport and Low Carbon UTC. (AC)
- EPSRC Manufacturing Early Career Researcher forum member (2012- 2014). (RD)

#### ***d. Learned society involvement***

- Committee member of the North West Branch of the IMarEST. (GPJ & RR)
- Committee member of International Association of Maritime Institutions. (RR)
- Committee member of the Consortium of Manufacturing Engineering Heads. (IJ)
- President of Psychophysiology in Ergonomics (an international working group of the International Ergonomics Association). (SF)
- Chairman of Maritime Transportation Safety, European Safety and Reliability Association (ESRA). (JW)
- Member of the Council of the Maritime Security & Safety Group at the Society of Maritime Industries. (JW)
- Hon Sec NW England and N Wales Branch of Nautical Institute. (SB)
- Member of the Honourable Company of Master Mariners. (SB)
- Member of the Institute of Electrical and Electronics Engineers (IEEE). (TTN)
- Member of the Institute of Electrical and Electronics Engineers (IEEE). (TTN, KJ)
- Member of International Association of Maritime Economics (IAME). (ZY)
- EPSRC Manufacturing Early Career Researcher forum member (2012-2014). (RD)
- Chartered Institute of Logistics and Transport: host institution for several CILT events. (CR)
- Member of the IEEE Task Force on Evolutionary Computation in Dynamic and Uncertain Environments (TTN)
- Member of Council for the Institute of Measurement and Control (KJ)
- Member of the IEEE Society on Computational Intelligence. (TTN, KJ)
- Fellow of the Higher Education Academy. (KJ)
- Member of the Institution of Engineering and Technology. (KJ)
- Founding director (one of eighteen) of International Association of Transport, Trade and Service Studies (IATTSS). (ZY)

#### ***f. External PhD examinership***

- PhD examiner, Greenwich University. (SB)
- External PhD examiner, Manchester Business School, The University of Manchester, Nov 2013. (AW)

#### ***g. Involvement of conference organisation***

- Member of Technical Committee of Quality, Reliability, Maintainability and Safety and 2013 International Conference on Materials and Reliability (QR2MSE2013 & ICMR2013, [www.qr2mse.org](http://www.qr2mse.org)), Emeishan, China, July 15-18, 2013. (JW)
- Member of Technical Committee of 2nd International Conference on Transportation Information and Safety, Wuhan, China, 28th June - 1st July 2013. (JW)

- Member of Scientific Board of 7th Summer Safety & Reliability Seminars SSARS, Sopot, Poland, June 23 - 29, 2013. (JW)
- Chairman of Maritime Piracy Workshop, Liverpool John Moores University, Feb. 26, 2013. (JW)
- Member of International Technical Committee of the 8th World Congress on Engineering Asset Management and the International Conference on Utility Management & Safety (WCEAM & ICUMAS 2013), 30 October - 1 November 2013, Hong Kong Convention & Exhibition Centre. (JW)
- Member of Programme Committee, Special Session on Evolutionary Computation in Dynamic and Uncertain Environments, IEEE World Congress on Computational Intelligence 2013 (largest event in the field). (TTN)
- Member of the Programme Committee, GA Session, Genetic and Evolutionary Computation Conference (GECCO-2013) (largest event in the field). (TTN)
- Member of the Programme Committee, EvoSTOC, European Conference on the Applications of Evolutionary Computation 2013. (TTN)
- Member of the Programme Committee, GA Session, Genetic and Evolutionary Computation Conference (GECCO-2014) (largest event in the field). (TTN)
- Member of the Programme Committee, World Congress on ICT 2013. (TTN)
- Member of the Programme Committee, Fifth International Conference of Soft Computing and Pattern Recognition 2013. (TTN)
- Member of Programme Committee of International Conference on Reliability, Infocom Technologies and Optimization (ICRITO), 2013. (ZY)
- Member International Organising Committee: Information Technologies. (KJ)
- Member International Organising Committee: Conference on Computer Systems and Technology. (KJ)
- IFAC World Congress Editors and Associated Editors. (KJ)

#### ***h. Prizes/honours***

- One of IEEE Computational Intelligence Society's Publication Spotlights, May 2013. (TTN)
- Second most read in ScienceDirect's Top 25 for Swarm and Evolutionary Computation, from July 2012 - June 2013. (TTN)
- Third most read in ScienceDirect's Top 25 for Swarm and Evolutionary Computation, from July 2013 - September 2013. (TTN)
- The BEng student (David Powell) received the Society of Maritime Industries' Donald Maxwell Award 2013 for his dissertation "A proposed Probabilistic Model for Operational Oil Discharges from Shipping under high uncertainties" supervised by Dr. Ramin Riahi. (RR)
- Highest reviewing scores for a paper submitted to the EvoSTOC 2014 conference track. (Kavakeb, TTN, ZY, IJ)

#### ***i. Invited reviews***

- Review of more than 30 journals including IEEE Transactions, Knowledge- Based Systems, Journal of Hazardous Materials, Journal of Petroleum Science and Engineering, IMechE journals, MIT Evolutionary Computation Journal, Natural Computing, Knowledge-Based Systems, Ocean Engineering and Risk Analysis. (Most of the LOOM members)
- Review of more than 30 research proposals for EPSRC, EU, etc. (Most of the LOOM members)
- Reviewer for EPSRC shortlisting panel. (RD)
- Reviewer for the Higher Education Academy (Teaching Development Grants and Mike Baker Doctoral Programme). (KJ)

#### ***j. Other invited presentations***

- "An Investigation of risk-based fire and rescue management", Workshop on Maintenance of Complex Systems, University of Salford, March 22, 2013. (DBM)
- "Risk-based decision making under uncertainties", Research seminar delivered at Wuhan University of technology, China, Nov. 19, 2013. (JR)

#### ***k. The following organisations have collaborated in research with LOOM in 2011***

##### *Industrial organisations*

ABS Consulting Ltd, CMA-CGM, Lloyds Register, Mersey Fire and Rescue Authority, Mersey Maritime Ltd, Risktec, Peel Port.

##### *Universities*

Ecole Centrale Paris, Chung Ang University, Norwegian University of Science and Technology, Polytech'Lille, Shanghai Maritime University, The University of Manchester, UCL, University of Science and Technology of Lille, Wuhan University of Technology.

#### ***l. Others***

- Working in partnership with Risktec Solutions delivering distance learning and face to face modules. (DBM)

## Appendix 1: Publications published in 2013

### *PhD theses*

1. John A., "Resilience and Risk Management of Maritime Infrastructure and Transportation Systems" (2009-2013), LOOM, LJMU, 2013.
2. Matellini D.B., "A fire and rescue management system" (2009-2013), LOOM, LJMU, 2013.
3. McNamara D., "Development of models using Monte Carlo simulation to analyse the efficiency of the operation of marine systems" (2009-2013), LOOM, LJMU, 2013.
4. Pristrom S., "Development of a model to suppress piracy and other maritime crimes using scientific reasoning" (2009-2013), LOOM, LJMU, 2013.

### *Book*

5. Bole A., Wall A.D., Norris A., Radar & Arpa manual, Elsevier, December 2013 (ISBN 978-0-08-097752-2).

### *Book Chapters*

6. Nguyen T.T., Yao X., Evolutionary dynamic optimisation on continuous dynamic constrained problems – An analysis", Evolutionary Computation for Dynamic Optimization Problems, Springer-Verlag, 2013, 193-217.
7. Nguyen T.T., Yang S., Branke J., Yao X., Evolutionary dynamic optimization: Methodologies, Evolutionary Computation for Dynamic Optimization Problems, Springer-Verlag, 2013, 39-64.
8. Yang S., Nguyen T.T., Li C., Evolutionary dynamic optimization: Test and evaluation environments, Evolutionary Computation for Dynamic Optimization Problems, Springer-Verlag, 2013, 3-37.
9. Ng A., Yang Z. Port security regulations and policies in Hong Kong: a critical review and the development of a risk based security assessment model, in Designing Supply Chains in Emerging Economies (Eds by J Szyliowicz and K Bichou), Edward Elgar, 2013.

### *Refereed academic journal papers (SCI cited)\**

10. Matellini D.B., Wall A.D., Jenkinson I.D., Wang J., Pritchard R., "Modelling dwelling fire development and occupancy escape using Bayesian network", Reliability Engineering & System Safety, Vol.114, 2013, 75–91. (IF = 1.901)
11. Matellini D.B., Wall A.D., Jenkinson I.D., Wang J., Pritchard R., "A study of human reaction during the initial stages of a dwelling fire using a Bayesian network model", Proceedings of the Institution of Mechanical Engineers Part O - Journal of Risk and Reliability, Vol.227, Issue. O2, 2013, 207-221. (IF = 0.621)
12. Pam E.D., Li K.X., Wall A., Yang Z.A., Wang J., "A subjective approach for ballast water risk estimation", Ocean Engineering, Vol.61, 2013, 66-76. (IF = 1.161)
13. Yang Z.L., Wang J., Li K.X., "Maritime safety analysis in retrospect", Maritime Policy & Management, Vol.40, No.3, 2013, 261-277. (IF = 0.816)
14. Yang Z.L., Bonsall S., Wall A., Wang J., Usman M., "A modified CREAM to human reliability qualification in marine engineering", Ocean Engineering, Vol.58, 2013, 293-303. (IF = 1.161)
15. Riahi R., Bonsall S., Jenkinson I., Wang J., "A proposed methodology for assessing the reduction of a seafarer's performance with insufficient recuperative rest", Journal of Marine Engineering and Technology, Vol. 12, Issue 2, 2013, 11-29. (IF = 0.154)
16. Nwaoha T.C., Yang Z., Wang J., Bonsall S., Riahi R., "A fuzzy genetic algorithm approach for analysing maintenance cost of high risk liquefied natural gas carrier systems under uncertainty", Journal of Marine Engineering and Technology, Vol. 12, Issue 2, 2013, 41-57. (IF = 0.154)
17. Zhang D., Yan X.P., Yang Z.L., Wall A., Wang J., "Incorporation of formal safety assessment and Bayesian network in navigational risk estimation of the Yangtze River", Reliability Engineering & System Safety, Vol.118, 2013, 93-105. (IF = 1.901)
18. Chen S.T., Wall A., Davies P., Yang Z., Wang J., Chou Y.H., "A Human and Organisational Factors (HOFs) analysis method for marine casualties using HFACS-Maritime Accidents (HFACS-MA)", Safety Science, Vol.60, 2013, 105-114. (IF = 1.359)
19. Yang Z.L., Ng A.K.Y., Wang J., "Prioritising security vulnerabilities in ports", International Journal of Shipping and Transport Logistics, Vol.5, No.6, 2013, 622-636. (IF = 1.319)
20. Pristrom S., Li K.X., Yang Z.L., "A study of maritime security and piracy", Maritime Policy & Management, Vol.40, Issue 7, 2013, 675-693. (IF = 0.816)
21. Chen S.T., Wall A., Davies P., Yang Z.L., Wang J., "A Human and Organisational Factors (HOFs) analysis method for marine casualties using HFACS-Maritime Accidents (HFACS-MA)", Safety Science, Vol.60, 2013, 105-114. (IF = 1.359)
22. Nwaoha T.C., Bonsall S., Jenkinson I., Wang J., "Adoption of new advanced computational techniques to hazards ranking in LNG carrier operations", Ocean Engineering, Vol.72, 2013, 31-44. (IF = 1.161)
23. Yang S., Jiang Y., Nguyen T.T., "Metaheuristics for dynamic combinatorial optimization problems, IMA Journal of Management Mathematics, Vol.24 (4), 2013 451-480. (IF=0.593)
24. Yeo G.T., Pak, J.Y. and Yang Z., "Analysis of dynamic effects on seaport adopting port security", Transportation Research Part A: Policy and Practice, Vol. 49, 2013, 285-301. (IF = 2.725)

### *Other refereed journal paper*

25. Ng A., Chen S., Cahoon S., Brooks B., Yang Z., "Climate change and the adaptation strategies of ports: The Australian experiences", Research in Transportation Business & Management, Vol. 8, 2013, 86-194.

### *Refereed conference papers*

26. Wang J., "Challenges and Developments in Maritime Safety and Security Assessment", 2nd International Conference on Transportation Information and Safety, Wuhan, China, June 28 - July 1, 2013.
27. Wang J., "Maritime Safety and Security: Recent Developments", Maritime Policy & Management 40th Anniversary Conference, Chung-Ang University, Seoul, June 21, 2013.
28. Riahi R., Robertson I., Jenkinson I., Bonsall S., Wang J., "A model for evaluating the security level of a port", Annual European Reliability and Safety Conference, Amsterdam, Sept. 30 - Oct. 2, 2013, Safety, Reliability and Risk Analysis:

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\* IF: Impact factor.

Beyond the Horizon – Steenbergen *et al.* (Eds), 2014 Taylor & Francis Group, London, 3245-2252, ISBN 978-1-138-00123-7.

29. Nguyen T.T., Yang Z., Jenkinson I., “Solving dynamic optimisation problems by combining evolutionary algorithms with KD-Tree”, IEEE 2013 Fifth International Conference of Soft Computing and Pattern Recognition, IEEE Press, 2013, 253-258.
30. Haddad S., Ren J., “Research on demand and supply integration: A practical case study framework.” Proceedings of the 12th International Middle East Economic Association Conference, Speyer, Germany, March 18-20, 2013.
31. Haddad S., Ren J., Elzarka S., “Assessing the impact of marketing/supply chain inter-functional integration using a measurement taxonomy.” Proceedings of the 18th International Symposium on Logistics (ISL 2013), Vienna, Austria, July 7-10, 2013.
32. Qu Z., Jenkinson I., Wang J., Fraser G., Yang Z., “A new fuzzy TOPISIS method for six sigma project selection: A case analysis in shipping quality control”, International Association of Maritime Economics Conference 2013 (IAME2013), July 2-5, 2013, Marseille, France.
33. Ng A., Yang, Z., Cahoon, S., Chen S., Becker M., Fischer M., “Analyzing risks posed by climate change on ports: A fuzzy approach”, International Association of Maritime Economics Conference 2013 (IAME2013), July 2-5, 2013, Marseille, France.
34. Al Yami H., Yang Z., Ramin R. Bonsall S., Wang J., “A new risk analysis approach for container terminal safety evaluation”, International Conference on Challenges and Responses of Ports in A Globalised Economy, April 3-5, 2013, Bangkok, Thailand.
35. Zhang D., Yan X.P., Yang Z., Wang J., “Facilitating Fuzzy Rule-Based Evidential Reasoning in the Navigational Risk Assessment of Inland Waterway Transportation System”, 92th Transportation Research Board (TRB) Conference, January 13-17, 2013, Washington D.C. USA.

***Abstract refereed conference papers***

36. Said M.H., Wall A., Wang J., Schroder-Hinrichs J.U., “Technique for the retrospective and predictive analysis of cognitive errors (TRACER) in maritime pilotage operation”, 12th International UMT Annual; Symposium “Advancements in Marine and Freshwater Sciences”, University Malaysia Terengganu, Malaysia, October 9-10, 2013.
37. Babader A., Ren J., Wang J., Jones K., (2013) “A system dynamic approach for enhancing social behaviours regarding the reuse of waste packaging: A case study of Jeddah Saudi Arabia householders”, Proceedings of the GERI Annual Research Symposium, ISSN: 1757-6717, Vol. 6, 1-6, June 26, 2013.

***Workshop papers/posters/other paper***

38. Matellini D.B., Wang J., “An investigation of risk-based fire and rescue management”, Workshop on Maintenance of Complex Systems, University of Salford, March 22, 2013.

## **Appendix 2: LOOM monthly seminars in 2013**

Time: 10.00-11.15, first Wednesday of each month from February 2013.

Venue: Room 1.21, LOOM Research Institute, James Parsons Building, Byrom Street, Liverpool John Moores University, Liverpool, L3 3AF, UK

Each internal speaker will give a talk of 30 minutes (excluding question time) while an external speaker is given 60 minutes (excluding question time).

### First Quarter in 2013 – Chairing person: Dr. J. Run/Dr. Rob Darlington

6th Feb.

Dr. R. Darlington, “A hybrid production planning approach for waste Minimisation in convenience food manufacture”

Mr. M. H. Said, “Risk assessment and management of pilotage operations”.

6th Mar.

External speaker: Prof. Michael Beer, Director of Director, Institute for Risk & Uncertainty, “Engineering analysis with vague and imprecise information”

### Second Quarter in 2013 – Chairing person: Dr. A. Wall/Dr. R. Riahi

1 May 2013

Mr. N. H. Bin Mohd Salleh, “Supply chain risk assessment and management in liner shipping industry under high uncertainties”.

Mr. A. John, “Infrastructure resilience modelling”.

5th June

Mr. I. Nawaz, “Risk based verification of offshore installations”

Mr. D. Franks, “Decision making framework for alterations and additions undertaken on vessels of the royal fleet auxiliary”.

### Third Quarter in 2013 – Chairing person: Dr. A. Cunningham/Dr. D.B. Matellini

3rd July

External speaker: Prof. Changhe Li from China University of Geosciences, “Optimisation algorithms used in dynamic and uncertain environments”

4th Sept.

Mr. M. Asuguo, “Development of an efficient planned maintenance framework for marine machineries operating under high uncertainty”

Mr. M. Ha, “Port logistics performance measurement”

### Fourth Quarter in 2013 – Chairing person: Dr. Z. Yang/Dr. T.T. Nguyen

2nd Oct. 2013

External speakers: Dr. Paul Laidlaw, Cluster PEX Manager, The Maersk Line (UK) Ltd, “Development and Challenges”

12th Nov.

External speaker: Dr. Royce Francis, The George Washington University, USA, “Studies in Using Graphical and Statistical Models for Infrastructure Risk and Resilience Modelling”

22nd Nov.

External speaker: Dr. Di Zhang, Wuhan University of Technology, “Maritime risk assessment & anti-collision decision making”