

# 2012 Annual Research Outcome Report of Liverpool LOGistics, Offshore and Marine (LOOM) Research Institute



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**LOOM Website:** <http://www.ljmu.ac.uk/eng/researchgroups/morg/>

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## LOOM members in 2012:

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. 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 2012:

Mr. Phil Davies (PD)  
Dr. Steve Douglas (SD)  
Miss Pauline Floode (PF)  
Dr. Karl Jones (KJ)  
Prof. Marion Jones (MJ)  
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  
Prof. David Andrews (DA) of UCL, UK  
Prof. E. Zio (EZ) of Ecole Centrale Paris, France

## LOOM researchers in 2012:

N. Abdul Rahman  
K. Abujaafar  
M. Asuguo  
Denis Atehijia  
H. Al Yami  
A. Babader  
A. Bury  
Dr. E. Chukwuka  
A. Dantsoho  
M. Ha  
A. John  
D. Franks  
D. Gohomence  
S. Haddad  
L. Huang (Prof.)  
I. C. Ikewete  
M. Kasaeyan  
S. Kavakeb  
J.Y. Lee (Dr.)  
C. Li  
D. McNamara  
D. B. Matellini  
K. Mokhtari (Dr.)  
I. Nawaz  
T. Nwaoha (Dr.)  
D. Paraskevadakis  
S. Pristrom  
Z. Qu  
T. Rachmanto  
F. Saad  
M. Said  
N. H. B. M. Salleh  
M. Serhat Ozturk  
D. Soetan  
L. Tag el-Sheikh  
A. Y. Taha  
A.Y. Usman  
A. Waddah  
Y. Xi (Prof.)

This report outlines the research outcomes produced by the LOOM Research Institute from January to December 2012 in terms of the following:

1. Research publications.
2. Doctoral, postdoctoral and other research projects.
3. Research grants.
4. 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”.

It has been identified that the emphasis in 2013 is:

1. To develop international collaboration.
2. To ensure sustainable research growth.
3. To focus on research quality.
4. To sustain the critical research mass at the LOOM Research Institute.
5. To prepare the forthcoming submission in Unit of Assessment 12 in UK’s Research Excellence Framework 2014.

## 1. Research publications (only those already published in 2012)

### Self-assessment: 7 out of 10

The following publications have been produced in 2011 (for details, see Appendix 1):

- 2 PhD theses.
- 1 book chapter.
- 12 SCI-cited refereed journal papers.
- 17 refereed conference papers.
- 3 other publications.

## 2. Doctoral, postdoctoral and international research visiting projects (completed, on-going and started in 2012)

### Self-assessment: 7 out of 10

## **2.1 Research projects completed in 2012**

### *Postdoctoral projects or projects funded by EU and EPSRC*

1. Dr. T.T. Nguyen, "Optimisation - Intelligent transportation for dynamic environment" (2011-2012), funded by EU. (ZY, JW, SB)
2. Dr. R. Riahi/A. Bury, "Security modelling of container liners" (2008-2012), sponsored by the UK EPSRC. (JW, SB, IJ)
3. Dr. T.C. Nwaoha, "Simulation of port environment" (10/2011-01/2012), funded by EU. (ZY, TTN)

### *Doctoral projects*

1. Dr. K. Abujaafar, "Use of CREAM to reduce human errors in marine operations" (2009-2012), funded by the Libyan Government. (ZY, SB, JW)
2. Dr. N. A. Rahman, "Financial impact of slow steaming on the container shipping Sector" (2009-2012), funded by the Malaysian Government. (JW, ZY, SB)

### *Visiting researcher projects*

1. Prof. L. Huang, "Navigational Meteorology and Oceanography" (May-Nov. 2012), funded by Chinese Government. (AW, IJ)
2. Prof. Y. Xi, "Human error modelling in ship operations". (Feb.-Aug. 2012), funded by Shanghai Maritime University. (ZY, JW)

## **2.2 On-going research projects in 2012**

### *Postdoctoral project*

1. J.Y. Lee, "Simulation - Intelligent transportation for dynamic environment" (2011-2013), funded by EU. (ZY, *et al.*)

### *Doctoral projects*

1. H. Al Yami, "Assessment and its application to sea port systems" (2010-2013), funded by Saudi Arabian Government. (ZY, Riahi, JW)
2. L.T. El-Sheikh, "The implementation of strategic logistics management to support exports by the Egyptian petrochemicals industry" (2007-2013), partially funded by Arab Academy for Science, Technology & Maritime Logistics. (CR, AW, SB)
3. D. Franks, "Risk assessment of royal fleet auxiliary services" (2009-2013), funded by MoD. (JW, AW, ZY)
4. 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)
5. A. John, "Resilience study of intermodal container supply chains" (2010-2013), funded by EU. (JW, Riahi, ZY)
6. D.B. Matellini, "A fire and rescue management system" (2009-2012), funded by the EPSRC. (JW, AW, IJ)
7. D. McNamara, "Simulation analysis of marine systems" (2009-2012), funded by LJMU. (AC, JW, IJ)
8. S. Pristrom, "A study of maritime security" (2009-2013). (JW, ZY, SB)
9. T. Rachmanto, "Investigating the conversion of waste vegetable oil into viable bio-diesel" (2009-2012), funded by the Indonesia Government. (DRA, IJ)
10. F. Saeed, "An Analysis of Deck Officer Training and Assessment for Crisis Management Situation" (2010-2015). (AW, CR, PD)
11. M. Said, "Risk and Safety Assessment of Pilotage Operations" (2010-2013), funded by Malaysian Government. (AW, JW, USH)
12. 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)
13. A. Babader, "Environmental impact modelling and optimisation of waste packaging" (2011-2014), funded by Saudi Arabian Government (JR, JW, KJ).
14. A. Bury, "Modal Choice in Unitized Freight Supply Chains - A North West European Model" (2011-2015), funded by EU. (AW, JW, JR)
15. A. Dantsoho, "Efficiency of third party service providers in port operations" (2011-2015), funded by the Nigerian Port Authority. (AW, JR)
16. S. Kavakeb, "Optimisation of Container Port Operations" (2011-2014), funded by EU. (TTN, ZY, IJ).
17. D. Paraskevadakis, "An importance-performance analysis of intermodal freight transport chain infrastructures and strategic decision making towards optimisation" (2011-2015), funded by EU. (JR, JW, AW)
18. A.Y. Taha, "Onboard training requirements for trainee deck officers" (2011-2015), funded by Arab Academy (AW, MJ, BK).

## **2.3 Research projects started in 2012**

### *Doctoral projects*

1. M. Asuguo, "Development of an efficient planned maintenance framework for marine and offshore machineries operating under highly uncertain environment" (2012-2015). (RR, JW, GPJ).
2. D. Atehnijia, "Formal safety assessment of dry docking operations" (2012-2015), funded by the Commonwealth Scholarship. (ZY, RR, JW)
3. M. Ha, "Port logistics performance measurement" (2012-2015). (ZY, *et al.*)
4. C. Ikewete, "A study into wind farm foundation failure" (2012-2015). (AC, RR)
5. 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.*)
6. I. Nawaz, "A study on risk-based management in offshore operations" (2012-2015), funded by Lloyds Register. (Wang, *et al.*)
7. Z. Qu, "Analytical quality control in shipping operation using Six Sigma principles" (2012-2014). (IJ, JW)
8. F. Saad, "An investigation on control of engine emission" (2012-2015), funded by Libyan Government. (RR, *et al.*)
9. 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)
10. A.Y. Usman, "Research on quantifying risk assessment of container terminal operations" (2012-2015). (JR, *et al.*)

The detailed information for the LOOM monthly seminars in 2012 is shown in Appendix 2.

### 3. Research grants in 2012

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

##### 3.1 External grants

###### *Grants completed in 2012*

• A fire and rescue management system (EPSRC, 2009-2012)	£135,751	(JW, AW, IJ)
• Security modelling, Research Council (EPSRC, 2008-2012)	£247,355	(JW, SB, IJ)
• K.T. Po Visiting Professorship (Royal Society, 2011-2012)	£2,500	(JW, KXL)

###### *On-going grants in 2012*

• Intrade - Intelligent Transportation for Dyn. Env. (EU, 2010-2014)	£470,000 (of €3.5m)	(ZY, JW, SB)
• Treatment of waste vegetable oil (KTP, 2010-2013)	£155,116	(DRA, IJ)
• Weastflows – freight movements in NWE (EU, 2011-2015)	£320,000 (of €4.5m)	(JW, ZY, JR, AW, SB)
• Study of maritime regulations (Leverhulme Trust, 2011-2013)	£42,281	(JW)

###### *Grants started in 2012*

• REFERENCE – Risk assessment (EU, 2012-1016)	€384,300	(JW, ZY, AC)
• RESCUE - Maritime security (ESRC, 2012-1013)	£4,720	(JW, RR)

###### *Grants awarded in 2012*

• Science and Technology Facilities Council (2013)	£6,000	(AC)
• International Association of Maritime Universities (2013-2014)	\$54,000	(RR, FS, JW, ZY)

##### 3.2 Internal grants

• PhD – Monte Carlo simulation study (LJMU, 2009-2012)	£48,000	(AC, JW, IJ)
• University RA Early Career Researcher Award (2011-2012)	£1,500	(TTN)
• Faculty Research Funding Award (2012-2013)	£3,000	(TTN)
• Faculty Research Funding Grant (2011-2012)	£2,500	(RR)
• PGR Conference Travel Fund (2012)	£300	(Rahman)
• LJMU student enhancement funding (2012-2013)	£5,300	(YZ, CR, PF)
• LJMU (internal travel funding for preparing a EU bid) (2012)	£5,000	(YZ)

### 4. Evidence of national and international peer esteem in 2012

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

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

- “Improvement of Operational Efficiency through Enhanced Port Security”, 7th International Gwangyang Port Forum, Seoul, Korea, 16-17 August 2012. (JW)
- Invited speech in the International Conference of Association of Transport, Trade and Service Studies (ATTSS), Hong Kong, June 18-20 2012. (ZY)

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

- Member of the Editorial Board of International Journal of Agile Systems and Management. (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 Euro Mediterranean Journal. (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)
- Member of the Editorial Board of Journal of Advanced Shipping and Ocean Engineering. (ZY)
- Editorial board member of International Journal for Applied Industrial Engineering. (ZY)
- Guest Editor of Growth and Change: An International Journal (G&C). (ZY)

##### *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, 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)
- Member of the Peer Review College of the Romanian National Council for Scientific Research, 2012. (ZY)
- Reviewer for EPSRC Centres For Innovative Manufacturing (December 2012). (RD)
- Shortlisting Panel member EPSRC Flexible and Reconfigurable Manufacturing Systems Call (April 2012). (RD)

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

- Committee member of the North West Branch of the IMarEST. (GPJ & 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)
- 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 IEEE Society on Computational Intelligence. (TTN)
- Member of International Association of Maritime Economics (IAME). (ZY)
- EPSRC Manufacturing Early Career Researcher forum member (2012-2014). (RD)

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

- PhD examination at Salford University. (ZY)
- Examination of 1 PhD at Solent University, UK. (SB)

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

- Associate Chair on CHI'2012 Technical Committee. (SF)
- Member of the Programme Committee, Special Session on Evolutionary Computation in Dynamic and Uncertain Environments, IEEE World Congress on Computational Intelligence 2012. (TTN)
- 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 2013, European Conference on the Applications of Evolutionary Computation. (TTN)
- Member of Advisory Board of Annual World Congress of Ocean (WCO), Dalian, China, September 20-23, 2012. (ZY)
- Member of TPC of International Conference on Quality, Reliability, Risk, Maintenance and Safety Engineering (ICQR2MSE), Chengdu, China, June 15-18, 2012. (ZY)
- Session chair, IEEE International Conference on Quality, Reliability, Risk, Maintenance and Safety Engineering (QR2MSE), Chengdu, China, 15 -18 Jun, 2012. (RJ)
- Committee member of IEEE PHM – 2012, Prognostics and System Health Management Conference, Beijing, China, 23-25 May 2012. (JW)
- Member of Programme Committee of 2012 International Conference On Quality, Reliability, Risk, Maintenance, And Safety Engineering (ICQR2MSE), Chengdu, China, 15th -18th June 2012. (JW)
- Member of Technical Programme Committee of PSAM11 & ESREL 2012, Helsinki, Finland, 25 - 29 June, 2012. (JW)
- Member of International Scientific Committee of the International Workshop on Next Generation of Nautical Traffic Model, Shanghai, 21-24 September 2012. (JW)

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

- KTP project with Risktec awarded NW Regional KTP of year and finalist in KTP of year award at Innovation 2012. (AW, JW, IJ, ZY)
- A research paper "A new fuzzy evidential reasoning method for risk analysis and control of a liquefied natural gas carrier system" by T C Nwaoha, Z Yang, J Wang, and S Bonsall, has been highly commended by the Editor and Editorial Board of Proceedings of the Institution of Mechanical Engineers, Part M: Journal of Engineering for the Maritime Environment and appeared on the shortlist when allocating the SAGE Best Paper. This paper is also highlighted on SAGE's website and on its Facebook page. It has been made available free of charge in recognition of the high quality of the work by SAGE.
- Second most read in ScienceDirect's Top 25 for Swarm and Evolutionary Computation, current period (July – December 2012). (TTN)

#### **i. Guest lectures**

- "Network Flow Analysis of Freight Traffic Consolidation in Container Port Industry", presented by Dr. Yuhong Wang from Transport Research Institute, Edinburgh Napier University, 3<sup>rd</sup> Oct. 2012. (organised by ZY).
- "Floating autonomous desalination platform" and "Enforcing maritime security in East Mediterranean", presented by Prof. Nikitas Nikitakos, University of the Aegean, March 2012. (organised by JW)
- Invited presentation in the research seminar of Southwest Petroleum University, Chengdu, China, 12 June 2012. (JR)
- "Research in Maritime Design and Operations at Liverpool LOfistics, Offshore and Marine (LOOM) Research Institute", Research Seminar and Discussion at Graduate School of Logistics, University of Incheon, Korea, 18th August 2012. (JW)

#### **j. Invited reviews**

- Reviewer of more than 20 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).

#### **k. Other invited presentations**

- "Use of Mathematical Methods in Maritime Safety and Security Assessment", Workshop on Mathematical Methods in Reliability - Joint Research Group (LMS), 2 March 2012, University of Salford, UK. (JW)
- Invited speech in INFORMS International, Beijing, China, June 24-27 2012. (ZY)

#### **l. 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.

## Appendix 1: Publications published in 2012

### PhD Theses

1. Dr. K. Abujaafar, "Quantitative human reliability assessment in marine engineering operations" (2009-2012). (ZY, SB, JW)
2. Dr. N. A. Rahman, "Financial impact of slow steaming on the container shipping Sector" (2009-2012). (JW, ZY, SB)

### Book chapter

3. Nguyen T.T., Yao X., "Dynamic Time-linkage Evolutionary Optimisation: Definitions and Potential Solutions", *Metaheuristics for Dynamic Optimization, Studies in Computational Intelligence*, Vol.433, 2012, Springer-Verlag, 371-393.

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

4. Mokhtari K., Ren J., Roberts C., Wang J., "Decision support framework for risk management on sea ports and terminals using fuzzy set theory and evidential reasoning approach", *Expert Systems with Applications*, Vol.39, Issue 5, 2012, 5087-5103. (IF = 2.203)
5. Wang J., Wall A., Matellini D.B., Phips J., "Risk-based verification of large offshore systems", *Institution of Mechanical Engineers Part M - Journal of Engineering for the Maritime Environment*, Vol.226, Issue 3, 2012, 273-298. (IF = 0.407)
6. Riahi R., Jenkinson I., Bonsall S., Wang J., "A seafarer's reliability assessment incorporating subjective judgements", *Institution of Mechanical Engineers Part M - Journal of Engineering for the Maritime Environment*, Vol.226, Issue 4, 2012, 313-334. (IF = 0.407)
7. Yang Z.L., Zhang D., Caglayan O., Jenkinson I.D., Bonsall S., Wang J., Huang M., Yan X.P., "Selection of techniques for reducing shipping NO<sub>x</sub> and SO<sub>x</sub> emissions", *Transportation Research Part D-Transport And Environment*, Vol.17, Issue 6, 2012, 478-486. (IF = 1.659)
8. Li K.X., Bang H.S., Li L.D., Wang J., "Shipbuilding policy in Asia (2000-2010s): A comparative study", *Journal of Korea Trade*, Vol.16 Issue 4, 2012, 105-128. (IF = 0.486)
9. Nguyen T.T., Yang S., Branke J., "Evolutionary dynamic optimization: A survey of the state of the art, Swarm and Evolutionary Computation, Vol.6, 2012, 1-24. (IF is not available yet)
10. Nguyen T.T., Yao X., "Continuous dynamic constrained optimisation - The challenges", *IEEE Transactions on Evolutionary Computation*, Vol.16(6), 2012, 769-786. (IF = 3.341)
11. Li C., Yang S., Nguyen T.T., "A self-learning particle swarm optimizer for global optimization problems", *IEEE Transactions on Systems, Man, and Cybernetics, Part B: Cybernetics*, Vol.42(3), 2012, 627-646. (IF = 3.081)
12. Yang S., Jiang Y., Nguyen T.T., "Metaheuristics for dynamic combinatorial optimization problems", *IMA Journal of Management Mathematics*, 2012 (online first at <http://imaman.oxfordjournals.org/content/early/2012/10/09/imaman.dps021.short?rss=1>). (IF = 0.404)
13. Yang Z., Bonsall S., Wall A., Wang J. and Usman M., "A fuzzy Bayesian reasoning approach to facilitating the quantification of CREAM in maritime human reliability analysis", *Ocean Engineering*, Vol.58, 2012, 293-303. (IF = 1.178)
14. Lavasani S.M.M., Yang Z., Finlay J., Wang J., "Application of MADM in a fuzzy environment for selecting the best barrier for offshore wells", *Expert Systems with Applications*, Vol. 39, 2012, 2466-2478. (IF = 2.203)
15. Agyapong-Kodua K., Brown R., Darlington R., Ratchev S., "An integrated product-process design methodology for cost-effective product realisation *International Journal of Computer Integrated Manufacturing*", Vol.25, Issue 9, 2012, 814-828. (IF = 1.071)

### Refereed conference papers

16. Wang J., Riahi R., Li K.X., "A study of challenges and developments in maritime safety and security assessment", *Proceeding of International Conference on Managing Reliability, Maintainability and Safety in the Maritime Industry*, RINA HQ, London, 25-26 January 2012, 71-80 (ISBN: 978-1-905040-95-7).
17. Wang J., Matellini D.B., "Risk-based verification (RBV) of large engineering systems", *Proceeding of International Applied Reliability Symposium*, Warsaw, 28-29 March 2012, 20 pages.
18. Matellini D.B., Wall A.D., Jenkinson I.D., Wang J., Pritchard R., "A Bayesian network model for fire development and occupant response within dwellings", *2012 Prognostics & System Health Management Conference*, Beijing, 23-25 May 2012, 7 pages.
19. Abdul Rahman N.S.F., Yang Z., Bonsall S., Wang J., "Selection of the most efficient steaming speed of containerships using a TOPSIS method", *Proceeding of World Conference on Transport Research Society (WCTRS) – SIG2*, Antwerp, Belgium, 21-22 May 2012.
20. Abdul Rahman N.S.F., Yang Z., Bonsall S., Wang J., "A proposed rule-based Bayesian reasoning approach for analyzing steaming modes on containerships", *5th International Conference on Maritime Transport*, Barcelona, 27-29 June 2012, 268-279 (ISBN: 978-84-7653-939-2).
21. Abdul Rahman N.S.F., Yang Z., Bonsall S., Wang J., "A proposed Bayesian network model for analysing the financial performance of containerships under uncertainty", *18th ISSAT International Conference Reliability and Quality in Design* 26-28 July 2012, Boston, USA, S17-1, 1-5.
22. Abdul Rahman, N.S.F., Yang, Z.L., Bonsall, S., Wang, J., "A selection of shipping business strategy for super slow steaming using the decision making technique". Paper presented at Euro Summer Institute (ESI) on Maritime Logistics, University of Bremen, Bremen, Germany, 3-15 June 2012.
23. Abdul Rahman, N. S. F., Yang, Z. L., Bonsall, S., Wang, J., "A decision making technique for selecting shipping business strategies". *Proceeding of the International Association of Maritime Economics Conference 2012*, Kainan University, Taiwan, 6-8 September 2012.
24. Mokhtari K., Ren J., Wang J., Roberts C., Jenkinson I., "Preliminary research on risk management for marine industry applications", Editor(s): Huang H.Z., Zuo M.J., Liu Y., *Proceeding of 2012 International Conference On Quality, Reliability, Risk, Maintenance, And Safety Engineering (ICQR2MSE)*, Chengdu, China, 15th -18th June 2012, 23-28 (ISBN: 978-1-4673-0788-8).
25. Pam E.D, Wall A., Yang Z., Wang J., "Ballast water risk estimation incorporating fuzzy-infection mode and effects analysis", *PSAM11 (Probabilistic Safety Assessment and Management 2012) & ESREL 2012 (Annual European Safety*

\* IF: Impact factor.

- and Reliability Conference 2012), Helsinki, Finland, 25 - 29 June, 2012, 10 pages.
26. Ng A., Yang Z., "Port security regulations and policies in Hong Kong: A risk-based analysis", International conference of Association of Transport, Trade and Service Studies (ATTSS), 18-20 June 2012, Hong Kong, China.
  27. Abujaafar K., Yang Z., Bonsall S., Wang J., "New fuzzy Bayesian reasoning for maritime human reliability quantification", International Conference of Association of Transport, Trade and Service Studies (ATTSS), June 18-20 2012, Hong Kong, China.
  28. Yeo G.T., Ug A., Lee T.W., Yang Z., "Modelling port choice in an uncertain environment", International Association of Maritime Economics Conference 2012 (IAME2012), 6-8 September 2012, Taipei, Taiwan.
  29. Yang Z., Ug A., Wang J., "Prioritizing security vulnerabilities in ports", International Association of Maritime Economics Conference 2012 (IAME2012), 6-8 September 2012, Taipei, Taiwan.
  30. Nguyen T., Yang Z., Wang J., Bonsall S., "Dynamic time-linkage problems - the challenges", International Conference on Computing and Communication Technologies, Ho Chi Minh City, Vietnam, 27 Federacy-1 March, 2012.
  31. Haddad S., Ren J., Wang J., Wall A., "A study on the implementation of relationship marketing approach in supply chain performance: an analytical literature review", Proceeding of the 17th Annual Logistics Research Network (LRN) Conference, Cranfield University, UK, 5-7 September 2012.

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

32. Yang Z., "Maritime human reliability quantification", INFORMS International, 24-27 June 2012, Beijing, China.
33. Babader A., Ren J., Wang J., Jones K., "Waste packaging problems and its optimization", Poster presentation at SPAR conference at Salford University, 30-31 May, 2012, Salford, UK.
34. Babader A., Ren J., Wang J., Jones K., "Waste management system issues and its optimization- a review", Proceedings of the Annual Research Symposium at Liverpool John Moores University - The General Engineering Research, Liverpool John Moores University, 20th June, 2012.

## **Appendix 2: LOOM monthly seminars in 2012**

**Time:** 10.00-11.15, first Wednesday of each month from February 2012.

**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 (including question time) while an external speaker is given 60 minutes (including question time).

### **First Quarter in 2012 – Chairing person: Prof. J. Wang/Dr. J. Run**

1st Feb., 2012

Dr. T.T. Nguyen, “INTRADE - Intelligent transport for dynamic environment”

Mr. B. Matellini, “Modelling of fire and rescue issues”

7th Mar. 2012

Speakers: Mr. K. Abujaafar/Dr. Z. Yang, “Human error in ship operations”

Mr. F. Abdul Rahman, “Determining the steaming mode of a containership”

### **Second Quarter in 2012 – Chairing person: Dr. A. Wall/Dr. A. Cunningham**

4th April 2012

Dr. R. Riahi, “Security modelling of container supply chains”

Mr. D. McNamara, “Monte Carlo simulation in maritime applications”

2nd May 2012

External speaker: Professor J.B. Yang, The University of Manchester, “New evidential reasoning rule for evidence combination”

6th June 2012

Mr. A. Babader, “Environmental impact modelling of waste packaging”

Mr. A. John, “Modelling resilience of supply chain infrastructure”

### **Third Quarter in 2012 – Chairing person: Prof. I. Jenkinson/Dr. R. Riahi**

3th July 2012

Mr. H. Al Yami, “Port security modelling”

Prof. Y. Xi, “Human error in maritime operations”

5th Sept. 2012

Mr. D. Paraskevakis, “Introduction to the WEASFLOWS project”

Prof. L. Huang, “Navigational meteorology and oceanography”

### **Fourth Quarter in 2012 – Chairing person: Dr. Z. Yang/Dr. T.T. Nguyen**

3rd Oct. 2012

External speaker: Dr. Yuhong Wang, a Senior Research Fellow of maritime economics and management at Transport Research Institute, Edinburgh Napier University, “Network flow analysis of freight traffic consolidation in container port industry”.

5th Dec. 2012

Mr. S. Kavakeb, “Optimal fleet sizing in container terminals”

Dr. J.Y. Lee, “Simulation of port operations (INTRADE project)”