Centre for Risk Research Annual Report 2010

Staff Changes: Dr. Michelle Luke (Lecturer in Organizational Behaviour)and Dr. Gerhard Kling (Snr. Lecturer in Finance) were appointed.

Centre recognition: CRR recognised in 2010 funding call of Enterprise Ireland as an exemplar of "a complementary Research Centre that has internationally recognised expertise in providing a deeper appreciation of the nature of risk, developing approaches to risk analysis and to assisting organisations to improve the quality of decision-making and to effectively manage risk and uncertainty".

MSc Programmes: Students enrolled on risk related Masters Programmes in October 2010: 21 for Corporate Risk and Security Mngmt and 39 for Risk Mngmt. Accreditation from Inst.of Risk Management secured for both programmes (MS). Annual student prizes secured from Chartered Insurance Inst. (MS)

Research Students: 22 PhD students working on risk related topics, 4 graduated and 6 new students.

Research dissemination/measures of esteem:

Risk related publications: 1 book; 47 papers presented at international conferences; 41 published in refereed journals and 2 in professional journals; 4 chapters in edited volumes; 5 working papers.

Conference organisation: 1. Session organiser/chair, EURO XXIV Conference, Lisbon (LT, CM)
2. Program committee of International Conf. on Artificial Intelligence and Pattern Recognition (SL)

Invited Presentations: 1. Keynote speaker at CCR-1, London, October 2010. (LT)
2. Keynote speaker in Financial Services section, INFORMS conference, Austin, Texas (LT)
3. Project risk management – where next? Inst of Risk Mngmt Forum, Keele Uni. (SW)
4. Customer-centric decision support, GOR-Workgroup on Forecasting, Berlin, (SL)
5. Plenary Speaker at Business Analytics and Optimization Workshop, University of Chile (LT)
6. Risk taking biases in real estate management, University of Cambridge (JJ).
7. Plenary Speaker at CELT MSOR Conference, University of Birmingham (LT)
8. A multi-disciplinary approach to risk research & modelling fin. risk, U. of Limerick (FM)
9. Operational risk in major infrastructure , Society for Risk Analysis Europe (SW).
10. The risk of doing business in India, FCO (GH).
11. Understanding human error in policing. Internat. Assoc. of Chiefs of Police (ID)
12. Emissions in freight transportation, Nat Uni of Singapore, & Uni of Wellington (TB)
13. Minimizing errors in medical dec. making, Int. Assoc. for Medical Educ. (ID)
14. Bias and decision making (Impression and Pattern Evidence Symposium (ID)
15. The sociology of risk and uncertainty, University of Cambridge (AM)..
16. Keynote presentation: Future directions in forensic science (Forensic Science Initiative) (ID)
17. Real options application to liquidity risk management, Deloitte & Touche (RJ)
18. Keynote presentation: Optimizing technology's impact on human cognition (IBM Conference) (ID)

Established Links with: 1. National Uni. of Singapore, credit risk/data mining (BB, CM)
2. Hamburg Uni., combined forecasting models for comp.events in spec. markets (MS,JJ, SL, BB, CM)
3. Uni. of Leuven, and Uni. College Ghent, Belgium (CM)
4. Uni. of Sydney, optimal forecasting methodologies and wagering strategies in uncertain environs (JJ, MS)
5. Uni. of Melbourne, generalised additive models for event prediction (JJ, MS)
6. NTNU Trondheim, governance and early warning signals projects (TW)
7. Stern Uni., New York, social networks for data mining   (BB)
8. Stern Uni. New York, credit risk modelling (BB)
9. Uni. of Melbourne, Generalised additive models for event prediction (JJ, MS).
10. Unis of W. Carolina, US; Chulalongkorn, Thailand; Nigeria;Federal de Pernambuco, Brazil; Pukyong National, Korea; British Uni., United Arab Emirates, re project management (OU)
11. Bilkent Univ. (Turkey), Eindhoven Uniof Technology (the Netherlands) & HEC Montreal, Canada (TB)
12. Uni. of Bath, Judgemental decision-making in speculative markets (JJ, MS).
13. City University of Hong Kong: global supply chain risk management (YW)
14. Uni. of Cambridge, prediction of company failure; Boston Uni, clean energy/sustainability(RJ)
15. IESEG School of Management (Lille|Paris), churn prediction/data mining (SL)

Editorial Boards: Machine Learning (BB); Information Polity Journal (AM); Project Management Jnl and International Jnl of Project Management (TW); Journal of Gambling, Business and Economics (JJ); Economic Issues (MS) ; Computers & Operations Research (TB); European Jnl of Operational Research(LT)

Editing: Co-ed, OR Insight (TB); Jt Ed, Jnl of the Operational Research Society (TW); Guest ed, Annals of Information Systems (SL) Ed, Special issue of Machine Learning on Swarm Intelligence for Data Mining (BB); Ed, Special issue of the IEEE Transactions on White Box Non Linear Prediction Models (BB).

Other research dissemination/measures of esteem: 1. The Centre hosted an active seminar series, involving both internal and external speakers throughout 2010
2. Centre hosted visiting academics from Univ. Hamburg, modeling competitive event outcomes (MS, JJ).
3. Continued development of major database of over 150k separate betting markets (FM, MS, JJ)
4. Development of database of individual trading decisions in financial markets (JJ, MS, PF)

Other measures of esteem: 1. Appointed Visiting Prof, reputational risk, Plymouth University (GH)
2. Elected Fellow of Assoc. for Psych. Sc, for outstanding contributions to the science of psych. (ID)
3,.Identified as 'guru' in risk taking and decision making (JJ) by the Independent Business School Guide
4. Member of IRM special interest group on PPP/PFI inc. risk analysis/management (SW)
5. Best paper award, Association for the Advancement of Modelling and Simulation (JJ, MS)

Current and new research grants: 1. Enhancing organisational performance via new mathematical/statistical approaches for improving forecasts of competitive events (£83k, EPSRC, MS).
2**.** Use of quantile regression in financial modelling (A$200k, ARC, External Investigator:LT)
3. Use of information in sports betting markets (£115k, *International Software Services,* MS, JJ)
4. Forensic expert error ($867k, *Dept of Justice (DoJ) /Nat.Inst. of Justice* (*NIJ*), ID).
5. Culture differences in decision bias (£3k, *Uni. of Southampton,* MS).
6. Use of digital information by fin market traders (£27k, *Uni. of Soothampton,* MS).
7. Understanding human perception of environmental conflict (£62k, *ESRC/EPSRC*, IH)
8. Mathematical models for forecasting uncertainty in spec. fin. markets (£100k *Wintermute Ltd.,* JJ, MS).
9. Spec. mkt structure, ecology, and individual behaviour (£3k, *Uni. of Southampton,* MS).
10. The roles of skill/chance in successful poker play (£3k, *Uni. of Southampton,* JJ)
11. Early warning signs in complex projects ($30k, *NTNU/RMIT/PMI*, TW)
12. Cultural imperatives in the perception of project failure ($42k, *PMI*, UO,TW)
13. Outcome prediction in speculative markets (£49k, *International Software Services* (JJ, MS, FM).
14. Mean variance portfolio optimisation with dynamic feedback (£3k. *Uni. of Southampton*, FM)
15. Impact of news sentiment on financial markets (£3k, *Uni. of Southampton*, FM)
16. Combined forecasting models in speculative markets (£3k, *Unis. of Hamburg & Southampton,*JJ, MS)
17. Quantified assessment/reliability of contextual info for forensic dec.mking ($349k, *DoJ / NIJ*, ID, PF)
18.**.**Basel II-compliant credit risk modeling- low-default portfolios(£80k, *EPSRC/SAS*, BB, LT, CM)
19. Cognitive bias effects on information-based trading strategies in a comp. environment (£19k, MS, JJ).
20. Role of seat position effect in successful online poker plays (£3k, *Uni. of Southampton*, MS).
21. Machine learning methods for predicting successful traders (£5k, *Uni. of Hamburg & Soton*, MS, JJ).
22. Impact of cognitive biases on info-based trading strategies in a competitive environment (£29k MS, JJ).
23. Cognitive bias in real world financial markets (£21k, *Uni. of Southampton,*MS).
24. Contextual information & accuracy of forensic decision making (£250k, *NIJ*, USA; ID)
25. Multistage stochastic model for air cargo forwarding problems (£3k, *Uni. of Southampton*, YW)
26. Storage and stacking logistics planning and mngmt (£7.5k, *Chart. Inst. of Logistics & Transport*, YW)
27. Laboratory Investigation of poker strategy (£3k, *Uni. of Southampton*, JJ, MS, PF)
28. Enhancing performance of trauma surgeons (£30k, *AO Foundation, Switzerland*, ID).
29. Contextual information & accuracy of forensic decision making (£250k, *NIJ*, USA; ID)
30. Overcoming Capacity Constraints (£400,000, *EPSRC & RSSB*,TB).
31. Dynamic pricing strategy for perishable inventory problems in supermarkets ((£20k, *Br. Academy*, YW).
32. Friction ridge decision making protocols and procedures (£200k, *FBI /NIST*, USA; ID).
33. Factors impacting firms' market value (£2k, *Uni. of Southampton*, MC)

Commercial/external activities :

Advice provided: 1.Customer predictive analytics for SAS (BB)
2.Credit risk modelling for PNC/National City (BB)
3.Assessment and evaluation in training medical surgeons for the AO Foundation (ID)
4. Improving forensic decision making, for *National Inst. of Justice*(ID)
5. Assessing decision making procedures, for *FBI* and *National Inst.of Standards and Tech*. (ID)
6. Development of Client Profiling System for World Spreads Ltd (MS, JJ, PF)

*Courses provided/designed:*1. Reputation Risk for Uni. of Plymouth & Greenwich Mangmt School (GH)
2. Reputation risk exec ed. courses for Uni. of Warwick and CASS Business School (GH)
3.Outdoor management development, inc. aspects of risk taking, for Uni. of Southampton (MA, CC,).

Other commercial/external activities: 1.Project risk analysis for Atkins/MOD (CBC, TW, SW)

2. Project management consultancy for Atkins/MOD (TW/SW/CBC)

3.Links with Cognitive Consultants International and World Spreads to examine biased manner in which investors employ information (MS,JJ))

4, Project management contract consultancy for Rheinmetall (TW)

5.Developed commercial links to exploit new patented financial instrument for risk management (JJ).

6.Professional work with European Assoc. for the Study of Gambling, European Assoc.of Decision Making, the Intl Association for Research in Economic Psychology and the Soc. for the Study of Gambling (JJ).

Plans for 2011/12

1. Secure funding for Centre for Risk Research bursaries for PhD students

2. Establish an active visitor scheme for the Centre (planned visitors from: University of Saville, Chinese Uni. of Hong Kong and Hamburg Uni.)

3. Continue active Centre for Risk Research seminar series

3. Organizing NATO workshop: Use of risk analysis in computer aided persuasion (BB)

4. Keynote presentation at MIS Fraud Summit, Copenhagen – Fraud and Reputation (GH).

5. Keynote presentation at ALARM conference,– Reputation risk, management & mitigation (GH)

6. Research bid (AXA research) on country risk measures and market risk (GK)

7. Developing global supply chain risk management project (YW)

8. Secure funding for major project exploring mngmt of uncertainty in speculative markets (MS, FM, JJ)

9. Secure KTP funding to explore use of information by fin mkt traders (MS, JJ)

10. Secure EPSRC funding on project exploring transportation and emissions

Key to initials used in Centre for Risk Research Annual Report

AM Dr. Alasdair Marshall; BB Bart Baesens; CBC Professor Chris Chapman; CC Professor Con Connell ; CM Dr. Christophe Mues; FM Dr. Frank McGroarty; GH Gary Honey; ID Dr. Itiel Dror; IH Dr. Ian Harwood;FM Dr. Frank McGroarty GK Dr.Gerhard Kling JJ Professor Johnnie Johnson; LT Professor Lyn Thomas; MA Dr. Melanie Ashleigh; ML Michelle Luke MS Dr. Ming-Chien Sung; PF Peter Fraser-MacKenzie; RJ Dr. Ranadeva Jayasekera; SL Dr. Stefan Lessmann; SW Professor Stephen Ward; TB Dr. Tolga Bektas; TW Professor Terry Williams; UO Dr. Ude Ojiako;YW Dr. Yue Wu.