

PRELIMINARY CONFERENCE PROGRAMME – SUBJECT TO CHANGE PRIOR TO EVENT

The Second World Congress on Engineering Asset Management & The Fourth International Conference on Condition Monitoring

Sponsored by 

Monday 11th June

A

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C

14:00 – 15:20	TUTORIAL: Influence of design, production technology, operation, condition change factors on vibration signal generated by gearboxes <i>Prof W Bartelmus, Wroclaw University of Technology</i>	WORKSHOP: Introduction to thermography for asset management <i>Mr C Pearson, BSRIA / UKTA</i>	WORLD LEADING SESSION: Open Session, organised by <i>Airbus UK</i>
15:20 – 16:40	WORKSHOP: Risk based decision making (RBDM) in integrated asset management: From development of asset management frameworks to development of asset risk management plans <i>Dr R Stapelberg, CIEAM</i>	WORKSHOP: Global perspectives on Intelligent Maintenance and EAM Global perspectives on Intelligent Maintenance and EAM <i>Prof J Lee</i>	WORKSHOP: Implementing a condition based maintenance strategy to an industrial environment <i>Mr N Walker, UKTA</i>
16:40 – 18:00	WORKSHOP: Planetary gearbox condition monitoring <i>Prof W Bartelmus, Wroclaw University of Technology</i>	TUTORIAL: The realities and practicalities of vibration testing – The test you defined was not necessarily what you did <i>Mr R Baker, LDS Test & Measurement</i>	WORKSHOP: What every CEO should know! Standards, certification and benefits <i>Dr S Roe, the British Institute of NDT</i>

14:00 – 17:00 ISEAM Board Meeting

18:00 – 19:00 Welcome reception for WCEAM / CM2007 committee members – invitation only

19:00 Welcome reception

Tuesday 12th June

08:30 Opening Ceremony

A

08:50	Plenary Keynote Lecture: What is engineering asset management? <i>Prof J Amadi-Echendu, Prof R Willett, Prof K Brown, Prof J Lee, Prof J Mathew, Prof N Vyas, Prof B Yang</i>
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	Plenary Invited Distinguished Lecture: Nanostructured smart materials for engineering asset evaluation and condition monitoring <i>Dr M Schulz, Dr Shanov, Dr Yun, The University of Cincinnati</i>
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09:30 Tea, Coffee & Exhibition

SESSION 1

	A	B	C	D	E	F
	Strategic engineering asset management: activities in the European research network "EURENSEAM" CHAIRS: <i>Jayantha Liyanage¹, Dr K Komonen² CIAM / UIS¹, VTT Technical Research Centre²</i>	Trained structured and statistical methods in condition monitoring CHAIRS: <i>Prof L Kuravsky, Dr S Baranov, Russian Aviation Co.</i>	Gears-diagnostics, decision making and signal processing CHAIR: <i>Prof S Radkowski, Warsaw University of Technology</i>	Developments of advanced pattern recognition techniques for robust diagnostics CHAIR: <i>Dr S King, Rolls Royce</i>	The role of SHM and NDT in improved asset management CHAIR: <i>Prof P Cawley, Imperial College</i>	Analytical tools for material evaluation CHAIR: <i>Dr K Donne, Swansea Institute</i>
09:55	European research network for strategic engineering asset management: <i>K Komonen, VTT Technical Research Centre</i>	Wavelet transforms and relaxation neural networks as promising technology components of technical and medical diagnostics and modelling – <i>L Kuravsky, S Baranov, Russian Aviation Co</i>	Nonlinearity and intermodulation phenomena tracking as a method for detecting early stages of gear failures <i>S Radkowski, Warsaw University of Technology</i>	Advanced engine monitoring systems – <i>S King, Rolls Royce</i>	The contribution of NDT and SHM in improved asset management <i>P Cawley, Imperial College</i>	Experiences in implementing risk-based inspection <i>C Ablitt, I Partridge, TWI</i>
10:20	Changing behaviour for effective asset management. <i>J Huisma¹, Y Wijnia² Tennet¹, Delft University of technology²</i>	Statement networks in expert systems for condition monitoring <i>W Cholewa, Silesian University of Technology</i>	Decomposition of symptom observation matrix and its optimisation in vibration condition monitoring of machines <i>C Cempel, R Barczewski, Poznań University of Technology</i>	Specific and generic modelling for gas turbine novelty detection <i>D Clifton¹, B Haskins² P Bannister¹, L Tarassenko, University Of Oxford¹, Oxford BioSignals Ltd²</i>	No indications detected <i>T Dunhill, Rolls Royce</i>	Radiative and transient thermal transport modelling using the boundary element method <i>K Donne, A Marotin, Swansea Institute</i>
10:40	Determination of critical, corporate level success factors based on physical assets <i>T Koppinen, VTT Technical Research Centre</i>	Statistical analysis of vibration signal in water hydraulic motor based on wavelet packet multi-decomposition <i>H Chen, S Chua, G Lim, Nanyang Technological University</i>	De-convolution of time-series data using translational symmetry and Eigenstate analysis <i>C Moodie¹, A Tieu¹, S Biddle², University of Wollongong¹, Bluescope Steel²</i>	FUMS Asset management techniques <i>H Azzam, I Grainger, P Knight, R Ellison, Smiths Aerospace</i>	Requirements of second and third generation inspection management systems in the oil and gas industry <i>S Terpstra, P van de Camp, F Hoeve, Shell Global Solutions</i>	Modelling of time reversal focussing in straight pipes <i>C Ennaceur, T Gan, R Sanderson, P Mudge, B Bridge, TWI</i>
11:00	Corporate dynamics vs industrial asset performance: The sustainability challenge <i>R Chandima Ratnayake, J Liyanage, University of Stavanger</i>	On the approach to identifying quantitative trait loci in behaviour genetics <i>L Kuravsky, P Kornienko, Moscow State University of Psychology and Education</i>	Use of reduction of dimensionality in evaluation of fatigue related failures in a power unit of a suburban train <i>M Jasinski, S Radkowski, Warsaw University of Technology</i>	Agent – based technology for data management, diagnostics and learning within condition monitoring applications <i>S Rudd, V Catterson, S McArthur, Strathclyde University</i>	Inspection and condition monitoring strategies for Magnox power stations <i>A Wooldridge, Magnox Electric</i>	Non-destructive evaluation of fracture in automotive windscreens <i>K Donne¹, G Calvert², R Thomas¹, C Davies³, Swansea Institute¹, VisEng² Ltd, Belron Technical Ltd³</i>
11:20	Migration towards integrated work processes to realize integrated eOperation (IO) for high-risk assets <i>Y Bai, J Liyanage, University of Stavanger</i>	Application of neural network for prediction of slip free temperature offsets in semiconductor epitaxial process <i>X Li¹, M Luo¹, X Yang², Z Zhong², Singapore Institute of Manufacturing¹, Nanyang Institute of Technology²</i>	Application of neural networks for detection of gearbox faults <i>B Lazarz, P Czech, Silesian University of Technology</i>	Learning jet engine vibration response for novelty detection <i>P Bannister, L Tarassenko, University of Oxford</i>	Structural health monitoring for engineering asset management in aeronautics <i>C Paget, Airbus UK</i>	Designing and implementing a tool for measuring the maturity of preventative maintenance process management within an international steel company <i>D Williams, J MacLachlan, Corus Group Ltd</i>
11:40	The human factor in asset management process development <i>Y Wijnia, Delft University of Technology</i>	Forecasting fatigue failures of aircraft structures with the aid of trained multifactor Markov networks <i>S Baranov, Russian Aviation Co.</i>	Use of information embedded in vibroacoustic signal to crack evolution tracking of gear failure <i>S Gontarz, J Dybala, S Radkowski, Warsaw University of Technology</i>	Towards prognosis of gas turbine accessory faults using high frequency analysis techniques <i>A Mills, Rolls Royce</i>	Temperature sensitivity limitations for guided wave structural health monitoring <i>A Croxford, P Wilcox, B Drinkwater, University of Bristol</i>	The use of the standard deviation in the removal of noise from ultrasonic B-Scans <i>I Wells¹, P Charlton², S Mosey², Swansea Institute¹, Inspection Solutions Ltd²</i>
12:00	Establishing and running a condition based maintenance policy; applied example for vibration based maintenance <i>B Al-Najjar, Vaxjo University</i>	Neural networks: experience of deployment by the StatSoft Russia Company <i>V Borovikov, V Rastunkov, StatSoft</i>	Application of the local plane concept in control diagnostics of gears <i>A Galezia, J Maczak, Warsaw University of Technology</i>	Diagnostics and prognostics of disturbances and faults in air fans <i>J Miettinen¹, V Järvinen², P Salmenpera³, Tampere University of Technology¹, Gardner Denver Oy²</i>	Probing the real behaviour of reinforced concrete cantilevered slabs by tracking resonant frequency changes when subjected to gradual structural deterioration <i>S Tsang, L Chu, Hong Kong Polytechnic University</i>	Integrated multiple-sensor methodology for condition assessment of water mains <i>M Fahmy, O Moselhi, Concordia University</i>

12:20 – 13:20 Lunch & Exhibition

A		B
13:20	Plenary Keynote Lecture: Miniaturised computational imaging system design for super resolution, large field-of-view and extended depth-of-field with applications to surveillance, medical imaging and condition-based-maintenance <i>HRB Systems Prof N Bose, Pennsylvania State University</i>	Plenary Invited Distinguished Lecture: Predictable behaviour-achieving enhanced reliability <i>Mr Anuzis, Rolls Royce plc</i>

SESSION 2

	A	B	C	D	E	F
	Engineering asset management	The theories, methods and applications on fault feature extraction CHAIR: <i>Prof J Lin</i>	Session 1C Continued	Engineering asset management	Condition monitoring applications	Monitoring of complex systems and structures CHAIR: <i>Prof A Chattopadhyay, Arizona State University</i>
14:05	Integration through standards – an overview of international standards relevant to the integration of engineering asset management <i>A Koronios, D Natasie, V Chanana, A Haider, CIEAM</i>	Picking-up character of track long-wave irregularity of maglev railway based on time-frequency analysis <i>L Jianhui, Southwest Jiao Tong University</i>	Reduction of the vibration energy in gearboxes <i>B Lazarz, A Wilk, H Madej, G Wojnar, Silesian University of Technology</i>	The path to asset performance management <i>C Hotblack, Invensys</i>	Mechanical integrity for pressure swing adsorbers <i>J Lilley¹, J Sims², C Becht², Veritec¹, Becht Engineering Inc.²</i>	Damage diagnosis using kernel based method <i>A Chattopadhyay, C Coelho, S Das, Arizona State University</i>
14:30	Improving the cost-effectiveness of a maintenance programme <i>T Ahonen, H Kortelainen, S Kunttu, M Reunanen, VTT Technical Research Centre of Finland</i>	Detecting character of track long-wave irregularity of maglev railway based on strap-down inertial system <i>Z Yanchen, Southwest Jiao Tong University</i>	The fusion of multi-level wavelet decomposition for induction motor fault diagnosis using transient current signal <i>G Niu, A Widodo, J Son, B Yang, Pukyong National University</i>	Study and analysis of risks at railway level crossings <i>G Chattopadhyay¹, M Soenarjo², J Powell³, V Reddy², ¹Central Queensland University, ²Queensland University of Technology², ³Queensland Rail³</i>	The application of condition monitoring in royal mail <i>M Jenkinson, Royal Mail</i>	TERA- a tool for aero-engine modelling and management <i>S Ogaji, P Pilidis, R Hales, Cranfield University</i>
14:50	New method for proactive maintenance of paper machine rolls <i>J Juhanko, K Petri, Helsinki University of Technology</i>	The sensor fault-detection technology study of tilting train based on variance-calculating methods <i>G Yan, Chengdu Electromechanical College</i>	Measurement and signal processing methods employed for testing car and truck gearboxes <i>J Tuma, VSB – Technical University of Ostrava</i>	Multidimensional schemas for engineering asset management <i>A Mathew, L Ma, CIEAM</i>	An overview of the predictive maintenance applications of airborne ultrasound testing <i>J Buckley, Sonatec</i>	Detection of breathing cracks in a beam using dynamic response: Proposition of a technique using the finite element method based on the mixed variational principle <i>K Kamiya, T Yoshinga, K Yasuda, Nagoya University</i>
15:10	Cost effective monitoring solution using external surveillance centre <i>M Hastings, S Gutt, C Andersson, Brüel & Kjær Vibro</i>	Study on acceleration sensor's fault-tolerance technology of tilting train <i>L Jianhu, Southwest Jiao Tong University</i>		Asset management excellence <i>N Gregory, Meridian Energy Ltd</i>	A distributed processing service orientated architecture for data intensive condition monitoring and diagnostics applications <i>M Jessop, M Fletcher, J Austin, The University of York</i>	An overview of gas turbine performance diagnostics <i>Y Li, Cranfield University</i>
15:30	Why technological determinism, why not socio-technical alignment for IS based asset management? <i>A Koronios, A Haider, CIEAM</i>	Test and evaluation of the dynamic performance for the power measured train <i>L Lu, Southwest Jiao Tong University</i>		Blended learning for maintenance personnel <i>M Barratt, SKF</i>	Real time simulations for supporting condition monitoring systems for multimegawatt drives <i>N Vijayakumar, P Burgwinkel, A Messner, C Steinhilber, J Lachmann, RWTH Aachen University</i>	In situ balancing of dryer groups in a paper machine <i>E Porkka, J Juhanko, Helsinki University of Technology</i>

15:30 – 16:00 Tea, Coffee & Exhibition

SESSION 3

	A	B	C	D	E
	Engineering asset management	Vibration monitoring techniques	Engineering asset management	Prognostics	Advanced condition monitoring techniques CHAIR: <i>Prof S Lahdelma, The University of Oulu</i>
16:05	End-of-lifecycle asset management in the pharmaceutical industry <i>P Anderson, FIKM</i>	The vibration analyst checklist – do you pass? <i>D Whittle, RMS Reliability</i>	Modelling total cost of ownership of rail infrastructure for outsourcing services <i>G Chattopadhyay¹, A Rahman², Central Queensland University¹, Griffith University²</i>	Prediction of bearing wear in brushless DC motor using wavelet based correlation modelling <i>J Zhou¹, M Luo¹, Q Shao², Z Zhong², Singapore Institute of Manufacturing Technology¹, Nanyang Technological University²</i>	Advanced signal processing and fault diagnosis in condition monitoring <i>S Lahdelma, E Juuso, The University of Oulu</i>
16:30	Asset management processes: Modelling, evaluation and integration <i>Y Sun, L Ma, J Mathew, CIEAM</i>	Bearing fault diagnosis using automaton through quantization of vibration signals <i>Y Choi, Sungkyunkwan University</i> The vibrodiagnostics of grinding processes	Performance evaluation of IS based water infrastructure asset management <i>A Koronios, A Haider, University of South Australia</i>	Emerging sensors in aerospace structural diagnostics and prognostics <i>A Ghoshal¹, H Kim², United Technologies Research Centre¹, Inha University²</i>	Feature extraction for vibration analysis of cavitation in kaplan water turbines <i>E Juuso, S Lahdelma, P Vähöja, The University of Oulu</i>
16:50	Spare part stock asset management by stochastic simulation <i>P Hagmark, H Pernu, Tampere University of Technology</i>	Gearbox monitoring and diagnosis <i>A El-Shafei, RITEC</i>	Garbage in, garbage out: operator intention as an antecedent of engineering asset data quality <i>G Murphy, CIEAM</i>	Grid quality of service provision in BROADEN <i>M Haji, K Djemame, University of Leeds</i>	Advanced condition monitoring for lime kilns <i>E Juuso, S Lahdelma, The University of Oulu</i>
17:10	Critical success factors for the implementation of business intelligence systems: A case study in rail corporation <i>W Yeoh, J Gao, A Koronios, University of South Australia</i>	The vibrodiagnostics of grinding processes <i>T Malysheva, A Zakhezin, South-Ural State University</i>	Analysis of cycle time variation for process optimisation in animal feed block plant <i>G Chattopadhyay, A Desai, Central Queensland University</i>	Data mining techniques and singular spectrum analysis for tool condition monitoring in metal cutting <i>P Dehombreux, B Kihundu, Faculté Polytechnique de Mons</i>	A practical approach to choose best oil for mineral machine (Libher damtrack) by oil condition monitoring <i>H Ahmadi, Tehran University</i>

17:30 **Close**

18:00 Coaches depart for York Tour & Dinner at The Castle Museum

Wednesday 13th June

B

08:45	Plenary Keynote Lecture: Optimizing performance, reliability and maintenance through structural health monitoring <i>Prof FK Chang¹, Dr M Miller¹, Dr Beard², Dr Liu², Stanford University¹, Accent Technologies²</i>		Plenary Invited Distinguished Lecture: Optical speckle shearography for quantitative surface strain measurement <i>Prof R Tatam, Cranfield University</i>
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SESSION 4

	A	B	C	D	E	F
	New technology applications in physical asset management CHAIR: <i>Prof J Amadi-Echendu, The University of Pretoria</i>	Root cause analysis in gearbox condition monitoring CHAIR: <i>Prof W Bartelmus, Wroclaw University of Technology</i>	Information and communication technology (ICT) for maintenance CHAIR: <i>Prof M Garetti, Politecnico di Milano, Italy</i>	Emerging nano, bio, and info technologies for structural health monitoring CHAIR: <i>Dr M Schulz, The University of Cincinnati</i>	Experimental and simulation models for monitoring and diagnostics CHAIR: <i>Prof A Lucifredi, The University of Genoa</i>	The theories, methods and applications on fault feature extraction CHAIR: <i>Prof J Chen, Shanghai Jiao Tong University</i>
09:25	The use of digital protection relays in a petrochemical complex <i>A Kleynhans, J Amadi-Echendu, The University of Pretoria</i>	Root cause and vibration signal analysis for gearbox condition monitoring <i>W Bartelmus, Wroclaw University of Technology</i>	Perspectives in maintenance management of the new ICT advances <i>M Garetti, Politecnico di Milano, Italy</i>	A structural neural system with multi-state sensors for integrated systems health management <i>M Schulz, G Kirikera, Y Yeo-Heung, V Shanov, S Mullapudi, G Maheshwari, R Allemang, The University of Cincinnati</i>	Experimental and virtual models for monitoring and diagnostics <i>A Lucifredi, P Silvestri, The University of Genoa</i>	Cyclostationary analysis based fault feature extracting of rolling element bearing <i>J Chen, Shanghai Jiao Tong University</i>
09:50	Failure modes of conveyor belts deployed in mining applications <i>D Schoeman, J Amadi-Echendu, The University of Pretoria</i>	Condition monitoring using a fault simulator and a simple failure mechanism subjected to a random stress profile <i>D Lin¹, A Jardine¹, M Wiseman², University of Toronto¹, OMDEC Inc.²</i>	New technologies for prognostics <i>E Jantunen VTT Technical Research Centre</i>	A spray-on carbon nanotube artificial neuron for structural health monitoring <i>Inpil Kang¹, Jong Won Lee², Pukyong National University¹, Korea Institute of Machinery and Materials²</i>	Design of a test rig aimed to simulate the behaviour of large rotating machines <i>N Bachschmid, P Pennacchi, A Vania, Milan Polytechnic University</i>	Study on second generation wavelet finite element and quantitative identification of rotor cracks <i>C Xufei, Xi'an Jiatong University</i>
10:10	SMART instrumentation adoption in conventional process plants. <i>E Grobbelaar, J Amadi-Echendu, The University of Pretoria</i>	Application of spectral correlation techniques on mining machine signals: identification of faulty components <i>W Bartelmus¹, R Boustany¹, R Zimroz¹, J Antoni², Wroclaw University of Technology¹, Université de Technologie de Compiègne²</i>	TELMA: a full e-maintenance platform <i>E Levrat, B Lung Nancy Université</i>	A systematic approach for developing and deploying advanced prognostics technologies and tools: methodology and applications <i>J Lee, The University of Cincinnati</i>	Experimental model of a semi-actively controlled rotor <i>C Carmignani, P Forte, P Badalassi, The University of Pisa</i>	A high speed on-line evaluation system for operating performance of turbine compressor sets based on thermodynamic parameter diagnosis <i>W Xiaofang, Dalian University of Technology</i>
10:30	A reliability improvement and management programme <i>J Visser, B van Zyl, The University of Pretoria</i>	Application of spectral correlation techniques on mining machine signals: extraction of fault signatures <i>W Bartelmus¹, R Boustany¹, R Zimroz¹, J Antoni², Wroclaw University of Technology¹, Université de Technologie de Compiègne²</i>	The Socrates European project (service-orientated cross-layer inRAstructure for distributed smart embedded devices) <i>A Colombo¹, M Taisch², Schneider Electric¹, Politecnico di Milano, Italy².</i>	High-frequency self-powered Surface wave transducers for structural health monitoring applications <i>G Kirikera, L Sun, S Krishnaswamy, JAchenbach, Northwestern University</i>	Design of a test bench for the vibro-acoustical analysis and diagnostics of rotating machines <i>G Dalpiaz, G D'Elia, S Delvecchio, Università degli Studi di Ferrara</i>	Demodulation of frequency-modulated gearbox vibration signals using cyclostationary analysis <i>L Weihua, South China University of Technology</i>
10:50	Modelling risk in discrete multi-state repairable systems <i>M Lipsett, R Gallardo, M Zuo The University of Alberta</i>	Numerical simulation of planetary gear failure detection by Wigner-Ville method <i>F Chaari, T Fakhfakh, M Haddar, National School of Engineers of Sfax</i>	Process IT innovation in maintenance management to boost the competitiveness of European Process Industries, <i>A Johansson, Process IT Innovations</i>	Remote acoustic monitoring of thin laminates <i>E Mfoumou, S Kao-Walter, C Hedberg, Blekinge Institute of Technology</i>	Experimental rotor kit additions and virtual rotor kit <i>A Lucifredi P Silvestri, The University of Genoa</i>	New method to continuously measure wheel/rail contact point on-rail <i>C Jianzheng, Southwest Jiao Tong University</i>
11:10	Development of a smart sensor for condition monitoring using mems accelerometer <i>J Son¹, B Yang¹, H Jeong², W Kim², Pukyong National University¹, Gyeongsang National University²</i>	Cyclostationary analysis as a tool for the detection of incipient faults in helicopter gearboxes <i>E Estupinan, P White, University of Southampton</i>		Interpretation and Modelling of Corrosion Rate Measurements on Reinforced Concrete Structures <i>D W Law¹, F Blin², K Wilson², Maunsell Australia², RMIT University¹</i>	Model based diagnosis technique for the cogeneration system <i>T Kawai, Y Kamada, Osaka City University</i>	Development and application of bearing fault diagnostic techniques in railway locomotive and rolling stock <i>D Fuyan, China Academy of Railway Sciences</i>

11:30 – 11:55 Tea, Coffee & Exhibition

SESSION 5

	A	B	C	D	E	F
	DYNAMITE, Dynamic decisions in maintenance CHAIR: <i>Dr A Starr, the University of Manchester</i>	Sensing technologies for early damage detection and condition assessment CHAIR: <i>Dr S Sathish, Airforce Research Laboratory</i>	Condition based monitoring – friend or foe CHAIR: <i>Dr T Lago, Acticut International AB</i>	Utility inspection, remote and wireless condition monitoring CHAIR: <i>Dr P Tse, City University of Hong Kong</i>	Condition monitoring of local damage CHAIR: <i>Prof L Gelman, Cranfield University</i>	The theories, methods and applications on fault feature extraction CHAIR: <i>Prof X Wang</i>
11:55	Wear debris analysis automation (WDAA): Past, present and future <i>M Khan, A Starr the University of Manchester</i>	Nonlinear acoustics and thermo-elastic NDE measurements for fatigue damage evaluation <i>S Sathish¹, K Jata² Air Force Research Laboratory¹, University of Dayton Research Institute²</i>	Condition based monitoring – friend or foe <i>T Lago, Acticut International AB</i>	Development of a low-cost wireless signal acquisition system that is suitable for machine condition monitoring <i>P Tse, J Chan, City University of Hong Kong.</i>	Novel time-frequency analysis for condition monitoring <i>L Gelman, Cranfield University</i>	Machinery fault diagnosis based on chaotic oscillator and approximate entropy <i>W Taiyong, Tianjin University</i>
12:20	Towards the implementation of integrated multimeasure and wireless monitoring system <i>A Albarbar, A Starr, R Pietruszkiewicz, the University of Manchester</i>	Diagnostics for the quality test of small rotors using the SQ metric values of radiated sound <i>W Cho¹, J Ih¹, S Shin¹, Y Kwon², Korea Advanced Institute of Science and Technology¹, Daewoo Precision Ind Co Ltd²</i>	Feature extraction and classification approaches in condition based monitoring <i>M Nilsson, J Nordberg, L Håkansson, I Claesson, Blekinge Institute of Technology</i>	A feasibility study on self-sustainable wireless sensors by using energy harvesters <i>C Lam, P Tse, City University of Hong Kong</i>	An automated methodology for performing time synchronous averaging of a gear signal without speed sensor <i>F Combet, L Gelman Cranfield University</i>	Condition monitoring and fault diagnosis based on second generation wavelet transform <i>H Zhengjia, Xi'an Jiaotong University</i>
12:40	DYNAWEB. A web platform for flexible provision of E-maintenance services <i>A Arnaiz¹, B Iung², E Jantunen³, E Levrat², E Gilabert¹, Fundación Tekniker¹, Nancy² University, VTT Technical Research Centre³</i>	Measurements of impact induced waves using double pulse digital holography and photoelastic coating method <i>O Focke¹, J Müller¹, JGeldmacher¹ W.Jüptner¹, C König², M Calomfirescu³, Bremen Institute of Applied Beam Technologie¹, bBIK - Bremer Institut für Konstruktionstechnik², cFIBRE - Faserinstitut Bremen³</i>	Acoustic and acoustic emission based condition monitoring of production processes <i>P Potočnik, E Govekar, I Grabec, the University of Ljubljana</i>	Investigation of corrosion inspection in pipeline using the longitudinal mode of cylindrical guided waves <i>X Wang, P Tse, City University of Hong Kong</i>	In-service fatigue prediction in turbo machinery <i>L Gelman, T Noble, W-X Yang, Cranfield University</i>	Fault diagnosis methods based on adaptive redundant second generation wavelet <i>Z Yanyang, Xi'an Jiatong University</i>

13:00 – 14:15 Lunch & Exhibition

	A	B
14:15	Plenary Invited Distinguished Lecture: Challenges facing the world of condition monitoring <i>Prof AD Ball, the University of Manchester</i>	Plenary Keynote Lecture: Analytical modelling in engineering asset testing and evaluation: do we need it anymore? <i>Prof L Fradkin, London South Bank University</i>

15:00	Decision support algorithm for predictive maintenance of a heavy construction equipment <i>H Jun¹, D Kiritsis¹, P Xirouchakis¹, C Corcelle² EPFL¹, CATERPILLAR²</i>	Traditional and emerging technologies for non-destructive assessment of the incipient structural damage <i>A Zagrai, New Mexico Institute of Mining and Technology</i>	Quality control of automotive gearboxes <i>T Zmijevski, S Gerges, F Vasconcelos, Federal University of Santa Catarina</i>	Design and performance of neural network schemes for diagnosis of rotating machinery faults <i>N Vyas, Indian Institute of Technology (Kanpur)</i>	Design, manufacture and build of smooth running large rotor fans <i>D King, M Harrison, Rolls-Royce</i>	Fractural damage analysis and optimised improvement for last stage moving blades in ECST <i>X Rong, Dalian University of Technology</i>
15:20	Applications of RFID technology in maintenance systems <i>A Adgar, D Addison C Yau, the University of Sunderland</i>	Vibration condition monitoring techniques for fault diagnosis of electromotors <i>H Ahmadi, University of Tehran</i>	Vibration in turning and the active control of tool vibration <i>H Akesson¹, T Smirnova¹, I Claesson¹, L Harkansson¹, T Lago², Blekinge Institute of Technology, Acticut International AB²</i>	The predictive maintenance of main machines of the ship <i>P Bielawski, Maritime Academy of Szczecin</i>	Optimised bicoherence analysis <i>L Gelman, I Petrunin, Cranfield University</i>	The study of data mining method in oil monitoring based on Bayesian network <i>W Zhifang, Wuhuan University of Technology</i>
15:40	Development of the wireless intelligent sensors for condition monitoring systems <i>R Pietruszkiewicz, A Albarbar, A Starr, the University of Manchester</i>	Feature analysis in monitoring and diagnosis of the running state of a casting crane <i>J Miettinen¹, V Järvinen², P Leinonen³, Tampere University of Technology¹, Gardner Denver Oy², Rautaruukki Oyj³</i>	Oil condition monitoring technique for fault diagnosis on crane Liebherr LHM-1200 <i>H Ahmadi, University of Tehran</i>	Use of on-line sensor technology for oil & machinery condition monitoring – case studies on real world applications, and their use to predict machinery failure and extend oil change intervals <i>I Lamont, Kittiwake</i>	Analysis of the cascade connection filters and its application to condition monitoring <i>D Makov, A Shcherba, National Technical University of Ukraine</i>	Measure and diagnosis way of train bogie fault <i>Z Bin, Southwest Jiao Tong University</i>

SESSION 6

	A	B	C	D	E	F
	Engineering asset management	Data fusion in condition monitoring CHAIR: <i>Dr S McNerny, The University of Alabama (Tuscaloosa)</i>	Linking NDT to condition and structural health monitoring CHAIR: <i>Dr S Dixon, Warwick University</i>	The future of condition monitoring CHAIR: <i>Dr S Roe, the British Institute of NDT</i>	Acoustic emission technology CHAIR: <i>Dr S Schlindwein, The University of Leicester</i>	Vibro-acoustic analysis CHAIR: <i>Prof AD Ball, Manchester University</i>
16:25	Data quality and KPI's, a link to be established <i>V Masayna¹, A Koronios¹, J Gao¹, the University of South Australia¹, M Gendron², Central Connecticut State University²</i>	A systems approach to data fusion for gas turbine condition health monitoring <i>M Krok, K McCarthy, GE Global Research Centre</i>	Ultrasonic measurement of crystallographic texture in metals <i>S Dixon, S Essex, M Potter, the University of Warwick</i>	The future of condition monitoring <i>S Roe, the British Institute of NDT</i>	Improving detectability on localised bearing defect using acoustic emission signal <i>Y Feng, F Schlindwein The University of Leicester</i>	Dual sensor measurement in pipe-work systems and its use in engine combustion monitoring <i>AD Ball¹, J Jiang¹, R Gennish¹, F Gu¹, X Li², K Liu², University of Manchester¹, Chinese Academy of Sciences²</i>
16:50	Assessing organisational capability maturity in information quality management: A case study in engineering asset management <i>S Baskarada, A Koronios, J Gao, University of South Australia</i>	Remote condition monitoring using integrated technologies <i>J Van Dyke, DLI Engineering Corporation</i>	Development of a solid-state multi-sensor array camera for real-time imaging of magnetic fields <i>P Gaydecki, D Benitez, S Quek, V Torres, the Manchester University</i>	The continued and future use of infrared thermography <i>R Thomas, Snell Infrared International</i>	Improving detectability on localised bearing defect using wavelet denoised acoustic emission signal <i>Y Feng, F Schlindwein The University of Leicester</i>	Characterisation of human perception for vehicle interior noise <i>F Jiao², J Jiang², Y Fan¹, F Gu², K Liu², AD Ball¹ University of Manchester¹, Chinese Academy of Sciences²</i>
17:10	Integral decision support system for condition based asset management of electrical infrastructures <i>J Smit, Delft University of Technology, E Gulski, KSANDR</i>	Asset health reliability estimation based on condition data <i>S Zhang, L Ma, Y Sun, J Mathew, CIEAM</i>	Validation of surface mounted piezo-electric based sensor response for condition monitoring applications <i>S Pierce¹, K Worden², D Chetwynd², J Rongong², J Hensman², University of Strathclyde¹, University of Sheffield²</i>	Marine asset health management – qualification initiative <i>D Shorten, R Chenery, Lloyd's Register</i>	A fault detection tool using AR pole trajectory <i>Y Feng, F Schlindwein, S Thanagasundram The University of Leicester</i>	The condition monitoring of mechanical seals using acoustic emissions <i>Y Fan, F Gu, AD Ball, University of Manchester</i>
17:30	3D measurement for asset and environment authentication and analysis <i>T Breckon, Cranfield University</i>	Rotating machinery fault diagnosis based on fuzzy data fusion techniques <i>X Liu, L Ma, J Mathew, CIEAM</i>	Measurement of rolling bearing lubrication using piezoelectric thin films <i>B Drinkwater¹, J Zhang¹, K Kirk², J Elgoyhen², R Dwyer-Joyce³, University of Bristol¹, University of Paisley², University of Sheffield³</i>	The future of thermography in condition monitoring <i>C Pearson, BSRIA / UKTA</i>	Condition monitoring of oil lubricated hybrid contacts using acoustic emission and electrostatic charge sensing techniques <i>L Wang, R Wood. The University of Southampton</i>	Wave number prediction of the waves in fluid-filled buried pipes for leakage detection <i>W Duan, F Gu, A Ball, B Lennox, K papadopoulou, J Turner, University of Manchester</i>
17:50	Enhancing data quality in engineering asset management organisations <i>V Chanana, A Koronios, the University of South Australia</i>	Machine prognosis with full utilisation of truncated lifetime data <i>A Heng¹, A Tan¹, J Mathew¹, B Yang², CIEAM¹, Pukyong National University²</i>	Single sided capacitive imaging for structural health monitoring <i>G Diamond, P Purnell, D Hutchins, the University of Warwick</i>	Building energy efficiency using infrared thermography <i>N Walker, AWE</i>		An experimental study of acoustic based condition monitoring of large diesel engines <i>D Moore, P Charles, J Jiang, F Gu, AD Ball, University of Manchester</i>
18:10	A comparative study of engineering asset management best practice in Australia, New Zealand, UK and USA <i>Dr Rudolph Frederick Stapelberg, Griffith University / CIEAM</i>	Elementary fusion of gear fault metrics – an instructional example <i>Prof S McNerny, University of Alabama</i>		Recent developments in CBM optimisation: Including on-line sensor data in an open pit mining environment <i>N Montgomery, the University of Toronto</i>		An investigation into the fault detection of machines based on acoustic array systems <i>J Jiang, Y Fan, D Moore, F Gu, AD Ball, Manchester University</i>

18:30 Close

19:30 for 20:00 Conference Dinner

Thursday 14th June

	A	B
08:30	Plenary Keynote Lecture: Infrared thermography, a view from America <i>Dr J Snell, Snell Infrared</i>	Plenary Invited Distinguished Lecture: Stress monitoring of civil and mechanical engineering infrastructure <i>Prof Brennan, Cranfield University</i>

09:10 Tea & Coffee

09:20	Panel Session: Future directions in condition monitoring CHAIRS: <i>P Anuzis¹, AD Ball², R Lyon³, Rolls Royce¹, the University of Manchester², RWE Power International / the British Institute of NDT³</i>	Panel Session: Future directions in engineering asset management CHAIR: <i>J Mathew, CIEAM</i>
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SESSION 7

	A	B	C	D	E	F
	Strategic engineering asset management: activities in the European research network "EURENSEAM" CHAIRS: <i>Dr J Liyanage¹, Dr K Komonen, CIAM / UIS¹, VTT Technical Research Centre²</i>	NDE of complex materials CHAIR: <i>Prof L Fradkin, London South Bank University</i>	Acoustic emission technology & rotating machines CHAIR: <i>Dr D Mba, Cranfield University</i>	Detection of leakage and blockage in pipelines using acoustic techniques CHAIR: <i>Dr F Podd, the University of Bradford</i>	The theories, methods and applications on fault feature extraction CHAIR: <i>Prof G Xu</i>	Vibration monitoring techniques
10:25	European research network for strategic engineering asset management: preliminary action program and opportunities <i>J Liyanage, the University of Stavanger, Norway.</i>	Semi-analytical methods for modelling NDE of complex materials <i>L Fradkin, London South Bank University</i>	Assessing AE signals from natural degradation of slow speed rolling element bearings <i>M Elforjani, D Mba, Cranfield University</i>	Detection of leakage and lockage in pipelines using acoustic techniques <i>K Papadopoulou, B Lennox, T Taylor, J Turner, X Wang, the University of Manchester</i>	Dynamic fault diagnosis model based on support vector domain description <i>Z Qing, Xi'an Jiaotong University</i>	Symmetry methods applied to the condition monitoring of slow speed slew bearings <i>C Moodie¹, A Tieu¹, S Biddle², The University of Wollongong¹, Bluescope Steel²</i>
10:50	Dynamic project portfolio selection in infrastructure sector <i>T Koppinen, VTT Technical Research Centre</i>	Condition monitoring of structures using magneto-strictive sensor (MsS) <i>D Dulay, NDT Consultants</i>	Energy index technique for early detection of incipient bearing failures with acoustic emission <i>K Al-Balushi¹, D Mba², Sultan Qaboos University¹, Cranfield University²</i>	Low cost acoustic sensors for blockage detection in pipes <i>T Bin-Ali, the University of Bradford</i>	A dynamic alarm method for equipment operating condition based on probabilistic neural network <i>X Guanghua, Xi'an Jiaotong University</i>	Monitoring of the machine elements in machine tools using vibration signals by FEM <i>H Ravindra, N Prakash, S Kumar, PES College of Engineering</i>
11:10	Investment analysis for capacity management based on real options <i>T Rosqvist, M Rääkkönen, K Komonen, VTT Technical Research Centre</i>	NDE of concrete based on elastic waves: the role of imperfect bondings studied by numerical simulation and laser vibrometry <i>B Koehler, F Schubert, Fraunhofer-Institut für zerstörungsfreie Prüfverfahren (IZFP)</i>	The influence of specific film thickness on the generation of acoustic emissions for operating spur gears <i>R Hamzah¹, D Mba², University of Technology Malaysia¹, Cranfield University²</i>	Normal modes in partially filled pipes <i>F Podd, the University of Bradford</i>	Tribo-system condition monitoring based in SPA (set pair analysis) <i>W Zhifang, Wuhan University of Technology</i>	Vibration diagnosis case of primary LNG pumps <i>K Eun, B Choi, K Jung, J Haneol, G Dongsik, Korea Gas Technology Corporation</i>
11:30	Enhancing manufacturing asset efficiency by means of a reference model: The integration of critical services into the manufacturing chain <i>G Schuh, G Gudergan, B Lorenz, A Garg FIR & RWTH</i>	Condition monitoring of engineering assets using ultrasonic guided waves <i>P Mudge, TWI</i>	Application of acoustic emission to monitoring two phase flow <i>A Addali, S. Al-Lababidi, D Mba, Cranfield University</i>	Sludge and blockage detection inside pipes using ultrasonic guided waves <i>J Ma, M Lowe, Imperial College of London</i>	A hybrid fault diagnosis system based on expert system, neural networks and case-based reasoning <i>T Han, the University of Science and Technology</i>	Electrical motor vibration acceptance criteria <i>A Mouton, Sasol Mining</i>
11:50	Interaction between customer satisfaction and server satisfaction within industrial maintenance <i>S Suominen E Kupi, K Komonen, VTT Technical Research Centre</i>	Digital audio and NDE: An unlikely but valuable partnership <i>P Gaydecki, the University of Manchester</i>	Nonlinear ultrasonics in non-destructive evaluation and health monitoring of aircraft <i>R Vignjevic, L Kawashita, Cranfield University</i>	Modelling propagation of ultrasonic guided waves in the layered steel / grout / steel structures <i>V Zernov, L Fradkin, London South Bank University</i>	Feature extraction of impulsive-type periodic signals using morphological filter <i>W Jing, Xi'an Jiaotong University</i>	A practical approach to fault diagnosis of transmission system electromotor in Mahshahr Silo by vibration condition monitoring <i>H Ahmadi, the University of Tehran</i>
12:10	Asset management of Finnish waterworks <i>M Riihimäki, VTT Technical Research Centre</i>	Investigation of photoelastic properties of nontransparent crystals <i>F Akhmedzhanov, Samarkand State University</i>		On-line deposit surveys to determine the location and amount of deposit within operational pipelines prior to cleaning <i>L Robins, Tracerco</i>	Nonlinear responses of two-span rotor-bearing system with coupling faults of crack and pedestal looseness <i>L Yuegang, Dalian National University</i>	
12:30		Evaluation of the health of spring steel (SUP-		Pipe inspection using guided waves	A new design method of the real signal	

	9) for corrosion property according to heat treatment and compressive residual stress <i>K Park, H Ju-Ryu, Pukyong National University</i>
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<i>W Zhou, M Ichchou, J Mencik, École Centrale de Lyon</i>	mother wavelet by lifting scheme and its application <i>Z Zhong, Toyohashi University of Technology</i>
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12:50 Lunch

A

B

13:45	Plenary Keynote Lecture: Title to be confirmed <i>Prof J Chen, Shanghai Jiao Tong University</i>	Plenary Invited Distinguished Lecture: Potential opportunities for non-contact ultrasonic methods in condition monitoring <i>Dr S Dixon, Dr R Edwards Dr M Potter, Dr X Jian, the University of Warwick</i>
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SESSION 8

	A	B	C	D	E	F
	Engineering asset management	Developments of advanced pattern recognition techniques for robust diagnostics CHAIRS: <i>Dr S King¹, Dr A Starr², Rolls Royce¹, The University of Manchester²</i>	Parameter Analysis CHAIR: <i>Dr J Shi, University of Huddersfield</i>	Advanced signal processing and condition monitoring CHAIR: <i>Dr N Martin, GIPSA-Lab</i>	Tool condition monitoring using vibration measurements CHAIR: <i>Prof S Heyns, the University of Pretoria</i>	Instantaneous Angular Speed Analysis CHAIR: <i>Dr Y Li, University of Ulster (1)</i>
14:25	Applying the lessons learned in asset management around the world to the development of a web-based program learning environment <i>A Howard, GHD</i>	Trending of performance parameters for aircraft engine condition monitoring <i>S Utete, D Clifton, L Tarassenko, the University of Oxford</i>	Fault signal extraction using deviation energy in frequency domain <i>J Shi, University of Huddersfield</i>	Advanced Signal Processing and Condition Monitoring <i>N Martin, GIPSA-Lab</i>	Tool condition monitoring using vibration measurements – a review <i>S Heyns, the University of Pretoria</i>	Selecting extreme patterns for classifier design <i>Y Li, the University of Ulster</i>
14:50	Bringing asset investment planning technology to the smaller water concession <i>M Oakes, M Engelhardt, P Skipworth, SEAMS</i>	Using differential encoding for fast time-series data pattern matching <i>B Liang, J Austin, the University of York</i>	Model-based fault detection for an electro-hydraulic servo system using the extended Kalman filter <i>L Zheng¹, J Shi², A Ball¹, University of Manchester¹, University of Huddersfield²</i>	The future of motor protection: an example of sensor-less thermal monitoring of an induction motor <i>B Lepretre, Z Gao, R Colby, L Turner, Schneider Electric Industries</i>	Tool wear monitoring using wavelet based multifractal analysis <i>A Ouahabi¹, W Rmili¹, D Aouit¹, S Jaffard², R. Serra¹, Université de Tours-Polytech 'Tours', Université Paris XII²</i>	Non-contact measurement of IAS based on a laser mouse <i>S Zhi, P Charles, H Guo, F Gu, A Ball, University of Manchester</i>
15:10	Cost-effective system for sewer inspection <i>O Moselhi¹, T Shehab², Concordia University¹, California State University²</i>	New trends and the role of TPM <i>F Anvari, A Starr, the University of Manchester</i>	Development of a fault prognostics model of a non-linear control system using the extended Kalman filter <i>L Zheng¹, J Shi², L Lidstone¹, A Ball¹ University of Manchester¹, University of Huddersfield²</i>	Non-stationary signal analysis using fractional fourier methods <i>A Catherall, D Williams, Defence Science & Technology Laboratory</i>	Artificial neural network based tool condition monitoring in drilling using vibration signal analysis <i>K Patra, S Pal, K Bhattacharyya, Indian Institute of Technology</i>	An investigation of the engine flywheel speed fluctuation of large diesel-engine applications <i>P Charles, S Zhi, D Moore, H Guo, F Gu, A Ball, Manchester University</i>
15:30	Why technological determinism, why not socio-technical alignment for IS based asset management? <i>A Koronios, A Haider, the University of South Australia</i>		Model-based fault detection and diagnosis of the anti-lock breaking system <i>A Elshanti¹, A Badri¹, A Naid¹, M Rgeat¹, J Shi², A Ball¹ University of Manchester¹, University of Huddersfield²</i>	Diagnosis of mechanical failures in induction motors based on stator current Wigner distribution <i>M Chabert, M Blodt, J Regnier, E.N.S.E.E.I.H.T.</i>	Data reduction in gear vibration analysis <i>L Mlazi¹, C Stander¹, S Heyns¹, T. Marwala², the University of Pretoria¹, the University of the Witwatersrand²</i>	Feature selection based on relevance vector machine for condition monitoring <i>K Zhang, J Treertrong, Y Fan, F Gu, A Ball, University of Manchester</i>
15:50	Implementation of an asset management system <i>J Neophytou</i>		Prediction of diesel engine exhaust valve and injector fault using exhaust gas pressure and numerical simulation <i>R Gennish, J Jiang, F Gu, A Ball, University of Manchester</i>	Characterisation of signals issued from real systems using time-frequency phase based modelling procedure <i>C Ioanna¹, A Jarro², C Cornu³, A Quinquis², L.I.S³, ENSIETA², Thales Groupe³</i>	Gearbox dynamic simulation estimation of fault growth <i>S Wu, M Zuo, the University of Alberta</i>	Experimental study of mechanical fault detection in reciprocating compressors using motor current signature analysis <i>A Naid, F Gu, A Ball, University of Manchester</i>
16:10	A data quality survey for engineering asset management in Australia <i>S Lin, A Koronios, J Gao, the University of South Australia</i>		Monitoring electric motors based on parameters identification techniques <i>J Treertrong, K Zhang, Y Fan, F Gu, A Ball, University of Manchester</i>	On estimation of non-stationary motion parameters in video sequences <i>S Stankovic, the University of Montenegro</i>	A non-invasive technique for damage detection by wavelet analysis of vibration signals <i>B Basu, Trinity College Dublin</i>	
16:30	Asset management processes and their representation <i>L Ma, J Mathew, CIEAM</i>		Condition monitoring of mechanical seals <i>B Rajan¹, J Gill² Glaxo Smith Kline¹, Maia Systems²</i>	Condition monitoring of marine couplings through vibration analysis techniques <i>S Delvecchio, G Dalpiaz, E Mucchi, ENDIF</i>		

16:50 Conference Close