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Monday 17th June

16:00 – 19:00 Registration - Balcony

KEY

[100] – Denotes reference number in abstract booklet

Tuesday 18th June

08:00	**Registration – Balcony**
09:00	**Opening ceremony - (Room B)**
09:20	**PLENARY KEYNOTE LECTURE: (Room B)** [101]
09:50	**PLENARY KEYNOTE LECTURE: (Room B)** [102]

10:20 Tea, Coffee & Exhibition (Room A)

	1A- Room B	1B- Room C	1C- Room D	1D- Room E
	Experimental and simulation models for monitoring and diagnostics ***Prof A Lucifredi***	**CM of tribological contacts** ***Dr L Wang***	**Trained structures and statistical methods in condition monitoring** ***Prof L Kuravsky***	**Real-time health monitoring of machinery** ***Prof V N Kostyukov***
10:50	[103] A virtual sensor to identify low level conditions of oil in an electro-hydraulic actuation system for robotized gearboxes *A.Lucifredi[1], G.Medico[2], P.Silvestri[1], A.Assenzio[1]* *[1] University of Genova, Dept. of Mechanics,* *[2] Magneti Marelli, Powertrain – Venaria Reale (TO)*	[104] Monitoring of a hybrid rolling contact *R Hanzal, L Wang and R Wood* *University of Southampton*	[105] Mathematical backgrounds of a new technique for testing condition monitoring personnel professional skills *L S Kuravsky, P A Marmalyuk, V I Alkhimov and G A Yuryev* *Moscow State University of Psychology and Education*	[106] Real-time health monitoring systems of machinery *V N Kostyukov,* *Omsk State Technical University*

11:20	[107] Experimental measurement of a motorcycle, design of the virtual model and creation of a parametric software aimed to simplify the race engineer decisions *A.Lucifredi[1], L.Capocchiano[2], P.Silvestri[1], M.Vaccaro[1]* *[1] University of Genova, Dept. of Mechanics* *[2] Team Liberty Effenbert – Ducati 1198 R – Mondiale SBK 2012*	[108] On-line oil condition monitoring using novel chemical sensors *M Soleimania[1], L Wanga[1], J Atkinsona[1] and R J K Wood[1] R. I. Taylor[2]* *[1]University of Southampton* *[2]Shell Research Ltd, Shell*	[109] Information content measures in vibration-based diagnostic symptoms assessment *T Galka* *Institute of Power Engineering, Poland*	[110] Vibration diagnostics of rotating equipment with non-stationary speed mode *V N Kostyukov and S N Boichenko* *SPC Dynamics*
11:40	[111] Multibody simulation model and dynamic behaviour's analysis of e.464 locomotive manufactured by Bombardier *A.Lucifredi[1], M.Romairone[2], P.Silvestri[1], G.Scutiero[1]* *[1] University of Genova, Dept. of Mechanics* *[2] Bombardier Transportation*	[112] **LING WANG TO ADVISE TITLE AND ABSTRACT**	[113] Identification of stochastic systems with potential short-term instabilities *M Dimenrberg* *Worcester Polytechnic Institute*	[114] Rationing of piston machines vibration *V N Kostyukov and A P Naumenko,* *SPC 'Dynamics*
12:00	[115] Detection of anomalous operation components on the driveline of a cavitation tunnel for marine propellers *A.Lucifredi[1], P.Silvestri[1], M.Viviani[2], A.Ferrari[2]* *[1] University of Genova, DIME* *[2] University of Genova, DITEN*	[116] **LING WANG TO ADVISE TITLE AND ABSTRACT**	[117] Serial-cascade demodulation approach for machinery faults identification in nonlinear vibration diagnostics *F Ya Balitsky , A G Sokolova* *G V Dolaberidze* *and M A Ivanova* *IMASH RUN - Lab of Vibroacoustical Diagnostics of Machine*	[118] Technical condition evaluation of the electric multiple unit pneutronic system equipment *V N Kostyukov, A V Kostyukov,* *D V Kazarin and A V Shchelkanov* *SPC Dynamics*
12:20	[119] **LEN GELMAN TO ADVISE** **SPECTRAQUEST PAPER**	[120] Onboard condition monitoring of two stroke diesel engine cylinder lubrication oil *S Lunt and D Atkinson* *Condition Monitoring BU, Hydraulic Filter Division Europe, Parker Hannifin (UK) Ltd*	[121] Influences of aircraft manoeuvring load occurrences and climatic conditions of basing on damage accumulation rate *S N Baranov [1] and L S Kuravsky[2]* *[1]Russian Aviation Co, Research Grou,* *[2]Moscow State University of Psychology and Education*	[122] Grazing and tension diagnostics in half couplings rotors and bolts using shaft sensors *A I Kumenko, O A Zlobin and A V Timin* *JSC ' VTI'*

12:40 14:00	**Lunch & Exhibition (Room A)**			
14:00	**2A- Room B**	**2B- Room C**	**2C- Room D**	**2D- Room E**
	Diagnostics for electric machines and drives ***Prof L Swedrowski***	**Advanced signal processing in condition monitoring** ***Prof S Lahdelma***	**Wind turbine condition monitoring technologies** ***M Papaelias***	**Advanced diagnostics and prognostics methods** ***Dr R Klein***
14:00	[123] Comparison of fourier spectra of induction machine currents for cage asymmetry and faults in mechanical part of a drive *A F Gomez and T J Sobczyk* *Cracow University of Technology*	[124] Advanced condition monitoring of epicyclic gearboxes *S Lahdelma, E Juuso and J Immonen* *University of Oulu*	[125] The value of integrated condition monitoring for efficient wind turbine operations *M Papaelias* *The University of Birmingham*	[126] Searching similar vibration patterns on turbofan engines *J Lacaille* *Snecma (Safran Group)*
14:30	[127] Supply current signal and artificial neural networks in the induction motor bearings diagnostics *T Ciszewski and L Swędrowski* *Gdansk Technical University*	[128] Condition monitoring by means of vibration and sound measurements *J Laurila and S Lahdelma* *University of Oulu*	[129] Condition monitoring of railway wheelsets using acoustic emission *A Amini[1], M Entezami[1], S Kerkyras[2] and M Papaelias[1]* *[1]The University of Birmingham* *[2]Feldman Enterprises Limited*	[130] Towards model based prognostics - characterisation of fault size in bearings *I Itzhak[1], S Shaharabany[1], G Kogan[1], R Klein[2] and J Bortman[1]* *[1] University of the Negev* *[2] R.K. Diagnostics*
14:50	[131] ***FREE SLOT AVAILABLE FOR A LATE SUBMISSION***	[132] Applying acceleration and strain signals for the stress evaluation of a steel cutter *K Karioja and S Lahdelma* *University of Oulu*	[133] Condition monitoring of the brake system of an industrial NEG-MICON 750kW wind turbine *M Entezami, P Weston, S Hillmansen and M Papaelias* *The University of Birmingham*	[134] Damage tolerance analyses in engineering practice *J Bortman[1], Z Yosibash[1] and R Alevi[2]* *[1]University of the Negev, Beer-Sheva* *[2]Fracture.Fatigue.Finite elements Ltd*
15:10	**Exhibitor Spotlight Session - (Room B)**			

15:30 **Tea, Coffee & Exhibition (Room A)**

	2A- Room B	2B- Room C	2C- Room D	2D- Room E
	Diagnostics for electric machines and drives ***Prof L Swedrowski Con'd***	**Advanced signal processing in condition monitoring** ***Prof S Lahdelma***	**Wind turbine condition monitoring technologies** ***M Papaelias***	**Advanced diagnostics and prognostics methods** ***Dr R Klein***
16:00	[135] An experimental study on damage monitoring of rolling bearings using acoustic emission method *L Nohal and P Mazal* *Brno University of Technology - Institute of Machine and Industrial Design*	[136] Operator involvement improves the performance of a condition monitoring programme *H Mikkonen[1] and Sulo Lahdelma[2]* *[1]Oy SKF Ab* *[2]University of Oulu*	[137] Condition monitoring of wind turbine gearboxes using acoustic emission *S Kerkyras[1], V Karakassidis[2] and M Papaelias[3]* *[1]Feldman Enterprises Limited* *[2]TERNA Energy S.A.* *[3]The University of Birmingham*	[138] THUMS and CBM in the Israeli Air Force – lessons learned *A Kushnirsky, Y Golan, E Haris and S Nissim* *Israel Air Force, Material Directorate Aircraft Eng. Department* *(Brig. Gen. Reserve) J Bortman* *Ben-Gurion University of the Negev*
16:20	[139] Optimised non-destructive testing technique for crane inspection applications based on guided waves and acoustic emission *N A Makris[1], L Zhao[2] and S Soua[2]* *[1] iKnowHow Informatics* *[2] NDT Technology Group, TWI Ltd*	[140] **LAHDELMA TO ADVISE TITLE AND ABSTRACT**	[141] Use of Novel Algorithms for Predictive Maintenance in Wind Turbines *F P García Márquez and C Muñoz Muñoz* *Ingenium Research Group, Universidad Castilla-La Mancha*	[142] S-discriminants. New approach to machinery condition monitoring and defects occurrence and development detecting *A Sokolova and F Balitsky* *Machinery Engineering Research Institute, Russian Academy of Science*
16:40	[143] Investigation of the influence of oil film thickness on helical gear defect detection using acoustic emission *M Hamel, A Addali and D Mba* *Cranfield University*	[144] Automated image stitching for enhanced visual inspections of nuclear power stations *P Murray, G West, S Marshall and S McArthur* *University of Strathclyde*	[145] Predictive maintenance management in wind turbines *R Ruiz de la Hermosa Gonzalez-Carrato[1], F P García Márquez[1] and M Papaelias[2]* *[1]Universidad Castilla-La Mancha* *[2]University of Birmingham*	[146] Comparative study of track geometry quality prediction models *S Famurewa, T Xin, M Rantatalo, D Galar and U Kumar* *Luleå University of Technology, Luleå Railway Research Centre*
17:00	[147] ***FREE SLOT AVAILABLE FOR A LATE SUBMISSION***	[148] Criteria of an assessment of quality of automatic expert diagnostic *A A Myntsov, D V Sokolov and O V Myntsova* *Closed Joint Stock Company "Promservis" (ZAO "Promservis")*	[149] ***FREE SLOT AVAILABLE FOR A LATE SUBMISSION***	[150] ***FREE SLOT AVAILABLE FOR A LATE SUBMISSION***

18:00 A walking tour around Kraków

Wednesday 19th June

08:00	**Registration**
08:30	**PLENARY KEYNOTE LECTURE: Chair Prof L Gelman [201] (Room B)**
09:00	**PLENARY KEYNOTE LECTURE: Chair Prof L Gelman [202] (Room B)**

09:30 Tea, Coffee & Exhibition (Room A)

	3A- Room B	3B- Room C	3C- Room D	3D- Room E
	Condition monitoring oriented on reliability analysis ***Prof S Radkowski***	**Advanced reasoning and diagnosis in condition monitoring** ***Dr E Juuso***	**WiBRATE (wireless vibration monitoring and control)'** ***Dr C Kar***	**Signal component identification or tracking for condition monitoring of complex systems** ***Dr Nadine Martin***
09:50	[203] Application of nonlinear models of failures in maintenance proactive strategy *S Radkowski* *University of technology*	[204] Detection of multiple faults with intelligent condition indices *E Juuso and S Lahdelma* *University of Oulu* ***ABSTRACT NOT SUBMITTED***	[205] Helicopter rotor blade monitoring using autonomous wireless sensor network F L M dos Santos[1], B Peeters[1] S Ramirez[2] , R Loendersloot [2] and T Tienga[2] [1]LMS International	[206] Gear diagnostics in a planetary gearbox: a study using internal and external vibration signals *W Smith, L Deshpande, R Randall and H Li* *University of New South Wales*
10:15	[207] Multiple instantaneous frequency estimation using complex shifted morlet wavelets *I Antoniadis[1], K Rodopoulos[1] and C Yiakopoulos[2]* *Dynamics and Structures Laboratory,* *[1]Machine Design and Control Systems Section* *[2]National Technical University of Athens*	[208] Fatigue prediction with intelligent stress indices based on torque measurements in a rolling mill *E Juuso and M Ruusunen,* *University of Oulu* ***ABSTRACT NOT SUBMITTED***	[209] Rolling element bearing fault detection based on orthogonal hilbert-huang transform *A Cisi, G D'Angelo and A Zanella* *Centro Ricerche Fiat*	[210] Architecture of new generation of condition monitoring system for heavy duty industrial machinery *M Strączkiewicz, T Barszcz and A Jabłoński* *AGH University of Science and Technology*
10:35	[211] Residual life estimation on the basis of vibration time histories analysis *T Galka* *Institute of Power Engineering, Poland*	[212] Condition based maintenance: from principles to commercial solutions J Vižintin[1], G Peršin[1], B Kržan[1], D Juričič[2] and B Kalmer[3] [1]Univerza v Ljubljani, Fakulteta za strojništvo [2] Jožef Stefan- Odsek za sisteme in vodenje [3]Kalmer d.o.o. ***ABSTRACT NOT SUBMITTED***	[213] Unbalance and bow phase diagnosis of rotating machinery through vibration analysis using Hilbert-Huang transform *S Singh[1], N Kumar[2]* *[1]Research Scholar, [2]Assistant Professor,* *School of Mechanical, Materials and Energy Engineering, Indian Institute of Technology Ropar*	[214] A dynamic clustering approach for tracking the evolution of railway components *El Assaad, A Samé and P Aknin* *IFSTTAR, Université Paris Est, GRETTIA*

10:55	[215] Online monitoring of gear meshing conditions *J Mączak* *Warsaw University of Technology*	[216] Fusion of operations, event-log and maintenance data: A case study for optimising availability of mining shovels *D Galar and H Bin Naem* *Lulea University of Technology*	[217] Model based fault diagnosis of a rotor bearing system: crack versus unbalance *A K Jalan* *Birla Institute of Technology and Science Pilani*	[218] Identification of harmonics and sidebands in a finite set of spectral components *T Gerber, N Martin & C Mailhes* *GIPSA-lab - DIS*
11:15	**Tea, Coffee & Exhibition (Room A)**			
	4A- Room B	**4B- Room C**	**4C- Room D**	**4D- Room E**
	Concepts and methods for effective NDT results ***Prof T Lago***	**Condition monitoring of wind energy system** ***Dr T–H Gan***	**Decision support system for condition monitoring** ***Dr C Kar***	**Successful applications of condition monitoring and the associated business case** ***Mr C Pomfret***
11:45	[219] **PROF T UHL TO ADVISE TITLE AND ABSTRACT**	[220] A comparative study on the use of acoustic emission and vibration analysis for angular misalignment detection using envelope analysis *J L Ferrando Chacon,* *E Artigao Andicoberry,* *W Balachandran and T–H Gan* *Brunel University*	[221] Condition monitoring in aluminium industries *P Kumar Behera and B Shankar Sahoo* *AGM(Mech)-Nalco*	[222] Generating business cases for integrated condition monitoring systems *C Pomfret* *Society for MFPT*
12:05	[224] An automatic approach for proper amplitude estimation in CBM applications *T L Lago* *Tech Fuzion*	[225] Artificial intelligence and adaptive learning systems for condition monitoring of wind turbine blades *S–P SantoSpirito* *KCC Ltd* *J Ferrando Chacon* *Brunel University*	[226] Mitigating divergence in sustainment of complex systems *C Stecki and J S Stecki* *PHM Technology Pty Ltd*	[227] ***FREE SLOT AVAILABLE FOR A LATE SUBMISSION***
12:30	[228] Discretization's impact on time domain analysis *T L Lago* *Tech Fuzion*	[229] An unsupervised learning for damage detection using ultrasonic guided waves in glass fibre reinforced polymer material for tidal application *V Dimlaye and T–H Gan* *NDT and Asset Reliability Group,* *TWI Ltd*	[230] Functional modelling of complex systems *A Thorn and J S Stecki* *PHM Technology Pty Ltd*	[231] ***FREE SLOT AVAILABLE FOR A LATE SUBMISSION***

12:50	[232] ***FREE SLOT AVAILABLE FOR A LATE SUBMISSION***	[233] ***FREE SLOT AVAILABLE FOR A LATE SUBMISSION***	[234] Computer aided design of condition based maintenance system *J S Stecki* *PHM Technology Pty Ltd*	[235] Evaluation of a condition monitoring method's fault detection reliability for condition-based maintenance applications *G Wurzel[1], M Weigand[2] and A Doleschel[3]* *[1]Eurocopter Deutschland GmbH* *[2]Vienna University of Technology* *[3]Spinner Group, formerly Eurocopter Deutschland GmbH*

13:10 Lunch & Exhibition (Room A)

13:20 Meeting of The International Scientific Committee (Working lunch by invitation) – (Room C)

14:10	**PLENARY KEYNOTE LECTURE: Chair Prof L Gelman [236] Mr Cameron Sinclair, CEO of BINDT, ' BINDT Strategy and the CM community' (Room B)**
14:40	**Welcome by the President of The British Institute of Non Destructive Testing, *Prof Anthony Dunhill, Rolls Royce* - (Room B)**
15:10	**Annual General Meeting of the International Society of Condition Monitoring – (Room B)**

15:10 Tea, Coffee & Exhibition (Room A)

	5A- Room B	5B- Room C	5C- Room D	5D- Room E
	Component cleanliness in fluid power ***Prof J Rinkinen***	**Machine condition monitoring under varying operation condition** ***Prof W Bartelmus***	**CM in nuclear** ***Dr P Trampus***	**Condition monitoring in railway: rolling stock and infrastructure** ***Prof D Galar***
15:30	[237] Current research in component cleanliness of fluid power *J Rinkinen, L Elo, M Kuosku and J Pekkonen* *Tampere University of Technology (TUT)*	[238] New condition indicators for bearings working in varying operation condition *W Bartelmus and R Zimroz* *Wroclaw University of Technology*	[239] Non-destructive characterization of nuclear power plant components ageing *P Trampus* *College of Dunaújváros, Hungary*	[240] The effect of unbalance and misalignment on detection of rotor/shaft cracks using vibration analysis *S Kunche and S N (Suri) Ganeriwala* *Spectra Quest, Inc.*
16:00	[241] Experiences of online measurements in technical cleanliness of fluid power system *L Elo, J Pekkonen and J Rinkinen* *Tampere University of Technology (TUT)*	[242] Frequency spectra based vibration velocity RMS calculation algorithm dedicated to online monitoring systems *B Greń[1], P Kępski[2] and T Barszcz[3]* *[1] Famur Institute Sp. z o.o.* *[2] AGH University of Science and Technology*	[243] Advanced acoustic detection system for monitoring malfunctions *G Por* *Institute of Nuclear Techniques, Technical University of Budapest*	[244] Matlab modeling of the Swedish infrastructure for the study of the EMC *R Martínez and A Wisten* *LTU (Luleå Technical University)*
16:20	[245] Examples of technical cleanliness of fluid power components *M Kuosku, J Pekkonen and J Rinkinen* *Tampere University of Technology (TUT)*	[246] Delamination of Twill-Weaved CFRP composites using acoustic emission technique *B Y Mohammed, A Chong, S Wilcox and C K Tan* *University of Glamorgan*	[247] Developing a 3D ultrasound device *G Por, L Doszpod and P Tampus* *College of Dunaujvaros*	[248] Reliability evaluation of 2 level GTO inverter by using fuzzy FTA *Y A Mahmood[1, 2] and A Ahmadi[1]* *[1]Luleå University of Technology* *[2]University of Mosul, Mosul, Iraq*

16:40 Tea, Coffee & Exhibition (Room A) – (17:00 EXHIBITION CLOSE)

	6A- Room B	6B- Room C	6C- Room D	6D- Room E
	Component cleanliness in fluid power ***Prof J Rinkinen***	**Wind turbine condition monitoring technologies** ***M Papaelias***	**TITLE TO BE CONFIRMED** ***Dr P Trampus***	**Condition monitoring** ***Dr Nadine Martin & Prof V N Kostyukov***
17:00	[249] Test bench for measuring technical cleanliness of assembled fluid power components *J Pekkonen, L Elo, M Kuosku and J Rinkinen* *Tampere University of Technology (TUT)*	[250] Feature selection for ANN model-based wind turbine condition monitoring *P Cross, X Ma and Y Wang* *Lancaster University*	[251] ***FREE SLOT AVAILABLE FOR A LATE SUBMISSION***	[252] Consequences of non-respect of the bedrosian theorem when demodulating *C Pachaud, T Gerber, N Martin and C Mailhes* *GIPSA-lab - DIS*
17:20	[253] New steps in the component cleanliness analysis *C Koehler* *Hydac Filter Systems GmbH*	[254] Wind turbine natural frequencies identification using narrow-band decomposition methods *O Cardona-Morales, E F Sierra-Alonso and G Castellanos-Dominguez* *Universidad Nacional de Colombia*	**MEETING OF THE MANAGEMENT COMMITTEE OF THE INTERNATIONAL SOCIETY FOR CONDITION MONITORING**	[255] Dynamic characteristics analysis, diagnostics and balancing of high temperature rotor having a permanent deflection *A I Kumenko, O A Zlobin and I A Suminov* *JSC 'VTI'*
17:40	[256] The effect of hydraulic fluid additives on the counting accuracy of automatic particle counters *M Day, MSc., CMS Consultants Ltd., J Macabbee, MIME, Pall Europe Ltd and J –h Hong, MSc, Pall Korea*	[257] State dependent parameter model-based condition monitoring for wind turbines *P Cross and X Ma* *Lancaster University*		[258] Automated diagnosis system for mechanical faults in IC engines *J Chen and R B Randall* *University of New South Wales*

19:30 for 20:00 Conference Dinner incorporating Polish Traditional Singing and Dancers

Thursday 20th June

08:30	**Registration**			
	7A- Room B	**7B- Room C**	**7C- Room D**	**7D- Room E**
	Condition monitoring of local damage ***Prof L Gelman***	**Advanced signal processing for MCM and NDT** ***Prof R Smid***	**Vibration analysis, diagnostics and prognostics – case studies from all industries** ***Prof T Hope***	**Vibration condition monitoring** ***CHAIR: TBC***
09:00	[301] Cepstrum pre-whitening technique for enhancing bearing fault diagnosis *S Ganeriwala, J Yang, and R Li* *SpectraQuest*	[302] Virtual sensors for machine condition monitoring *R Smid and V Horyna* *Czech Technical University in Prague*	[303] Update on ISO standards in condition monitoring and vibration *S Mills, AV Technology*	[304] Wavelet bispectral analysis of electrical motor vibration signals for the purpose of bearings lubricant deficiency fault detection *J Jamšek[1], Đ Juričić[2] , P Boškoski[2]* *Jožef Stefan[3]* *[1]Univerza v Ljubljani, Pedagoška fakulteta* *[2]Oddelek za fiziko in tehniko; Inštitut* *[3]Odsek za sisteme in vodenje*
09:30	[305] On-line condition monitoring of arospace gas turbine engines *S Greenfield* *European Business Development Manager Eaton Aerospace*	[306] Virtual sensor for diagnostics of valve *V Horyna* *Czech Technical University in Prague*	[307] Improving Reliability by Correcting the "Big Four": Balancing, Shaft / Belt Alignment, Looseness and Resonance *D Whittle* *RMS Ltd*	[308] Root cause analysis and countermeasures of high vibration of sea water make-up pump in large thermal power plant *K Jungchan and J Youngho* *Doosan Heavy Industries & Construction*
09:50	[309] Energy instensity analysis and cost of Fanuc AM100iB robot work *J Świder and A Zbilski* *The Silesian University of Technology*	[310] Gear tooth crack detection using dynamic response analysis *O Mohammed* *Lulea University of Technology*	[311] Rotor Bar Defect Detection using Vibration Analysis *D Whittle* *RMS Ltd*	[312] Diagnosing gear tooth pitting on the basis of synchronously averaged motor current and the gabor transform *J R Ottewill and M Orkisz* *ABB Corporate Research Center*
10:10	[313] **L GELMAN TO ADVISE TITLE AND ABSTRACT**	[314] Application of diffuse guided waves for detection of originating defects in structural health monitoring of composite objects *V Samaitis, L Mazeika, R Raisutis, R Kazys,* *K Barsauskas Ultrasound research institute, Kaunas University of Technology*	[315] **T HOPE TO ADVISE TITLE AND ABSTRACT**	[316] Coal mill pinion and main reducer gearbox bearing damage detection using co-ordinated condition monitoring at DTPS *H M Bari , A A Deshpande and S S Patil* *Department of Maintenance Planning, Condition Monitoring Cell, Reliance Energy*
10:30	[317] Estimate frequency-dependent group delay of rayleigh-lamb wave using group delay operators based polynomial chirplet transform *Y Yang, Z K Peng, W M Zhang and G Meng* *Shanghai Jiao Tong University*	[318] Light rail vehicles and track condition monitoring for improved operational safety *B Firlik[1], B Czechyra[1] and A Chudzikiewicz[2]* *[1]Poznań University of Technology* *[2]Warsaw University of Technology*	[319] Marine machinery condition monitoring why has the shipping industry been slow to adopt? *D Shorten* *Lloyd's Register EMEA*	[320] ***FREE SLOT AVAILABLE FOR A LATE SUBMISSION***

10:50 **Tea & Coffee**

11:15	**PLENARY KEYNOTE LECTURE: Chair Prof L Gelman [321] (Room B)**			
11:45	**PLENARY KEYNOTE LECTURE: Chair Mr C Sinclair [322] (Room B)**			
12:15	**Panel Session: Future directions in condition monitoring - Chair Prof L Gelman (Room B)**			
12:45	**Lunch**			
	8A- Room B	**8B- Room C**	**8C- Room D**	**8D- Room E**
	Condition based maintenance ***CHAIR: TBC***	**Artificial intelligent techniques for condition monitoring** ***CHAIR: TBC***	**NDT** ***CHAIR: TBC***	***Industrial applications*** ***CHAIR: TBC***
13:45	[323] Determining fluid path condition from normal plant data *S J Booksh* *Machinery Technical Support*	[324] Condition identification of cylinder liner-piston ring in marine diesel engine using bispectrum analysis and artificial neural networks *Z Guo[1,2], C Yuan[1,2], Z Li[1 2], X Yan[1,2], and Z Peng[3]* *[1, 2]Wuhan University of Technology, [3]The University of New South Wales*	[325] Estimation of tensile stress level on a stressed wire using a magnetic circuit *B H Kim[1] and Il K Lee[2]* *[1]Kyungnam University* *[2]Expressway & Transportation Research Institute, Structure Research Team, Korea Expressway Corporation*	[326] Condition monitoring of the aerospace and marine materials using THz radiation *A Baryshev , A Belitskaya, A Khudchenko and H van der Linden* *SRON Netherlands Institute for Space Research*
14:05	[327] CargoCBM – condition based maintenance for freight wagons *T Herrmann and M Hecht* *Technische Universität Berlin*	[328] Genetic algorithm enhanced neural network applied to tool condition monitoring in drilling process *R Fayad and H Abou Chakra* *Beirut Arab University*	[329] The comparison between TOFD and conventional UT capabilities in defect sizing and monitoring for steel structures under cyclic and dynamic loading *A Yousefi* *IWREC - metaliurgy labratoary*	[330] ***FREE SLOT AVAILABLE FOR A LATE SUBMISSION***
14:25	[331] An Internet of things approach for intelligent monitoring of conveyor belt rollers *Jens Eliasson* *EISLAB, Lulea tekniska universitet*	[332] Outlier detection in rotating machines combining optimized one-class classifiers *C Aguirre-Echeverry, O C Morales and G Castellanos-Dominguez* *Universidad Nacional de Colombia, Manizales*	[333] Heavy wall pipe line inspection by phased array ultrasonic test (PAUT) and comparison with conventional NDT methods *A Yousefi* *IWREC - metaliurgy labratoary*	[334] ***FREE SLOT AVAILABLE FOR A LATE SUBMISSION***

14:45 **Conference Closing Ceremony (Room B)**