The 7th IET Conference on Railway Condition Monitoring (RCM) 2016

27 – 28 September 2016 | Edgbaston Cricket Ground, Birmingham, UK

Tuesday 27 September	
09:00	**Registration and exhibition**
10:00	**Chairman's welcome** **Prof Clive Roberts,** *University of Birmingham, UK*
10:15	**Keynote: How to save wheels and influence train performance** ▪ Overview of severe wheel issues on Greater Anglia Routes ▪ Proposed solution by using on-board monitoring of wheel condition ▪ Plans for improving fleet performance ▪ Use of on-board monitoring for other components and on other fleets **David Pearce,** Fleet Performance and Planning Engineer, **Abellio Greater Anglia** **Alan Stewart,** Commercial Manager, **Perpetuum**
11:00	**Refreshments, networking and exhibition**

	Session 1a: Hardware, communications and data standards from RCM applications	**Session 1b: monitoring systems for systems and vehicles**
11:30	**1.a.1** **An automated data-driven toolset for predictive analytics** K Pipe, B Culkin, *Humanware, UK*	**1.b.1** **Crack detection in railway axle using horizontal and vertical vibration measurements** M Hassan, S Bruni, M Carboni, *Politecnico di Milano*, *Italy*
12:00	**1.a.2** **An investigatory study into transmission power control for wireless sensor networks in railway applications** J B Hughes, G D Horler, *University of Huddersfield, UK / Smart Component Technologies Ltd, UK,* E P C Morris, *Smart Component Technologies Ltd, UK*	**1.b.2** **Application of axle-box acceleration to track condition monitoring for rail corrugation management** H Tanaka, M Matsumoto, *Railway Technical Research Institute, Japan,* Y Harada, *West Japan Railway Company*, *Japan*
12:30	**Lunch, networking and exhibition**	
13:30	**Improving industry performance: Nexus GSM-R voice cab radio** **Ben Rostand,** Siemens	
	Session 2a: Condition based maintenance	**Session 2b: Network-wide or whole system approaches to RCM**
14:15	**2.a.1** **A study on strategy of condition based**	**2.b.1** **Detecting railway under-track voids using**

	maintenance for Korea metro rolling stocks K Lee, *Korea Railroad Research Institute, Korea,* J Lee, I Kim, *Seoul Metropolitan Rapid Transit, Korea*	**multi-train in-service vehicle accelerometer** F Balouchi, A Bevan, *University of Huddersfield, UK,* R Formston, *Siemens, UK*
14:45	**2.a.2** **The development of condition based maintenance and operational response on network rail's western route** P T Barnes, A Olney, M C Gallop, *Network Rail Western Route, UK*	**2.b.2** **An online state estimation approach for railway axle bearing based on EEMD and entropy** C Yi, *Xihua University, China,* J H Lin, L Liu, *Southwest Jiaotong University, China*
15:15	**Refreshments, networking and exhibition**	
	Session 3a: Asset management strategies	**Session 3b: Robotics and autonomous systems**
15:45	**3.a.1** **People centred intelligent predict and prevent (PCIPP) a novel approach to remote condition monitoring** A Myers, D Tickem, J Evans, *Thales, UK*	**3.b.1** **A modular approach to automation of condition monitoring and repair for rail** M Taylor, *Network Rail, UK,* M Westwood, A Peters, *Transport Systems Catapult, UK*
16:15	**3.a.2** **Closing the loop on enterprise asset management (EAM)** J McQuillan, *ONG Automation, UK & Ireland,* R Willekens, *MaxGrip, The Netherlands,* X-F Braud, *Schneider Electric, France*	**3.b.2** **Using model based systems engineering to increase the robustness of monitoring systems in railways** M Blumenfeld, E J C Stewart, *Birmingham Centre for Railway Research and Education, UK*, E Larios, *Embed Limited, UK*
16:45	**Drinks reception**	
18:00	**Close Day 1**	

	Wednesday 28 September	
09:00	**Refreshments and exhibition**	
09:30	**Keynote: Enabling Greater Use of Cross-Industry Remote Condition Monitoring** ▪ A business case tool to review the industry benefits and costs ▪ A template contract that provides the necessary arrangements for sharing of data and installation and maintenance of equipment ▪ A set of data architecture principles to facilitate data sharing **Sam Newcombe**, RS Engineer - Train Systems, **RSSB**	
10:15	**Refreshments, networking and exhibition**	
	Session 4a: State-of-the-art NDT techniques and approaches	**Session 4b: Operational responses to RCM events**
10:45	**4.a.1** **Jubilee Line: a data-driven approach to improving performance and reliability** M Cooper, C Hughes, P Dubery, *CPC Systems Ltd, UK*	**4.b.1** **How can we industrialise wheel and disc measuring systems? (Or new equipment new people new trains don't panic!)** S Groom, *Alstom, UK / University of Birmingham,*

		UK
11:15	**4.a.2** **Enabling the multiple use of condition monitoring devices for real-time monitoring, real-time data logging and remote condition monitoring** E P C Morris, *Smart Component Technologies Ltd, UK,* G Feng, G D Horler, Smart Component Technologies Ltd, UK / *The University of Huddersfield, UK*	**4.b.2** **Retrofit condition monitoring and remote data retrieval from railway vehicle engines** A Mamaniyat, M Robinson, *Chrome Angel Solutions, UK,* G Dutton, *Angel Trains Limited, UK,* J Birch, *Instrumentel Ltd, UK*
11:45	**4.a.3** **Developing rolling stock fault analysis and key performance indicators using statistical modelling** S Coates, N Wray, *Angel Trains Ltd, UK*	**4.b.3** **Estimation of lateral track irregularities from on-board measurement: effect of wheel-rail contact model** S Alfi, A De Rosa, S Bruni, *Politecnico di Milano, Italy*
12:15	**Lunch, networking and exhibition**	
	Session 5a: Monitoring systems for infrastructure	**Session 5b: Predictive analysis tools and techniques**
13:15	**5.a.1** **Non-contact force measurement for current collection in a 25kV overhead line electrified railway** M R Arthington, S R Duncan, *Oxford University, UK*, P T Barnes, *Network Rail, UK*	**5.b.1** **Software and machine learning tools for monitoring railway track switch performance** N P Wright, *MPEC Technology Ltd, UK* R Gan, *Sydney Trains*, *New South Wales,* C McVae, *Translink*, *Belfast*
13:45	**5.a.2** **Research on evolution law of service performance of high-speed train based on tracking monitoring** J H Lin, L Liu, W Y Wu, *Southwest Jiaotong University, China*, C Yi, *Xihua University, China*	**Session to be confirmed**
14:15	**Refreshments, networking and exhibition**	
14:45	**5.a.3** **PANTOBOT 3D: A vision system for the three dimensional inspection of train pantographs** M Sachi, L Chiesi, P Capece, *Camlin, UK*	**5.b.3** **Track circuit indicators – monitoring without thresholds** K Pipe, *Humaware, UK,* F Lynch, *Network Rail, UK*
15:15	**5.a.4** **Enhancing wireless remote condition monitoring with photographic imaging** T Laque, S Maddison, B Smith, *Senceive Ltd, UK*	**5.b.4** **Evaluation of dymola for its suitability for simulating railway systems** S Nath, *WSP PB, UK*, S B Tennakoon, *Staffordshire University, UK*, M Dempsey, *Claytex Services Limited, UK*
15:45	**Chairman's close** **Prof Clive Roberts,** *University of Birmingham, UK*	
16:00	**Conference close**	