

# Seventh International Human Factors Rail Conference

24 to 26 June 2020 | etc.venues - Fenchurch Street, London



#HFR2020

## Day 1 - Wednesday, 24 June

	City suite 1	City suite 2	City suite 3	Manage
08:30-10:00	Registration - Refreshments and Breakfast available			
10:00 - 10:15	Conference opening - Ann Mills			
10:15 - 11:00	Keynote address - Allison McDonald (SystemIQ)			
11:00 - 11:20	Break - Refreshments			
	<b>Designing for accessibility and disability</b>	<b>Safety culture</b>	<b>Competence</b>	<b>Safety Management</b>
11:20 - 11:45	The development of a user-friendly assessment of station accessibility (David Hitchcock)	<b>SPEAKER &amp; PANEL SESSION:</b>  Safety culture I - The influence of the regulatory framework and institutions Facilitated by Gregory Rolina (ERA) and Jesus Villena (TBC)  Speakers Is it possible to change a safety culture by introducing new requirements (Lena Kecklund)  Developing a framework for the oversight of safety culture (Bart Accou)	Engineering non-technical skills: a case study for implementation of NTS in a maintenance environment (Andrew Russell)	Prototype of an educational tool for train drivers to learn to use repeating commentary (Ayanori Sato)
11:45 - 12:10	Designing out disability: Providing insights into the transport needs of disabled rail passengers (Laura Lewis)		NTS in a positive safety culture strategy: keys to take on new challenges in the systematic integration of human factors (Baltasar Gil de Egea)	<b>DISCUSSION:</b> Safety management and safety leadership - the doing and being of safety within the rail industry (Paul Davison)
12:10 - 12:35	<b>DISCUSSION:</b> Designing for disability: why do a number of our railway stations suffer from inadequate design? (Toby Garner)		Understanding and addressing the role of non-technical skills in stop short incidents (Anisha Tailor)	
12:35 - 13:00			Down under but staying on top - An exploration of the NTS employed by train controllers in Australia' (Philippa Murphy)	
13:00 - 13:50	Lunch			
	<b>Vulnerable passengers and members of the public</b>	<b>Safety culture</b>	<b>Competence</b>	<b>Safety management</b>
13:50 - 14:15	Improving travel experiences for people on the autistic spectrum (Hannah White)	<b>Speaker and panel session continued:</b> <b>Safety culture II: Assessment methods and practice</b> Facilitated by Gregory Rolina (ERA) and Jesus Villena (TBC)  Speakers: Safety culture assessment at Nordjyske Jernbaner (Kim Drews and Johannes Jakobsen)  Experiences on Safety Culture Evaluation in Finland (Kirsi Pajunen and Tomi Kangas)	It was acceptable in the 80s' Part 2 - validation of the GB rail train driver psychometric assessment process and a look to the future (Priya Shah)	<b>WORKSHOP: Risk Management Maturity Model: What a practitioner should know</b> Harry Blanchard
14:15 - 14:40	Behaviour of vulnerable road users at a passive level crossing and measures to foster their safety (Jan Grippenkov)		Improving industry route knowledge competence processes for guards (Charlotte Kaul)	
14:40 - 15:05	Information processing, decision making and		Developing experience to improve train driver	

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	pedestrian behaviour at Australian Level Crossings (Kate Moncrieff)		performance - what can we learn from international rail and other transport industries? (Paul Leach)	
15:05 - 15:25	Break - Refreshments			
	<b>Vulnerable passengers and members of the public</b>	<b>Safety leadership</b>	<b>Competence</b>	<b>Safety management</b>
15:25 - 15:50	Evaluating lighting and auditory interventions at stations and crossings to reduce suicide, trespass and risky behaviour (Madeline, Hallewell)	<p><b>SPEAKER &amp; PANEL SESSION: Safety leaderships skills: Key ingredients for an effective development programme</b></p> <p>Facilitated by Kim Drews (ERA) and Bjorn Feys (Thalys THI Factory)</p> <p>Speakers: How to develop safety leadership skills: A new training targeting rail managers at all levels (Gregory Rolina)</p> <p>Improving safety and performance through people - developing the leadership of operational front-line leaders (Paul Leach)</p> <p>Setting up a safety leadership programme in the organisation (Tomi Kangas and Bjorn Feys)</p>	<p><b>WORKSHOP:</b> Facilitating Non-Technical Skills within safety critical sectors: an adult learning &amp; narrative psychological approach (Paul Davison)</p>	Safety Management Systems and frontline performance in the railway industry: A study using Bayesian networks (Alistair Cooper)
15:50 - 16:15	Railway suicide - prevention and management in Australia (Craig Fletcher)			Mitigating human performance assessment methods from aviation to rail: taking the best of both worlds (Martina Ragousta)
16:15 - 16:40	Identification of most potential ways to reduce suicides on Finnish railways (Anne Silla)			Metro de Medellin: integration of human and organisational factors in the SMS (Andres Tomas, Escobar Elejaide)
16:40 - 17:05	Designing out train surfing with Human Factors (Rajendra Kumar, Suganth)			Developing human factors risk models for design and operations: the SAFEMODE project (Simone Pozzi)
17:10 - 17:30	Poster Introduction Session Ann Mills, RSSB			
17:30 - 19:30	Time to view conference posters and network with colleagues and friends Beer, wine, soft drinks and snacks available			

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## Day 2 - Thursday, 25 June

	City suite 1	City suite 2	City suite 3	Manage
08:30 - 09:00	Refreshments and Breakfast available			
09:00 - 09:45	Keynote address - Mark Young and Simon French (RAIB)			
09:45 - 10:00	Break - Refreshments			
	<b>Human Factors methods</b>	<b>Virtual and augmented reality</b>	<b>Human performance</b>	<b>Accident investigation</b>
10:00 - 10:25	The benefits of human factors validation at late projects' phases (Vincent Pargade)	Virtual reality - the utilisation and application in human factors-related disciplines: past, present, future (Craig Fletcher)	Human error analysis at Valencia Railway Operation Control: training proposal towards reducing human error (Crescencio, Angel, Ortiz Martinez)	<b>SPEAKER AND PANEL DISCUSSION SESSION: Human factors methods for accident investigation (Mark Young, RAIB)</b>  Speakers in this session: Delving deeper: Applying human factors analysis to identify factors contributing to rail incidents (Nora Balfe)  Training for operational incident responders: first responder and investigator? (Emma Lowe)  Back to basics - using simple models as an evidence gathering framework in human factors investigation (Saryani Asmayawati)
10:25 - 10:50	Using a mathematical modelling approach to understand and optimise the complex perceptions in response to the environment in rail vehicles (Lukas Malek)	Immersive technology in the delivery of safety critical training - when is it appropriate and what are the benefits to the learner and the rail industry (Jordan Smith)	Human performance analysis of a new rail infrastructure design using RARA (Melcher Zeilstra)	
10:50 - 11:15	A user-centred design approach to developing a rail signalling and train control software user interface: a 4LM case study (Mike Chamberlain)	From virtual reality to the naturalistic environment: usability trials to design and develop new user worked crossing signage (Gareth Tucker)	Modelling signaller decision making for the Network Rail signaller task demand tool (in development) (Christopher Patrick)	
11:15 - 11:30	Break - Refreshments			
	<b>Human Factors methods</b>	<b>Virtual/augmented reality and new technology</b>	<b>Human performance: workload</b>	<b>Accident investigation</b>
11:30 - 11:55	Human Factors Network at SBB - How to establish and increase the human factors maturity in railway companies (Daniel Boos)	Using haptic signals in an operator workplace: first results (Birgit Milius)	Developing an approach to characterising cognitive demand for the Network Rail signaller task demand modelling tool (Chris Hack)	<b>SPEAKER AND PANEL DISCUSSION SESSION: Human factors methods for accident investigation (Mark Young, RAIB)</b>  Speakers in this session: Using the "Safety FRactal Analysis" method to investigate human and organisational factors beyond the sharp end (Bart Accou)
11:55 - 12:20		Using human factors principles, 3D CAD modelling and virtual reality to resolve specification conflicts (Karen Priestley)	A study of human performance and mental workload of a railway control room operator (Anthony Byrne)	
12:20 - 12:45			Augmented reality guided maintenance at a rail crossing	The Network Rail signaller task demand tool:

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		(Elke Grabe)	theoretical background and preliminary version of the tool (Melcher Zeilstra)	in railways (Fabrizio Carpinelli)  Road crash investigation and determination of causation using the Driver Reliability and the Error Analysis Method (DREAM) - relevance to rail accident investigation (Andrew Morris)
12:45 - 13:10		The application of human factors to an integrated Traffic Management System (Balraj Sreenivasan)	Workload assessment of task conflict: development of a methodology to identify potential for task conflict of CCTV level crossing operations (Emily Thorne)	
13:10 - 14:10	Lunch			
	<b>Human Factors methods</b>	<b>New technology</b>	<b>Human performance: workload</b>	<b>Accident investigation</b>
14:10 - 14:35	<b>DISCUSSION:</b> The future of rail human factors professionals? Time for a new approach? Amanda Elliott	Implementation of agile processes in human factors and safety management - a case study from the Swedish national train management project (NTL) (Lars Pettersson)	Identifying locations with high volumes of user-worked crossing calls to reduce risk of signaller error (Chris Hack)	<b>SPEAKER AND PANEL DISCUSSION SESSION:</b> <b>Human factors methods for accident investigation (Mark Young, RAIB)</b>  Speakers in this session:
14:35 - 15:00		Ergonomics integration for the first digitally enabled signalling system to go live onto the railway (Emily Thorne)	Creating and evaluating the underload toolbox (Sam Waters)	Methods for accident investigation and human factors: what determines their uptake, use (and sometimes abandonment) by practitioners (Patrick Waterson)
15:00 - 15:25		Development of assessment system for operation controllers' competence and training programme using simulator (Masato Kuratani)	Revolution, evolution and devolution: human factors challenge and the Digital Railway (Richard Bye)	Workload of train guards: a big data approach (Richard Van der Weide)
15:25 - 15:45	Break - Refreshments			
	<b>Virtual reality</b>	<b>Accident prevention</b>	<b>Human Performance: Fatigue</b>	<b>Accident investigation</b>
15:45 - 16:10	<b>WORKSHOP:</b> Using virtual reality to simulate	Underlying causes of signals passed at danger - looking at	Fatigue fitness for duty decision aids (Alice Monk)	Accident investigation training: Challenges and best practice from

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	complex railway control environments - a case study of the Feltham & Wokingham resignalling project at Basingstoke ROC (Emily Thorne)	a recent spike (Huw Gibson)		the rail and aviation sectors (Rebecca Charles)
16:10 - 16:35		Using the Red Aspect Approaches to Signals (RAATS) tool to better understand the human factors associated with SPADs (Chris Harrison)	Managing and measuring fatigue: a survey of industry practice (Nora Balfe)	Understanding accident causes to enable better safety decisions (Anita Weltz)
16:35 - 17:00		A pre and post analysis to test the effectiveness of a series of interventions on safety climate and other safety variables (Rajkiran Kandola) #99	Do railway staff get enough sleep? (Dan Basacik)	Effort to prevent serious accidents essentially (Koichiro Taki)
19:00 - 23:00	Gala Dinner – The Underglobe			

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## Day 3 - Friday 26 June

Time	City suite 1	City suite 2	City suite 3	Manage
08:30-09:00	Refreshments and Breakfast available			
09:00 – 09:45	Keynote address - Richard Bye (Network Rail)			
09:45 - 10:00	Break - Refreshments			
	<b>Security</b>	<b>Human and organisational performance</b>	<b>New technology</b>	<b>In cab design and driver behaviours</b>
10:00 - 10:25	Measuring feelings of security (Brendan Ryan)	Local knowledge and balancing efficiency and thoroughness in signaller performance (David Golightly)	Modelling the human factor in a digital railway (Daniel Simmons)	The comfort conundrum - designing comfortable seats with complex constraints (Daniel Jenkins)
10:25 - 10:50	Preparing railways against CBRNe threats through common approaches between security practitioners and the vulnerable civil society (Grigore Havarneanu)	Shouldering the blame: looking beyond physical ergonomics to broader system human factors to examine musculoskeletal disorders in Australian light rail drivers (Anjum Naweed)	Understanding the impact of automated technologies on the health and wellbeing of train operators (Alice Monk)	Can you hear me now? (Benjamin Smith)
10:50 - 11:15	Using personas and task modelling to identify cyber security and safety risks on the railway (Eylem Thron)	How many is too many? Quantifying human performance in tying on 100 handbrakes (David Mohan)	The impact of Driver Advisory Systems (DAS) on train driver workload, attention and allocation of hazards (Vera Verstappen)	Are you dazzled? (Andrew Bradbeer)
11:15 - 11:30	Break - Refreshments			
	<b>Degraded working and work site protection</b>	<b>Human and organisational performance</b>	<b>New technology</b>	<b>Effective design</b>
11:30 - 11:55	Train driver behaviour during abnormal working - a systems perspective (Jessica Hutchings)	International best practices in managing train crew situational awareness on suburban rail services (Daniel Piner)		<b>DISCUSSION:</b> Designing for disability: why do a significant number of our railway stations suffer from inadequate design (Toby Garner)
11:55 - 12:20	Revision of a man-vehicle collision accident prevention rule in the human factor viewpoint (Takasi, Futatsugi)	Managing driver behaviours through adhesion related information (Richard Roels)	The effect of an On board Closed Circuit Television User Interface Design on Train Crew Performance of a Simulated Train-Platform Departure Task (Aaron Small)	

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12:20 - 12:45	Worksite protection in an urban rail environment: are the humans in the system beyond capacity to manager the safety risk? (Craig Fletcher)	G-force: a tool for improving operational decision making (James Lonergan)		NIROC GRIP 2: Driving design through signaller engagement (Zoe Cooper)
12:45 - 13:10	A framework for incorporating JESIP into railway operations (Joanne Smyth)	Incident reduction programme: Nottingham Rail Station (Paul Davison)	Learning and retaining a new alphabet (Richard Van der Weide)	It can be done...and it shouldn't blow the budget (David Hitchcock)
13:10 - 14:00	Lunch			
	<b>Human Factors methods</b>	<b>Organisational performance</b>	<b>New technology</b>	<b>New technology</b>
14:00 - 14:25	<b>WORKSHOP:</b> A tool for communicating HF interventions in rail - create your own visual story (Amanda Elliot)	Human factors contribution to rail decarbonisation (David Golightly)	Mitigating dangers of a frozen TFT for safety displays (Dr Tanja Kotthaus)	<b>WORKSHOP:</b> Implementing new technology: lessons to learn for innovators and integrators (Richard Bye)
14:25 - 14:50		Heritage rail safety: the burden of regulatory compliance? (Nic Doncaster)	Bridging the gap between continuous innovation in DMI ergonomics and robust display safety (Sonke Brandt)	
14:50 - 15:15		Haven't we already done this? Is safety always a work in progress (Liam Toose)	Soft kill switch (Max Ferger)	
15:15 - 15:30	Conference Close – Ann Mills			