

The International Navigation Conference



INC 2017

27 – 30 November 2017

Programme

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Theme 1: Autonomy

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Theme 2: Resilient Positioning, Navigation & Timing

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Theme 3: Sensor & Data Fusion

International Navigation Conference 2017: Programme

Monday 27th November Pre-Conference Meetings & Evening Welcome Reception

Monday 27 November	Sandringham Room for All Meetings on Monday
11:30 - 14:00	Cross-Government PNT Forum (Invitees Only) Chair: Andy Proctor, Innovate UK
14:30 - 17:00	Resilient PNT forum and Quantum PNT workshop (Open Meeting, Registration Required) Chair: Martin Bransby, General Lighthouse Authorities
18:00 - 19:30	INC2017 Welcome Reception: The Royal Pavillion, Brighton For registered attendees of INC2017 and accompanying persons

Tuesday 28th November

Tuesday 28 November	Plenary & Stream A: Regency Room Stream B: Dukes Room	
8:30 AM	Welcome Tea & Coffee in Regency Room (Speakers: Briefing in Churchill Room)	
09:00 - 10:40	PLENARY 1: Chair: John Pottle, Director, Royal Institute of Navigation	
	09:00 Conference Opening: James Taylor, President, Royal Institute of Navigation	
	09:10 Keynote 1.1 : Economic Impact to the United Kingdom of GNSS Loss: Andy Proctor, Innovate UK	
	09:55 Keynote 1.2 : Galileo 2nd Generation: What can it do, and what will it offer: Manuel Manteiga, European Space Agency	
10:40 - 11:05	Ehibition Opening & Coffee Break: Exhibit Hall, 1st Floor	
11:05 - 12:20	Session A1: Resilient PNT 1: Chair: Mike Jones	Session B1: Data & Sensor Fusion 1: Chair: Paul Groves
	11:05 Paper A1.1 : Beyond Reasonable Doubt – Satellite Navigation Comes to Court: Prof David Last, Professor Emeritus & Expert Witness	Paper B1.1 : Seamless Positioning UK Strategy: Paul Febvre, Satellite Applications Catapult
	11:30 Paper A1.2 : Simulation of ionospheric scintillation threat scenarios for GNSS within a resilient PNT test framework: Dr Talini Pinto Jayawardena, University of Bath & Spirent Communications plc	Paper B1.2 : Egocentric leisure boat navigation in a smartphone based AR app: Prof Thomas Porathe, Norwegian University of Science & Technology
	11:55 Paper A1.3 : Technology Overview: Satelles Satellite Time & Location: John Fischer, Spectracom	Paper B1.3: Using an Unmanned Aerial Vehicle for Verification of Marine Visual Aids to Navigation: Link Powell, General Lighthouse Authorities
12:20 - 13:20	Lunch & Networking Break: Exhibit Hall, 1st Floor	
13:20 - 14:50	PLENARY 2: Chair: Ramsey Faragher	
	13:20 Keynote 2.1: Cyber Threats & GNSS - Review & Outlook: Guy Buesnel, Spirent Communications plc	
	14:05 Keynote 2.2 : GNSS Evolutions: Gary Lay, Surrey Satellite Technology Ltd	
14:50 - 15:15	Coffee Break: Exhibit Hall, 1st Floor	
15:15 - 16:30	Session A2: Resilient PNT 2: Chair: Dr Alan Grant	Session B2: Data & Sensor Fusion 2: Chair: Rob Handley
	15:15 Paper A2.1 : ePelorus – a view to integrating physical and electronic marine aids to navigation: Martin Bransby, General Lighthouse Authority	Paper B2.1 : 10 [details being confirmed]
	15:40 Paper A2.2 : Demonstrating Maritime Cyber Security: Odd Sveinung Hareide, Royal Norwegian Naval Academy	Paper B2.2 : Supercorrelation - enhancing the sensitivity and accuracy of GNSS receivers: Ramsey Faragher, Focal Point Positioning
	16:05 Paper A2.3 : Detection of Intermediate Spoofing Attack on GNSS Receiver through Slope Metric: Abdul Malik Khan, National University of Sciences and Technology (NUST)	Paper B2.3 : Geographical Indoor Positioning and Navigation: Reshu Sharma, Defence Institute of Advanced Technology
16:30 - 16:40	Break	
16:40 - 17:20	Day 1 Keynote Panel Discussion : Chair: Ramsey Faragher	
17:20 - 17:30	Closing Remarks	

Wednesday 29th November

Wednesday 29 November	Plenary & Stream A: Regency Room Stream B: Dukes Room	
8:30 AM	Welcome Tea & Coffee in Regency Room (Speakers: Briefing in Churchill Room)	
09:00 - 10:40	PLENARY 3 : Chair: John Pottle	
09:00	Welcome & Introductions : John Pottle	
09:10	Keynote 3.1 : Title TBC : Mike Gadd, Civil Aviation Authority	
09:55	Keynote 3.2 : Connected Autonomous Vehicles & Cyber-Physical Systems: Prof Rafal Zbikowski, Cranfield University	
10:40 - 11:05	Coffee Break: Exhibit Hall, 1st Floor	
11:05 - 12:20	Session A3: Autonomy 1: Chair: Prof Andy Norris 11:05 Paper A3.1 : Navigating without a Navigator - Positioning for Autonomous Vehicles: Prof Terry Moore, University of Nottingham 11:30 Paper A3.2 : Context Detection for Advanced Self-Aware Navigation using Smartphone Sensors: Han Gao, University College London 11:55 Paper A3.3 : Cloud PPP-RTK: A Mobile Network Ambiguity Fixing method for connected users: Roberto Capua, Società di Information and Communication Technology	Session B3: Resilient PNT 3 : Chair: Mitch Narins Paper B3.1 : Performance Evaluation of Smartphone GNSS Measurements with Different Antenna Configurations: Prof. Gérard Lachapelle, University of Calgary Paper B3.2 :Low power, dynamically reconfigurable antennas for the detection and mitigation of GNSS interference: Elizabeth Lloyd, University of Bath Paper B3.3 : Multipath mitigation through the use of measurement weighting techniques: Sophie Damy, Imperial College
12:20 - 13:20	Lunch & Networking Break: Exhibit Hall, 1st Floor	
13:20 - 14:50	PLENARY 4 : Chair: Terry Moore	
13:20	Keynote 4.1 : Autonomous Land Vehicle Capability & Technology Overview: Richard Cuerden, Transport Research Laboratories	
14:05	Keynote 4.2 : Human Factors & Autonomy: Prof Gary Burnett, University of Nottingham	
14:50 - 15:15	Coffee Break: Exhibit Hall, 1st Floor	
15:15 - 16:30	Session A4 : Autonomy 2: Invited Papers Prof Terry Moore 15:15 Paper A4.1 : Image-based Perceptual Learning Algorithms for Autonomous Driving : Prof.Dorota Grejner-Brzezinska, The Ohio State University 15:40 Paper A4.2 : (speaker & paper being finalised) 16:05 Paper A4.3 : (speaker & paper being finalised)	Session B4: Resilient PNT 4 : Chair: Guy Buesnel Paper B4.1 : Development of a Particle Filter for GNSS Receivers in Challenging Environments: Witternigg Norbert, Joanneum Research Paper B4.2 : Analysis on the Potential Performance of GPS and Galileo Precise Point Positioning using simulated Real-Time products: Francesco Basile, University of Nottingham Paper B4.3 : Spoofing Threats: Reality Check, Impact and Cure: Wim De Wilde, Jan Van Hees, Gert Cuypers, Jan Dumon, Jean-Marie Sleewaegen, Bruno Bougard, Septentrio Satellite Navigation, Belgium.
16:30 - 16:40	Break	
16:40 - 17:40	Workshop: Hands-On Android Raw Data: Dr Frank van Diggelen, Android Locatoin Lead, Google Workshop is free to attend for INC registered delegates	
17:40 - 17:50	Closing Remarks	

Thursday 30th November

Thursday 30 November		Plenary & Stream A: Regency Room Stream B: Dukes Room	
8:30 AM		Welcome Tea & Coffee in Regency Room (Speakers: Briefing in Churchill Room)	
09:00 - 10:40		PLENARY 5 : Chair: Bob Cockshott, Knowledge Transfer Network	
	09:00	Welcome & Introductions : Bob Cockshott	
	09:10	Keynote 5.1 : Quantum Navigation & Timing: Ed Hinds, Centre for Cold Matter, Imperial College & Royal Society	
	09:55	Keynote 5.2 : Human Cognition & Navigation: Dr Zita Patel, University College London	
10:40 - 11:05		Coffee Break: Exhibit Hall, 1st Floor	
11:05 - 12:20		Session A5: Cognition & Navigation: Chair: Prof Kate Jeffrey	Session B5: Quantum Technology: Bob Cockshott
	11:05	Paper A5.1 : Colette Jeffrey, title being finalised	Paper B5.1 : (speaker & paper being finalised)
	11:30	Paper A5.2 : (speaker & paper being finalised)	Paper B5.2 : (speaker & paper being finalised)
	11:55	Paper A5.3 : (speaker & paper being finalised)	Paper B5.3 : (speaker & paper being finalised)
12:20 - 13:20		Lunch & Networking Break: Exhibit Hall, 1st Floor	
13:20 - 14:50		PLENARY 6 : Chair: Mike Jones, Roke Manor	
	13:20	Keynote 6.1 : Galileo Authentication, Interoperability & Accuracy: Marco Falcone, European Space Agency (invited)	
	14:05	Keynote 6.2 Overview of Clock State-of-the-Art and Development: NPL and Globally: Dr Elizabeth Laier English, National Physical Laboratories	
14:50 - 15:30		Keynote Panel Discussion : Chair: Mike Jones	
15:30 - 15:40		Conference Reflective in Words & Pictures: Simon Gaskin, Secretary General, International Association of the Institutes of Navigation	
15:40 - 15:50		Closing Remarks: James Taylor, President Royal Institute of Navigation	

Poster Presentations

Posters: Exhibit Hall, 1st Floor		
Present Time	Title	Primary Author and association
Day 2: Lunchtime	Performance Simulation of GPS Spoofing Mitigation using Robust SCORE algorithm	Inone Joo, Electronics & Telecommunications Research Institute, Korea
Day 2: Lunchtime	Landshield GPS Anti-Jamming Antenna with Embedded Direction Finding and Anti-Spoof Detect	Alan Wright, Raytheon UK
Day 2: Lunchtime	Multisensory Integration of Object Sonification and Self-Motion Cues Facilitates Navigation in Darkness	Crescent Jicol, University of Bath
Day 3: Lunchtime	The Design of GPS Interference Detection and Mitigation System in Korea	Taehee Kim, Electronics & Telecommunications Research Institute, Korea
Day 3: Lunchtime	Research on the United Navigation Mechanism of Land, Sea and Air Targets under Multi-sources Information Fusion	Rui Liu, The University of Bonn, Germany