IGNSS2024 PROGRAM OUTLINE

Updated on 5/02/2024

WEDNESDAY 7 FEBRUARY

Time	COLOMBO THEATRE A		COLOMBO THEATRE B		COLOMBO THEATRE C	
	WELCOME					
9:00am	**Introduction & Welcome to IGNSS2024 from the IGNSS Assocation**	*Presented by Craig Roberts, UNSW & Matt Higgins, IGNSS Assocation*				
	KEYNOTES	*Chaired by Matt Higgins, IGNSS Association*				
9:15am	**50th Anniversary of GPS**	**Brad Parkinson [remote]**				
9:45am	**Satellite navigation from Low Earth Orbit**	**Bryan Chan, Xona**				
10:15am	**GNSS Denial in the South China Sea**	**David Garigen, Safran**				
10:45am	*Morning Tea Break*					
	KEYNOTE	*Chaired by Anna Riddell, GA*				
11:15am	**Machine Learning for GNSS Remote**	**Jade Morton, University of Colorado**				
	Technical Sessions					
	Atmosphere & Ionosphere	*Chaired by Geoscience Australia*	**Autonomous Systems**	*Chaired by Hayden Assmussen, DELWP Vic*	**Precise Positioning**	*Chaired by Martin Nix, Aptella*
11:45am	Solar Cycle 25 and Potential Implications for GNSS	Zahra Bouya, The Bureau Of Meteorology	Autonomous Road Trains – Revolutionising the economics of the Australian Mining industry	Simon Stone, Hexagon Mining	Precise GNSS positioning with smartphones: on the instantaneous, dual-frequency, multi-GNSS precise cm-level positioning performance using Google Pixel4 and Samsung Galaxy S20 smartphones	Robert Odolinski, University Of Otago
12:00pm	An Analysis of Ionospheric Time Variation using LS-VCE Applied to the Process Noise of PPP-RTK Corrections	Parvaneh Sadegh Nojehdeh, University Of Melbourne	Positioning Solution Investigation for Cooperative Intelligent Transport Systems (C-ITS) and Connected Automated Vehicle (CAV)	Ada Lin, Lexus Australia	Performance of SSR for Typical Mass Market Applications	Nam Huynh, Position Partners
12:15pm	Neutral Atmosphere and Ionosphere GNSS Processing and Applications at the COSMIC Data Analysis and Archive Center	Jan-peter Weiss, University Corporation For Atmospheric Research	UNSW Redback Racing	Haylee Hulbert, Unsw Redback Racing	**Townhall Discussion: Emerging RTK ecosystems Facilitated by Martin Nix**	
12:30pm			GNSS sensor fusion and the impact of autonomous workflows on vital industries	Yamila Fernandez, Position Partners		
12:45pm - 1:30pm	*Lunch*					
	KEYNOTE	*Chaired by Matt Higgins, IGNSS Association*				
1:30pm - 2:00pm	**A World of Boiling Frogs**	**Nunzio Gambale, Locata**				
	Technical Sessions					
	Alternative PNT	*Chaired by Matt Higgins, IGNSS Association*	**Geoscience Australia**	*Chaired by Chris Marshall, FrontierSI*		
			Foreword from Lockheed Martin	Bob Jackson, Lockheed Martin		
2:00pm	VDES Sat constellation for Maritime Navigation and Digital Transformation	Daichi Nakamura, Arkedge Space Inc.	Southern Positioning Augmentation Network (SouthPAN) - Year 1 Review	Vincent Rooke, Geoscience Australia		
2:15pm	An Innovative Asynchronous One-Way Range Measurement and its Development Status	Junichiro Kawaguchi, Australian National University	What is Australia's reliance on the International GNSS Service	Ryan Ruddick, Geoscience Australia		
2:30pm	Quantum PNT Technologies: Advancing Position, Navigation, and Timing Beyond GNSS	Andrew Gumtree, RMIT University	Position Verification activities (Reg13 certificates) at Geoscience Australia	Anna Riddell, Geoscience Australia		
2:45pm	Chip-based diamond magnetometer for quantum-assured PNT	James Rabeau, deteQt	A Update on the National Positioning Infrastructure Capability	Ryan Ruddick, Geoscience Australia		
3:00pm	ACES - The Jewel in the Crown of the ISS	Simon Weinberg, ESA	An MQTT endpoint for the National Positioning Infrastructure Capability	Brandon Owen, Geoscience Australia		
3:15pm	*Afternoon Tea Break*					
	KEYNOTE	*Chaired by Eldar Rubinov, FrontierSI*				
3:45pm	**Trusted, privacy compliant and introspective positioning systems**	**Michael Milford, Queensland University of Technology**				
4:10pm - 5:30pm	**PANEL: Positioning and Navigation for Autonomous Systems**	*Facilitated by Eldar Rubinov, FrontierSI*			**Safran Platinum Sponsor Demonstration Skydel GNSS Simulation Software**	
	Featuring: **- Michael Milford (QUT)** **- Simon Stone (Hexagon)** **- Karen Van Dyke (US DoT)** **- Martin Nix (Aptella, formerly Position Partners)**					
7:15pm - 10:30pm	**IGNSS2024 Harbour Cruise Dinner** King St Wharf, Sydney Boarding commences at 7:15pm for 7:30pm departure					

THURSDAY 8 FEBRUARY

Time	COLOMBO THEATRE A		COLOMBO THEATRE B		COLOMBO THEATRE C	
	KEYNOTE	*Chaired by Matt Higgins, IGNSS Association*				
9:00am	**Google's Use of GNSS, Mobile Phone Positioning, 5G and the Galileo High Accuracy Service**	**Frank van Diggelen, Google [remote]**				
	US Perspectives on PNT - CGSIC International Information Subcommittee (I)	*Chaired by Rick Hamilton, US Coast Guard Navigation Center*				
9:30am	Introduction	**Scott Calhoun, U.S. Coast Guard Navigation Center, Deputy Chair, Civil GPS Service Interface Committee (CGSIC)**				
9:35am	DOT Update	**Karen Van Dyke, Director, PNT & Spectrum Management, US Department of Transportation (DOT)**				
10:05am	GPS Program Update	**Col. Andrew S. Menschner, Commander, PNT Delta, Space Operations Command, US Space Force**				
10:35am	US National Space-Based PNT Policy	**Harold (Stormy) Martin, National Coordination Office for Space-Based Positioning, Navigation and Timing)**				
11:00am	*Morning Tea Break*					
	US Perspectives on PNT - CGSIC International Information Subcommittee (II)	*Chaired by Mr Rick Hamilton, US Coast Guard Navigation Center*	**Technical Sessions**			
			Geodesy & PPP	*Chaired by Robert Odolinski, Otago University*	**GNSS Reflectometry**	*Chaired by Zahra Bouya, Bureau of Meteorology*
11:30am	Alternative PNT	**David Allen, Aerospace Corporation, supporting the Office of the Assistant Secretary of the Air Force, U.S. Space Force**	Enhancing vehicle positioning accuracy during GNSS signal outages using GBDT and LSTM methods	Wenzong Gao, Queensland University Of Technology	Precision Spaceborne GNSS-R Applications	Jade Morton, University of Colorado Boulder
11:45am			Low-cost GNSS IoT Sensors' Benefit: Better Visualisation Performance	Jun Wang, Kurloo Technology Pty Ltd	Methods and Challenges in Multifrequency TEC Estimation with GNSS-R	Angus Sutherland, ACSER UNSW
12:00pm	GPS International Activities	**Jeff Auerbach, Office of Space and Advanced Technology, U.S. Department of State**	Addressing the challenges of precise positioning and navigation in urban environments for mobility, safety and robotic applications	James Millner, Aptella	Design of software-defined GNSS reflectometry receiver on Harry v3 payload	Ignatius Rivaldi, ACSER UNSW
12:15pm			Urban Geopositioning on cm-level: Introducing Fixposition's visual PPK platform	Lukas Meier, Fixposition Ag	An Approach for GPS/GNSS Expert Witness Assessments	Andrew Dempster, ACSER UNSW
12:30pm	US Process for GPS Testing and Interference Investigations	**Rick Hamilton, GPS Information Analysis Team Lead, U.S. Coast Guard Navigation Center**				
12:45pm						
1:00pm	*Lunch*					
	Resilient PNT & the Australian Government	*Chaired by Chris Rizos, UNSW*	**Technical Sessions**			
			Infrastructure	*Chaired by James Millner, Aptella*		
2:00pm	Overview of PNT in the Australian Government	**Martine Woolf, Branch Head National Positioning Information at Geoscience Australia**	25 years of GPSnet CORS	Hayden Asmussen, DTP		
2:15pm			FAIR GNSS data and metadata	Chris Marshall, FrontierSI	**Safran Platinum Sponsor Demonstration Skydel GNSS Simulation Software**	
2:30pm	PNT Vulnerability	**Eloise Claire, Australian Government Department of Home Affairs**	Regional L-Band Space Spectrum Situation Awareness	Ming Zhu, Gpsat Systems Australia		
2:45pm			Optimal Satellite Placement Using Pseudo-Range Measurements	Hatem Hmam, DSTG		
	UK Perspectives on PNT	*Chaired by Chris Rizos, UNSW*				
3:00pm	**UK National Framework for PNT Resilience: A System of Systems Approach**	**Mark Brammer, UK Department for Science, Innovation & Technology**				
3:30pm	*Afternoon Tea Break*					
	Keynote Speakers:	*Chaired by Craig Roberts, UNSW*				
4:00pm	**A Perspective of GNSS and MGUE Technology and Integration Today**	**Justin Yakura, L3Harris Technologies**				
4:30pm	**European Radionavigation Plan and the future EU C-PNT ecosystem**	**Łukasz K Bonenberg, European Commission Joint Research Centre (JRC) [remote]**				
	Service Provider Updates	*Chaired by Craig Roberts, UNSW*				
4:50pm	QZSS	**Takashi Yamane, Cabinet Office, Government of Japan [remote]**				
5:10pm	Galileo	**Dominic Hayes, European Commission [remote]**				
5:30pm	*Short Break*					
5:35pm	**Industry Session**	*Chaired by Craig Roberts*				
6:30pm - 8:00pm	**Exhibitor's Networking Drinks**					

FRIDAY 9 FEBRUARY

8:00am	**IAC2025 & the Australian PNT Community**
	Informal gathering for those interested in discussing ways that the PNT community can engage with IAC2025, which is to be hosted in Sydney.
	Coffee on Campus, Ground Floor, Building J17, UNSW Kensington

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9:00am - 9:30am	**IGNSS Association General Meeting**	*Chaired by Craig Roberts, UNSW*				
	Technical Sessions					
	Navigating Our Future: Unlocking Australia's Positioning Potential, hosted by Geoscience Australia	*Chaired by Martine Woolf, Geoscience Australia*	**PNT In Space**	*Chaired by Rozaine Wijekularatne*	**GNSS Algorithms & Resilience**	*Chaired by Safoora Zaminpardaz*
9:30am	Investigating New Geodesy Tools for Surveyors - An Undergraduate Research Project at UNSW	Thomas Maile, UNSW	Using GNSS in CIS Lunar Space	Eamonn Glennon, ACSER, Unsw Sydney	Ensuring PNT Resilience: A Global Review of Navigation Policies and Roadmaps	Joshua Critchley-Marrows, FrontierSI
9:45am	Where are we at with SouthPAN?	Craig Roberts, UNSW	Studies on Lunar Communication and Navigation Infrastructure and Lunar Navigation Satellite System Demonstration Mission	Toshihiro Shibukawa, Arkedge Space, Inc.	Bounding of double-differenced correlated errors of multi-GNSS observations using RTK for AV positioning	Hassan Elsayed, Curtin University
10:00am	Propagation of mean sea level via uses of GNSS and AGQG.	William Payze, Northern Territory Government	Lunar Coordinate Systems and their Practice in Designing a Lunar Navigation Satellite System	Enbai Ji, UNSW	GNSS Interference - Impact, Detection, and Mitigation	Youssef Tawk, Leica Geosystems
10:15am	Ginan in action	Lachlan Ng, FrontierSI	Assessing In-Flight Performance of Commercial Off-The-Shelf GNSS Receivers for Low Earth Orbit Satellite Navigation	Li Qiao, UNSWCanberra	GLONASS ambiguity resolution with bias constraints	Amir Khodabandeh, The University Of Melbourne
10:30am	Global ionospheric model for precise positioning using GINAN software.	Tam Dao, RMIT University	Integrity Monitoring for Launch Vehicle Dynamics	Sheikh Arif Raihan, UNSW		
10:45am	Ginan Supporting Future LEO-PNT	Amir Allahvirdi-Zadeh, Curtin University	Autonomous Orbit Determination and Timing for LEO and Lunar Satellite Ranging Infrastructure	Joshua Critchley-Marrows, FrontierSI		
11:00am	*Morning Tea Break*					
	Keynotes: PNT in Space	*Chaired by Andrew Dempster, UNSW*				
11:30am	**Secure GPS User Equipment beyond Low Earth Orbit (LEO)**	**Justin Yakura, L3Harris Technologies**				
12:00pm	**LiDAV: Advanced technologies for GNSS-denied navigation**	**Lyle Roberts, Advanced Navigation**				
12:30pm	**KAIROS-1: Space Clock Technology Demonstrator**	**Martin O'Connor, Quantxlabs**				
1:00pm	**Conference Wrap Up**	*Chaired by Matt Higgins, IGNSS Association*				
1:15pm - 2:15pm	*BBQ Lunch*					