



Symposium on GPS/ GNSS

IGNSS 2015

Registration Brochure

(Updated 08 July, 2015)

14 – 16 July 2015

**Outrigger Hotel
Surfers Paradise, Qld, Australia**



ABN 50 493 173 615

www.ignss.org

Invitation from the President



It is my great pleasure to invite you to the IGSS2015 symposium and exhibition, being held from 14-16 July, 2015 at the Outrigger Hotel, Gold Coast, Australia.

IGSS2015 will be an excellent opportunity to hear all the latest developments in GNSS and related Position, Navigation and Timing technologies. An interesting measure of how rapidly the Multi-GNSS era is now unfolding is that 6 days in March 2015 saw the launch of 5 GNSS satellites; 1 GPS, 2 Galileo, 1 IRNSS and 1 Beidou. System providers from China, Europe, India, Japan, Russia and the USA will update IGSS2015 delegates on these latest system developments as well as many others.

A plenary session on GNSS Vulnerability will see internationally recognised keynote speakers on signal Interference and Spoofing and on overseas developments with alternative technologies such as eLoran. We are also planning to complement the Vulnerability session with a workshop involving key members of the UN International Committee on GNSS.

That will be just one of several workshops and panel discussions that will feature at IGSS2015. Australian industry will be able to engage with counterparts from Europe and China through a workshop by the EU funded GNSS.asia initiative and a delegation from the GNSS and Location Based Services Association of China. The newly formed National Positioning Infrastructure (NPI) Advisory Board will also convene a panel discussion built around the key GNSS applications sectors represented in the Board. That will be complemented by a focus session and discussion on the need for a Space Based Augmentation System (SBAS) for Australia and New Zealand.

The broader symposium will provide our usual strong scientific program with oral presentations and peer reviewed papers; all rounded out by a comprehensive trade exhibition. There will, of course, also be social functions to allow you to unwind as you network with your local and international colleagues.

So, on behalf of the International Global Navigation Satellite Systems (IGSS) Society and the organising committee, I look forward to welcoming you to IGSS 2015.

Matt Higgins, President, IGSS Society Inc.

IGSS Technical Advisory Committee



Matt Higgins is Manager of Geodesy and Positioning with the Queensland Department of Natural Resources and Mines and President of the IGSS Society. Matt is also a past Vice President of the International Federation of Surveyors (FIG) and was made an Honorary Member in 2012. He has Co-Chaired Working Group D of the United Nations mandated International Committee on GNSS. In 2013, he was appointed to the U.S. Position, Navigation and Timing Advisory Board, which is a Presidential committee that advises the U.S. Government on national and international PNT related issues. In 2014, Matt was appointed to the Australian Government's National Positioning Infrastructure Advisory Board.



Allison Kealy (Technical Chair) is an Associate Professor in the Department of Infrastructure Engineering at the University of Melbourne. She is also an Assistant Dean (academic) in the School of Engineering at the University of Melbourne. Allison is vice president of the International Association of Geodesy, Commission 4 (Positioning and Applications) and co-chair of the International Federation of Surveying (FIG) Working Group 5.5 on Ubiquitous Positioning. Allison is on the Editorial boards of the Journal of Navigation, UK, Journal of Applied Geodesy and the Journal of Geospatial Information Science.

Allison's current research interests include wireless sensor networks, sensor fusion and estimation theory, high precision GNSS, collaborative positioning for intelligent transportation systems and GNSS quality assessment.



Chris Rizos is currently a professor in the School of Civil & Environmental Engineering at UNSW. Chris has been researching the technology and applications of GPS since 1985, and is currently the President of the International Association of Geodesy (IAG), a member of the Governing Board of the International GNSS Service, and co-chair of the Multi-GNSS Asia Steering Committee. Chris is a Fellow of the IAG, Fellow of the U.S. Institute of Navigation, and Fellow of the Australian Institute of Navigation.



Andrew Dempster is Director of the Australian Centre for Space Engineering Research in the School of Electrical Engineering and Telecommunications at the University of New South Wales. He led the group that developed Australia's first GPS receiver. His research interests are signal processing for satellite navigation, novel receiver design concepts, new positioning technologies and space engineering.



Rob Lorimer is Executive Manager Business Development and Commercial at CSIRO for Energy, Environment and National Facilities which includes the Square Kilometre Array (SKA), Astronomy and Space Science. He is a director of the Western Australian Energy Research Alliance and is a past member of the Australian Government's Space Industry Innovation Council (Space IIC). His career history includes CEO of Beeline Technology (acquired by Hemisphere GPS) and Managing Director of Trimble Asia Pacific. Rob was a contributing editor to GPS World (2005-2010) and co-authored two editions of Global Navigation - A GPS Users Guide (1990,1994). He holds a 1st Class Honours in Marine Science from the University of Wales (Cardiff) and is a graduate member of the Australian Institute of Company Directors (GAICD).



Martin Nix is the CEO and Managing Director of Position Partners. He is a Graduate of the Australian Institute of Company Directors and has a Masters of Surveying (GIS), UNSW. After practising as a registered surveyor, he had management positions with Leica Geosystems in Switzerland, USA and Australia over 25 years. He Co-Chairs the Space Community of Interest established by the Attorney General to assess risks related to the use of satellites. He holds other board and advisory roles including the School of Surveying UNSW and the National Positioning Infrastructure Advisory Board.



Grant Hausler is Coordinator for the National Positioning Infrastructure (NPI) project at Geoscience Australia (GA). He is actively engaged in the Australian Government PNT Working Group, Space Community of Interest, NPI Advisory Board and related work programs at GA.

Grant holds a BGeomE (hons) and PhD from the University of Melbourne, and a GCertComm from Melbourne Business School. Over the past decade, Grant has led survey teams in Australia and London (East London Rail Line), including his role as Project Manager for the Melbourne-based company ThinkSpatial, and prior experience with rural and metropolitan survey/engineering firms.

Grant has a keen interest in GNSS technologies and associated technical, organisational and economic requirements underpinning Australia's positioning infrastructure and systems.

IGNSS Society Scientific Committee

- **Dr Allison Kealy**, (Technical Chair), Assistant Dean (Academic), Department of Infrastructure Engineering, Melbourne School of Engineering, The University of Melbourne, VIC
- **Professor Andrew Dempster**, Director, Australian Centre for Space Engineering Research (ACSER), The University of New South Wales, Sydney NSW.
- **Professor Yanming Feng**, Faculty of Science and Technology, Queensland University of Technology, Brisbane, QLD
- **Professor Kefei Zhang**, Director, SPACE Research Centre and Satellite Positioning and Navigation (SPAN) Lab, School of Mathematical and Geospatial Sciences, The RMIT University, Melbourne, VIC
- **Mr Matthew Trinkle**, School of Electrical & Electronic Engineering, University of Adelaide, SA
- **Professor Peter Teunissen**, GNSS Research Centre, Curtin University, Perth, WA

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Plenary & Workshop Speakers (alphabetical order)



David Comby has devoted the major part of his career in the safety of Air navigation.

He graduated engineer from the French Civil Aviation University (ENAC) and obtained a Master degree in Satellite-Based Communication, Navigation and Surveillance.

Between 2002 and 2004, he took part of the early evaluation of the EGNOS System Test Bed Signal in Space for the benefits of the European organisation for the safety of Air Navigation (Eurocontrol).

Holding positions in the French Ministry for Ecology, Sustainable Development and Energy, David Comby was the chief of the department in charge of safety and performance in the direction of the operations of the French Air Navigation Service Provider (DSNA) until his appointment as interministerial coordinator delegate for the GNSS programmes in September 2012.



Elliot Duff is a principal research scientist with CSIRO's Digital Productivity Flagship based in Brisbane. His formal training is in computational physics and metallurgical engineering, but over his career he has been involved in many aspects of autonomous systems development, including: image processing, visualization, navigation and embedded systems design. Since 1999 his main focus has been in the area of field robotics and in particular the development of control and sensing systems that allow machines to operate autonomously outdoors in hostile and unstructured environments. This work has included the automation of large mining excavators, underground ore haulage vehicles and explosive loading machines. He currently leads the Autonomous Systems Program with interests in perception, localization and autonomous safety.



Jianguang Feng currently works as a program official in China Satellite Navigation office. He mainly takes charge of technology supervision in aspects of augmentations, system performance test and assessment of BeiDou Navigation Satellite System. The China Satellite Navigation Office (CSNO) is a joint office established by several Chinese Government departments involved in the development of the Beidou Satellite Navigation System. The CSNO is responsible for managing the construction, application, promotion and industrialization of Beidou.



Eric Gakstatter has been involved in the GPS/GNSS industry for more than 20 years. For 10 years, he held several product management positions in the GPS/GNSS industry, managing the development of several medium- and high-precision GNSS products along with associated data-collection and post-processing software.

Since 2000, he's been a power user of GPS/GNSS technology as well as consulted with capital management companies; federal, state and local government agencies; and private companies on the application and/or development of GPS technology.

Since 2006, he's been a contributor to *GPS World* magazine, serving as editor of the monthly *Survey Scene* newsletter until 2015, and as editor of *Geospatial Solutions* monthly newsletter for *GPS World's* sister site [Geospatial Solutions](#), which focuses on GIS and geospatial technologies.



Dominic Hayes manages the Galileo and EGNOS signals and frequencies for the European Commission, the European Union's executive body based in Brussels, Belgium and which is responsible for the EU's GNSS programmes. In this role he coordinates the various technical and regulatory activities required to ensure that the frequencies and signals used by the programmes are compatible with other satellite navigation systems and other radio systems.

As the chairman of the European Commission's Signals, Compatibility, and Interoperability working group (for GNSS), he leads the Galileo and EGNOS teams (composed of technical experts from EU Member States and the European Space Agency) in frequency and signal negotiations with other systems. He is a chartered engineer by training, first building detector electronics for CERN's LHC predecessor, the Large Electron Positron collider, before moving into space and the radio regulatory world to work on GNSS issues for the UK government and the UK communications regulator, Ofcom, before joining the European Commission in 2007. A veteran of three ITU World Radiocommunication Conferences, he now spends more time engineering words.



Rainer Horn is the Managing Partner of SpaceTec Partners, a boutique consultancy founded in 2007 and specialised in space applications, security and mobility. SpaceTec Capital Partners works with European and national institutions on space programmes and high-tech and innovation strategies. He coordinates GNSS.asia, the EU-funded initiative to drive industrial cooperation across continents in the Multi-GNSS environment. He serves on advisory boards of SMEs and the European Commission's GNSS Programme.

Prior to SpaceTec Rainer was a Director at Booz Allen Hamilton where he led the Space and Telematics Practice. He served private and institutional clients in aerospace, automotive, telecoms and transportation. In the 90s he marketed the Silentnight beds brand in Asia-Pacific and worked as a consultant for Ernst & Young in New Zealand. He holds double degrees from the European School of Business Reutlingen/London and a MBA from INSEAD (Fontainebleau).



Todd E. Humphreys is an assistant professor in the department of Aerospace Engineering and Engineering Mechanics at the University of Texas at Austin, and Director of the UT Radionavigation Laboratory. He received a B.S. and M.S. in Electrical and Computer Engineering from Utah State University and a Ph.D. in Aerospace Engineering from Cornell University. He specializes in the application of optimal detection and estimation techniques to problems in satellite navigation, autonomous systems, and signal processing. His recent focus has been on secure perception for autonomous systems, including navigation, timing, and collision avoidance, and on centimeter-accurate location for the mass market. Dr. Humphreys received the University of Texas Regents' Outstanding Teaching Award in 2012, the National Science Foundation CAREER Award in 2015, and the Institute of Navigation Thurlow Award in 2015.



Satoshi Kogure is Mission Manager for QZSS operation and technical demonstration in Satellite Navigation Unit, Japan Aerospace Exploration Agency (JAXA). He received an MS in aeronautical engineering from Nagoya University in 1993 and an MS in aerospace engineering from University of Colorado at Boulder in 2001. He started his career at satellite operation division in National Space Development Agency (NASDA), former JAXA in 1993. He has been working for the development of Japanese satellite positioning system, QZSS as a satellite systems engineer since 2001.

He is a member of Japan Society for Aeronautical and Space Science, Institute of Positioning, Navigation and Timing of Japan as well as U.S. Institute of Navigation.



Victor Kosenko is First Deputy Director and First Deputy Chief Designer of RESHETNEV Corporation. Since the beginning he was in the team for designing and developing the GLONASS system. Presently he is leading the GLONASS system evolution development and the design and development of a number of GEO and HEO communication satellites. He is the Chief Designer of the Space Geodesy System.



Sergey Revnivkykh is Deputy Director of GLONASS Directorate of RESHETNEV Corporation since 2013. His primary occupation is the GLONASS evolution research and development. He was one of the authors of the Federal GLONASS Program leading PNT Analysis and Information Center of Federal Space Agency of Russia. Ph.D. degree in 2006.



David A. Turner is the Deputy Director of the Office of Space and Advanced Technology (SAT), within the U.S. State Department's Bureau of Oceans, Environment, and Science. Together with the Office Director, he manages SAT's broad portfolio of civil and dual-use space cooperation issues and diplomatic efforts focused on multilateral science and advanced technology activities, including the development and implementation of the civil aspects of National Space Policy.

Previously, Mr. Turner served in the U.S. Department of Commerce as the Executive Secretariat Director of the Interagency GPS Executive Board (IGEB) and was an employee of the Aerospace Corporation, serving as Director of the Corporation's Center for Space Policy and Strategy, and as a senior project engineering focusing on GPS policy and technology matters such as compatibility and interoperability with other satellite navigation systems, and GPS modernization.

Prior to his employment with the Aerospace Corporation Mr. Turner was a staff officer of the Aeronautics and Space Engineering Board of the National Academies, and a consultant to the Science Policy Research Division of the Congressional Research Service.

Mr. Turner holds a Bachelor of Science degree in Aerospace Engineering from Syracuse University and a Masters degree in Science, Technology, and Public Policy from George Washington University



Paul Williams is a Principal Development Engineer with the Research and Radionavigation Directorate of The General Lighthouse Authorities of the UK and Ireland, based at Trinity House in Harwich, England. He is currently the technical lead of the GLAs' eLoran Work Programme, and is involved in planning the GLAs' maritime eLoran trials and works on a wide range of eLoran related projects. He holds BSc and PhD degrees in Electronic Engineering from the University of Wales, is a Chartered Engineer, a Fellow of the Royal Institute of

Navigation, a board member of the International Loran Association and is chairman of the Radio Technical Commission for Maritime Services Special Committee 127 on Standards for Enhanced Loran (eLoran) Systems.

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IGNSS 2015 – Preliminary Draft Program – subject to change

Updated 08/07/15

Tuesday 14 July, 2015

09:00-10:20	Session 1B – Plenary GNSS System Providers
	<i>Chair: Matt Higgins</i> <i>Room: Boulevard 2</i>
09:00-09:10	<i>Official Opening</i> Welcome Address by Mr Matt Higgins , President of the IGNSS Society
09:10-09:45	<i>GPS Civil Service Update and U.S. International GNSS Activities (p69)</i> Mr David A Turner , Deputy Director, Office of Space and Advanced Technology, Department of State, USA
09:45-10:20	<i>GLONASS Status and Performance Improvement Prospects (p10)</i> Professor Victor Kosenko , First Deputy Director General, ISSC Reshetnev Company, ZHELEZNOGORSK and Dr Sergey Revnivikh , Deputy Director General, Head Of PNT Information Navigation Centre, Central Research Institute Of Machine Building, MOSCOW, THE RUSSIAN FEDERATION
10:20-10:45	Morning Tea + Trade Exhibition + Posters (<i>Proudly sponsored by GPSat Systems Australia</i>)
10:45-12:30	Session 2B – Plenary GNSS System Providers
	<i>Chair: Matt Higgins</i> <i>Room: Boulevard 2</i>
10:45-11:20	<i>BeiDOU</i> Mr Jianguang Feng , Program Manager, China Satellite Navigation Office, CHINA
11:20-11:55	<i>The European Union's GNSS Programmes, Galileo and EGNOS (p66)</i> Mr Dominic Hayes , Signals and Frequencies Manager, European Commission, EU
11:55-12:30	<i>The Current Status of QZSS Program (p85)</i> Mr Satoshi Kogure , Japan Aerospace Exploration Agency, TSUKUBA, JAPAN
12:30-13:30	Lunch + Trade Exhibition + Posters (<i>Proudly sponsored by GPSat Systems Australia</i>)

13:30 - 15:25	Session 3A ICG-WG-A <i>Co-Chairs: Satoshi Kogure & Xurong Dong</i> <i>Room: Boulevard 3</i>	13:30 - 15:25	Session 3B GNSS.asia Australia Workshop <i>Chair: Rainer Horn</i> <i>Room: Boulevard 2</i>	13:30- 13:45	Session 3C QZSS LEX Demonstration <i>Chair: Suelynn Choy</i> <i>Room: Boulevard 1</i>
<p>Summary</p> <p>This is an open session of Working Group A of the International Committee on GNSS. The sessions will discuss International GNSS Monitoring and Assessment. Currently GNSS monitoring activities are conducted by each Provider through its own service/analysis centre with different information services. Working Group A is investigating whether a more integrated and internationally recognised approach to Multi-GNSS monitoring may be possible.</p> <p>IGNSS delegates are welcome to attend this session to hear the latest thinking on these topics and to get an insight into the work of the ICG.</p>	<p>Summary</p> <p>As several Global Navigation Satellite Systems (GNSS) are emerging and multi-GNSS applications are rapidly gaining importance, international collaboration in the GNSS scene has become vital. GNSS.asia, financed under the EU Horizon 2020 Framework Programme for Research and Innovation, provides a comprehensive range of hands-on support services to GNSS industry enterprises in Europe and the Asia-Pacific region, assisting them to develop mutually beneficial commercial activities and establish concrete industrial collaboration. Aimed at stimulating cooperation between European and AsiaPac GNSS industry, this dedicated GNSS.asia Australia Workshop encompasses presentations by key industry players and institutional actors from the EU. It offers discussions on a broad set of topics such as European GNSS (EGNSS) differentiators in multi-GNSS solutions, GNSS innovation in Europe, GNSS solutions for Australian challenges and opportunities for EU-Australia GNSS partnerships.</p>	<p>The LEX signal, being transmitted by the Japanese “Michibiki” satellite allows high accuracy positioning anytime, anywhere in Australia. A demonstration by experts from JAXA and the CRCSI will be presented.</p>		<p>13:45- 15:25</p>	<p>Session 4C Multi GNSS I <i>Chair: James Millner</i> <i>Room: Boulevard 1</i> (Proudly sponsored by Position Partners)</p>
	<p>13:30- 14:00</p> <p><i>Opening Address: Introducing GNSS.asia – The GNSS.asia platform</i> Mr Rainer Horn, GNSS.asia Coordinator, SpaceTec Partners, GERMANY</p>	<p>13:45- 14:05</p>	<p><i>Utilisation of the Japanese Quasi-Zenith Satellite System (QZSS) Augmentation System for Precision Farming in Australia (p51)</i> Dr Phillip Collier, CRC For Spatial Information MELBOURNE, AUSTRALIA</p>	<p>14:05- 14:25</p>	<p><i>On the Multi-GNSS RTK Positioning Performance in New Zealand (p32)</i> Dr Robert Odolinski, University of Otago, DUNEDIN, NEW ZEALAND</p>
	<p>14:00- 14:30</p> <p><i>European GNSS in a Global Multi-GNSS Perspective:</i> Mr Dominic Hayes, European Commission, Galileo & EGNOS Team</p>	<p>14:25- 14:45</p>	<p><i>Quasi-Zenith Satellite Augmentation System for High Precision Positioning in Australia (p50)</i> Dr Ken Harima, RMIT, MELBOURNE, AUSTRALIA</p>	<p>14:45- 15:05</p>	<p><i>An Adaptively Filtering Approach for Autonomous Orbit Determination of Constellations (p20)</i> Dr Wende Huang, National University of Defense Technology, SHANGSHA, CHINA</p>
	<p>14:30- 15:45</p> <p><i>New Applications and Services based on EGNSS: a Priority of the French Authorities</i> Mr David Comby, French Interministerial Coordinator Delegate for GNSS Programmes</p>	<p>15:05- 15:25</p>	<p><i>QZSS Based Augmentation for PPP/PPP-AR Applications (p47)</i> Mr Satoshi Kogure, Japan Aerospace Exploration</p>		

	14:45-15:25	<i>Industrial Cooperation Across Continents, Opportunities for Multi-GNSS in AsiaPac</i> Mr Rainer Horn & Professor Chris Rizos , Multi-Advisory Group GNSS Asia Co-Chairman		Agency, TSUKUBA, JAPAN
15:25-15:55 Afternoon Tea + Trade Exhibition & Posters (<i>Proudly sponsored by GPSat Systems Australia</i>)				

15:55-17:30	WG-A Members only	15:55-17:15	Session 5B GNSS.asia Australia Workshop (Continued)	15:55-17:15	Session 5C Testing & Calibration
		<i>Room: Boulevard 3</i>		<i>Chair: Rainer Horn</i> <i>Room: Boulevard 2</i>	
CLOSED SESSION ICG WG-A MEMBERS ONLY		15:55-16:10	<i>From Idea to Business: The GNSS.asia Challenge</i> Mr Rainer Horn , GNSS.asia Coordinator, SpaceTec Partners, GERMANY	15:55-16:15	<i>Geoscience Australia's GNSS Antenna Calibration Facility: Initial Results (p11)</i> Mrs Anna Riddell , Geoscience Australia, CANBERRA, AUSTRALIA
		16:10-16:40	<i>Business models for Industrial Cooperation with Australia</i> Mr Javier Ostolaza – GMV, SPAIN Mr Jack Scott , Thales Alenia Space, AUSTRALIA Mr Evan Bollard , GlobalPOS, AUSTRALIA Mr Brian Heaven , Pivotel Group, SOUTHPORT, AUSTRALIA Intelligence on Wheels/Selectrail	16:15-16:35	<i>Test Report of L1-SAIF Experiment (p42)</i> Professor Chris Rizos , University of New South Wales, SYDNEY, AUSTRALIA
		16:40-17:05	<i>Panel Discussion – EU-Australia GNSS Cooperation with previous speakers</i> Moderator: Mr Rainer Horn	16:35-16:55	<i>Results from Kea V4.1 FPGA-based GPS Receiver Performance Testing (p39)</i> Dr Eamonn Glennon , University of New South Wales, SYDNEY, AUSTRALIA
		17:05-17:15	<i>Conclusion and Outlook</i> GNSS.asia Team		

18:00 - Aussie BBQ Buffet – Surfers Paradise Life Saving Club

Wednesday 15 July, 2015

09:00-10:30	WG-A Members only	09:00-10:30	Session 6B – Plenary	
	<i>Room: Boulevard 3</i>		<i>Chair: Andrew Dempster</i> <i>Room: Boulevard 2</i>	
CLOSED SESSION ICG WG-A MEMBERS ONLY		09:00-09:30	<i>Secure Perception for Autonomous Systems (p70)</i> Assistant Professor Todd E. Humphreys , Aerospace Engineering, The University of Texas, TEXAS, USA <i>(Proudly sponsored by Australian Institute of Navigation)</i>	
		09:30-10:00	<i>eLoran Initial Operational Capability in the United Kingdom (p67)</i> Dr Paul Williams , Principal Development Engineer, Research and Radionavigation Directorate, General Lighthouse Authorities of UK and Ireland, ESSEX, UNITED KINGDOM	
		10:00-10:30	<i>Guardian – Industrial Internet Testbed (p68)</i> Dr Elliot Duff , Acting Research Director of the Autonomous Systems, CSIRO, BRISBANE, AUSTRALIA <i>(Proudly sponsored by CSIRO)</i>	
10:30-11:00		Morning Tea + Trade Exhibition + Posters		

11:00-12:30	Session 7B – Plenary			
	ICG WG-A Workshop and Panel Discussion on Compatibility and Interoperability			
<i>Co Chairs: Dave Turner & Sergey Revnivykh</i>				
<i>Room: Boulevard 2</i>				
<p>Key participants in the UN International Committee on GNSS (ICG) will review and discuss the important work taking place within the subgroup on Compatibility and the Interoperability Task Force. This session will be led by the co-chairs of the ICG Working Group on Compatibility and Interoperability, with presentations from the Subgroup/Task Force leads. The session will also feature discussions about the ICG’s interactions with receiver manufacturers and key user groups around the world through a panel discussion. Conference delegates will have a chance to raise issues in the context of their day-to-day use of GNSS in Australia and the Asia Pacific Region during the panel discussion.</p> <p>Session Speakers – followed by a Panel Discussion include:</p> <ul style="list-style-type: none"> • David Turner – USA • Sergey Revnivykh – RUSSIA • Dominic Hayes – EUROPEAN COMMISSION • Takahiro Mitome – JAPAN • Jeffrey Auerbach – USA • Tom Stansell – USA • Xiochun Lu - CHINA 				
12:30-13:30		Lunch + Trade Exhibition + Posters		

13:30-15:10	Session 8B National Positioning Infrastructure (NPI) Workshop <i>(Proudly sponsored by Geoscience Australia)</i>	13:30-15:10	Session 8C Interference
	Chair: Gary Johnston Room: Boulevard 2		Chair: Andrew Dempster Room: Boulevard 1
13:30-13:50	<i>NPI: Background and Current Progress (p73)</i> Mr Gary Johnston , Geoscience Australia, CANBERRA, AUSTRALIA	13:30-13:50	<i>Detecting the Presence of Spoofers using Multipath Detection Techniques (p61)</i> Ms Laure Demicheli , ENAC, TOULOUSE, FRANCE
	Perspectives from the NPI Advisory Board		
13:50-14:05	<i>Jurisdictional Updates on Positioning Infrastructure & Services across Australia</i> Mr Paul Harcombe , Land and Property Information, NSW Department of Finance & Services, SYDNEY, AUSTRALIA		
14:05-14:20	<i>Enabling Connected and Automated Vehicles (p74)</i> Mr Stuart Ballingall , Austroads, MELBOURNE, AUSTRALIA	13:50-14:10	<i>Commercialisation and Large Area Field Trial Results of the GNSS Environmental Monitoring System (GEMS) - A Jammer/Spoofers Detection and Localisation System. (p46)</i> Mr Ryan Thompson , GPSat Systems Australia, MELBOURNE, AUSTRALIA
14:20-14:35	<i>Agriculture (p75)</i> Mr Tim Neale , PrecisionAgriculture.com.au, BRISBANE AUSTRALIA	14:10-14:30	<i>Unambiguous S-Curve Shaping for Multipath Mitigation for MBOC Modulated Signals in GNSS (p30)</i> Dr Zhe Liu , National University of Defense Technology, CHANGSHA, CHINA
14:35-14:50	<i>Equipment Manufacturer (p76)</i> Mr Rod MacLeod , NovAtel Inc, SYDNEY, AUSTRALIA		
14:50-15:05	<i>Aviation (p77)</i> Mr Ian Mallett , Civil Aviation Safety Authority, CANBERRA, AUSTRALIA	14:30-14:50	<i>Autonomous Physical Time Synchronization Method for Navigation Systems (p64)</i> Dr Eamonn Glennon , University of New South Wales, SYDNEY, AUSTRALIA
15:05-15:10	Questions		
15:10-15:40	Afternoon Tea + Trade Exhibition + Posters		

15:40-17:00	Session 9B NPI Workshop (continued) <i>(Proudly sponsored by Geoscience Australia)</i>	15:40-17:00	Session 9C Multi GNSS II
	Chair: Gary Johnston Room: Boulevard 2		Chair: Eamonn Glennon Room: Boulevard 1
15:40-15:55	<i>New Zealand National Positioning Infrastructure (p78)</i> Mr Graeme Blick , Land Information New Zealand, WELLINGTON, NEW ZEALAND	15:40-16:00	<i>An Efficient Secondary Code Transition Cancellation Correlator for Fast Multi-GNSS Acquisition (p27)</i> Mr Vinh Tran , University of New South Wales, SYDNEY, AUSTRALIA

15:55-16:10	<i>Maritime (p72)</i> Mr Nick Lemon , Australian Maritime Safety Authority, CANBERRA, AUSTRALIA		
16:10-16:25	<i>Research (p79)</i> Dr Suelynn Choy , RMIT University, MELBOURNE, AUSTRALIA	16:00-16:20	<i>Exploring the contributions of multi-GNSS constellations to Precise Point Positioning (PPP) solutions with raw single-frequency and dual-frequency measurements model (p84)</i> Mr Fu Zheng , Wuhan University, HUBEI, CHINA
16:25-16:40	<i>Spatial/Construction (p80)</i> Mr Martin Nix , Position Partners, SYDNEY AUSTRALIA		
16:40-16:55	<i>US PNT Advisory Board/IGNSS Society (p81)</i> Mr Matt Higgins , Department of Natural Resources and Mines, BRISBANE, AUSTRALIA	16:20-16:40	<i>Programmable Custom Multi-Core Architectures for Multi-Constellation GNSS Receiver (p53)</i> Mr Vinh Tran , University of New South Wales, SYDNEY, AUSTRALIA
16:55-17:00	Questions	16:40-17:00	<i>An Effective Use of Radio Altimeter to GPS/DME Integration System (p60)</i> Mr Moonsuk Koo , Chungnam National University, DAEJEON, SOUTH KOREA

Thursday 16 July, 2015

09:00-10:30	WG-A Members Only	09:00-10:30	Session 10B NPI Workshop <i>(continued)</i> <i>(Proudly Sponsored by Geoscience Australia)</i>	09:00-10:20	Session 10C Ionosphere and GNSS Meteorology
	Room: Boulevard 3		<i>Chair: Rob Lorimer</i> <i>Room: Boulevard 2</i>		<i>Chair: Robert Odolinski</i> <i>Room: Boulevard 1</i>
CLOSED SESSION ICG WG-A MEMBERS ONLY		09:00-09:30	<i>Infrastructure Management & Operations</i> Dr John Dawson , Geoscience Australia, CANBERRA, AUSTRALIA	09:00-09:20	<i>Ionospheric Corrections for Precise Positioning with Single-Frequency GNSS Receivers, a Long Distance Away from the Nearest Network Receiver (p48)</i> Dr Volker Janssen , NSW Land and Property Information, BATHURST, AUSTRALIA
		09:30-10:30	Panel Discussion – NPI Advisory Board: Gary Johnston Matt Higgins John Dawson Nick Lemon Grant Hausler Rod MacLeod Stuart Ballingall Ian Mallett Graeme Blick Tim Neale	09:20-09:40	<i>Positioning Performance Evaluation of Regional Ionospheric Corrections with Single Frequency GPS Receivers (p22)</i> Ms Wenjiao Liu , Queensland University of Technology, BRISBANE, AUSTRALIA
				09:40-10:00	<i>Real-time High Accuracy Retrievals of Precipitable Water Vapour from GNSS Precise Point Positioning (p23)</i> Mr Yubin Yuan , RMIT University, MELBOURNE, AUSTRALIA

		Dr Suelynn Choy Paul Harcombe	Martin Nix	10:00-10:20	<i>A Near Real-time Precipitable Water Vapour Monitoring Platform Using the Ground-based GNSS Positioning Infrastructure for Australian NWP (p58)</i> Professor Kefei Zhang , RMIT University, MELBOURNE, AUSTRALIA
10:30-11:00	Morning Tea				

11:00-12:20	WG-A Members Only	11:00-12:20	Session 11B SBAS Workshop/Panel Session	11:00-12:20	Session 11C Multi GNSS III
	<i>Room: Boulevard 3</i>		<i>Why Australia and New Zealand needs our own SBAS</i>		<i>Chair: Yanming Feng</i> <i>Room: Boulevard 1</i>
CLOSED SESSION ICG WG-A MEMBERS ONLY			The above NPI Workshop will be complemented by this focus session and discussion on the need for a Space Based Augmentation System (SBAS) for Australia and New Zealand.	11:00-11:20	<i>RTX Positioning using BeiDou Geostationary Satellites (p15)</i> Dr Carlos Javier Rodrigues Solano , Trimble Terrasat GmbH, HOEHENKIRCHEN, GERMANY
		11:00-11:15	<i>Public SBAS for non-aviation users: A North American Perspective</i> Mr Eric Gakstatter , GPS World, USA		
		11:15-11:30	<i>EGNOS benefits, the point of view of the French Authorities</i> Mr David Comby , French Ministry For Ecology, Sustainable Development and Energy, FRANCE	11:20-11:40	Processing Strategies and Performances Analysis for Beidou Precise Orbit Determination Based on GAMIT (p28) Mr Charles Wang , Queensland University of Technology, BRISBANE, AUSTRALIA
		11:30-12:20	Panel Discussion: <ul style="list-style-type: none"> • Mr Eric Gakstatter, GPS World, USA • Mr David Comby, French Ministry for Ecology Sustainable Development and Energy FRANCE • John Macilree, New Zealand Ministry of Transport, NEW ZEALAND • Mr Stuart Ballingall, Austroads, MELBOURNE, AUSTRALIA • Capt Mario Cipollone, Qantas Airways Limited, AUSTRALIA • Mr Alan Smart, ACIL Allen Consulting, BRISBANE, AUSTRALIA • Mr Gary Johnston, Geoscience Australia, CANBERRA, AUSTRALIA 	11:40-12:00	<i>Multi-Constellation GNSS Precise Point Positioning using GPS, GLONASS, Galileo, BeiDou and QZSS (p52)</i> Dr Ken Harima , RMIT, MELBOURNE, AUSTRALIA
				12:00-12:20	<i>Evaluation on the Multi-GNSS Precise Orbit and Clock Products: GPS, GLONASS, Galileo and BeiDou (p8)</i> Dr Fei Guo , Wuhan University, WUHAN, CHINA

	12:20-12:35	<p><i>This session will continue with the first ever Australian demonstration of an aviation style Space Based Augmentation System (SBAS) providing correction and integrity information generated using Australian reference stations. The SBAS Test Bed has been developed by Spanish company GMV working with key Australian Government agencies.</i></p> <p>Mr Javier Ostolaza, GMV Aerospace and Defence, MADRID, SPAIN</p>		
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12:20-13:20 Lunch

	WG-A Members Only		Session 12B GNSS Infrastructure	Session 12C Algorithms and Methods	Session 12D Cooperative Positioning and LBS
13:20-15:00	Room: <i>Boulevard 3</i>	13:20 - 15:00	<p><i>Chair: Anna Riddell</i></p> <p><i>Room: Boulevard 2</i></p>	<p><i>Chair: Charles Wang</i></p> <p><i>Room: Boulevard 1</i></p>	<p><i>Chair: Allison Kealy</i></p> <p><i>Room: Paradise Room</i></p>
CLOSED TO IGNSS DELEGATES		13:20-13:40	<p><i>CORSnet-NSW: State Infrastructure for GNSS Applications and Applied Research (p7)</i></p> <p>Dr Volker Janssen, NSW Land and Property Information, BATHURST, AUSTRALIA</p>	<p><i>A Real-time Cycle-slip Detection Method for CDGPS (p41)</i></p> <p>Mr Yun Sub Choi, Chungnam National University, DAEJEON, REPUBLIC OF KOREA</p>	<p><i>An Appeal to Discuss Ethical Issues in Context with Cooperative User Localization (p4)</i></p> <p>Professor Guenther Retscher, Vienna University of Technology, VIENNA, AUSTRIA</p>
		13:40-14:00	<p><i>SBAS for Australia/New Zealand (p6)</i></p> <p>Mr Jack Scott, Thales Australia, SYDNEY AUSTRALIA</p>	<p><i>Adaptive Observation Error Modelling in Multi-Constellation RTK Engine (p19)</i></p> <p>Mr Evan Bollard, Globalpos, SYDNEY, AUSTRALIA</p>	<p><i>Modelling and Mitigating Multipath and NLOS for Cooperative Positioning in Urban Canyons (p26)</i></p> <p>Dr Joon Wayn Cheong, University of New South Wales, SYDNEY, AUSTRALIA</p>
		14:00-14:20	<p><i>Topcon Fully Enables Multi-GNSS Infrastructure (p33)</i></p> <p>Mr James Millner and Mr Luis Elneser, Position Partners Pty Ltd, MELBOURNE, AUSTRALIA</p>	<p><i>Geometry-Free Combinations of GPS Triple Frequency Signals for Effective Integer Ambiguity Resolutions over Several Hundreds of Kilometres (p44)</i></p> <p>Professor Yanming Feng, Queensland University of Technology, BRISBANE, AUSTRALIA</p>	<p><i>A Framework for Efficient Cooperative Localization with Non-Gaussian Ranging Error Distributions (p25)</i></p> <p>Mr Shenghong Li, CSIRO, BRISBANE, AUSTRALIA</p>
		14:20-14:40	<p><i>A Conceptual Geodetic Coordinate System Model (p29)</i></p> <p>Professor Peter Morgan, University of Canberra, CANBERRA, AUSTRALIA</p>	<p><i>Kinematic GPS Orbit Determination with a Global Network of Hundreds of Stations (p45)</i></p> <p>Mr Yongchao Wang and Professor Yanming Feng, Queensland University of Technology, BRISBANE, AUSTRALIA</p>	<p><i>Real-time Position Tracking Via Internet Communication Protocols in LBS. (p18)</i></p> <p>Mr Izwan Idris, Queensland University of Technology, BRISBANE, AUSTRALIA</p>

	14:40-15:00	<i>Real-time IGS in Support of Tsunami Modelling (p2)</i> Professor Chris Rizos , University of New South Wales, SYDNEY, AUSTRALIA	<i>The Effect of Decorrelation on the Success Rate Bounds of Ambiguity Estimation (p37)</i> Mr Lei Wang , Queensland University of Technology, BRISBANE, AUSTRALIA	<i>The Need for a Metadata Standard for global Geodesy</i> Mr Nicholas Brown , Geoscience Australia, CANBERRA, AUSTRALIA
15:00-15:30		Afternoon Tea		

	WG-A Members Only		Session 13B Precise Point Positioning	Session 13C Emerging and Enabling Capabilities	Session 13D Indoor Positioning
15:30-17:10	Room: <i>Boulevard 3</i>	15:30-17:10	Chair: <i>Suelynn Choy</i> Room: <i>Boulevard 2</i>	Chair: <i>Allison Kealy</i> Room: <i>Boulevard 1</i>	Chair: <i>Joon Wayn Cheong</i> Room: <i>Paradise Room</i>
CLOSED TO IGNSS DELEGATES		15:30-15:50	<i>Precise Point Positioning from Combined GPS, GLONASS and BeiDou (p43)</i> Professor Chris Rizos , University of New South Wales, SYDNEY, AUSTRALIA	<i>Low-Cost cm-Accurate Mobile Positioning (p71)</i> Assistant Professor Todd E. Humphreys , Aerospace Engineering, The University of Texas, TEXAS, USA	<i>A Novel Approach for Wi-Fi Fingerprinting Using Logical Sequences of Intelligent Checkpoints (p3)</i> Professor Guenther Retscher , Vienna University of Technology, VIENNA, AUSTRIA
		15:50-16:10	<i>New Developments in Real-Time Precise Positioning (p14)</i> Mr Mark Hardman , Fugro Satellite Positioning, PERTH, AUSTRALIA	<i>Space Situational Awareness – A New Horizon of Australian Space Research (p59)</i> Professor Kefei Zhang , RMIT University, MELBOURNE, AUSTRALIA	<i>Vector Distance Measure Comparison in Indoor Location Fingerprinting (p9)</i> Professor Andrew Dempster , University of New South Wales, SYDNEY, AUSTRALIA
		16:10-16:30	<i>Advances in NovAtel's Precise Point Positioning (PPP) Solution for High Accuracy Kinematic Applications. (p56)</i> Mr Rod MacLeod , NovAtel, SYDNEY, AUSTRALIA and Mr Thomas Morley , NovAtel, CALGARY, CANADA	<i>Performance of GNSS Speed Measurement for Evidentiary Purposes (p13)</i> Mr Graham Taylor , Transport Certification, MELBOURNE, rianAustralia, AUSTRALIA	<i>Range Error Analysis of TDOA Based UWB-IR Indoor Positioning System (p34)</i> Ms Lian Zhang , Nanyang Technological University, SINGAPORE
		16:30-16:50	<i>Cycle Slip and Clock Jump Repair with Multi-Frequency Multi-Constellation GNSS data for Precise Point Positioning (p31)</i> Mr Manoj Deo , Curtin University, PERTH, AUSTRALIA	<i>Predictability of GNSS Signal Observations in Support of Space Situational Awareness using Passive Radar (p24)</i> Dr Craig Benson , University of New South Wales, CANBERRA, AUSTRALIA	
		16:50-17:10	<i>Enhancing Precise Point Positioning with External Ionosphere Constraint (p16)</i> Mr Shuyang Cheng , University of New South Wales, SYDNEY, AUSTRALIA	<i>New Role of GNSS in Search-And-Rescue: Past, Present and Future of MEOSAR (p65)</i> Mr Jack Scott , Thales Australia, SYDNEY, AUSTRALIA	

POSTER PRESENTATIONS

RTK and NRTK: Observational Accuracy vs Time (p5)

Mr Simon Conway, Land Information New Zealand, WELLINGTON, NEW ZEALAND

Performance Analysis of AOA-based Localization with Software Defined Radio (p36)

Mr Donggu Kim, Korea Advanced Institute of Science and Technology, DAEJEON, REPUBLIC OF KOREA

A Golden Reviver Used for GNSS Satellite Simulator Time Delay Calibration (p40)

Dr ZengJun Liu, National University of Defense Technology, CHANGSHA, CHINA

Linear Combination Ionospheric Delay Model of GPS and Galileo (p49)

Dr Jungmin Joo, Korea Aerospace Research Institute, DAEJEON, REPUBLIC OF KOREA

Interference Monitoring Using Low Cost Software Defined Radios and GNSS Receivers (p62)

Mr Ryan Thompson, University of New South Wales, SYDNEY, AUSTRALIA

Enhanced Indoor Positioning Method Using RSSI Log Model Based on IEEE 802.11s Mesh Network (p38)

Mr Jun Gyu Hwang, Kyungpook National University, DAEGU, REPUBLIC OF KOREA

GNSS.asia

INDUSTRIAL COOPERATION
ACROSS CONTINENTS

Australia GNSS.asia Workshop

Due to its unique economic and geopolitical context, Australia has traditionally been an early adopter of GNSS solutions. This has resulted in a growing number of sectors already relying on satellite-based services, a trend which is projected to continue and, in many sectors, to accelerate. With Satellite-Based Augmentation System (SBAS) and multi-GNSS opportunities materialising swiftly, Australia is set to be at the forefront of GNSS application development and cooperation, which will result in increased accuracy, availability, efficiency and reliability.

GNSS.asia, financed under the EU Horizon 2020 Framework Programme for Research and Innovation, provides a comprehensive range of hands-on support services to GNSS industry enterprises in Europe and the Asia-Pacific region, assisting them to develop mutually beneficial commercial activities and to establish concrete industrial collaboration. Aimed at stimulating cooperation between European and Australian GNSS industry, this dedicated Australia GNSS.asia Workshop will encompass presentations by key industry players and institutional actors from the EU. It offers discussions on a broad set of topics such as European GNSS (EGNSS) differentiators in multi-GNSS solutions, GNSS innovation in Europe, GNSS solutions for Australian challenges and opportunities for EU-Australia GNSS partnerships.



www.gnss.asia



Location Based
Services



Road Transport



Agriculture



Aviation



Maritime



Receivers



Mining



Surveying



HORIZON 2020



Venue

Outrigger Surfers Paradise is located in the heart of Surfers Paradise, on Queensland's famous Gold Coast. Perfectly situated at the centre of the entertainment precinct and only 100 metres from the iconic Surfers Paradise Beach.

The hotel offers spacious, modern hotel rooms with sweeping views of Surfers Paradise and the Pacific Ocean. Featuring a spacious pool area, children's wading pool, spa, tennis court, gymnasium, business centre and conference facility,

At the end of your conference day, everything is at your fingertips, the only decision you'll need to make is what to do first. Beach, attractions, shopping, nightlife or dining are just moments away. Relax on white sandy beaches under the warm gold coast sun; indulge in endless dining and entertainment options or experience the Gold Coast's world famous theme parks.

Trade Exhibition

The symposium will feature a trade exhibition consisting of suppliers of goods and services to the industry. Further information regarding sponsorship and exhibition opportunities can be downloaded from the web at www.ignss.org or contact Krys Henshaw on +61 7 5599 5007 or at krys@ignss.org.

Registration Fees and Payment

To attend the symposium, please complete the registration form on the last page of this document and return it to the IGNS Society via email to krys@ignss.org or fax to 07 5536 6366. Each delegate should fill in a separate form.

Please read the below paragraph carefully before completing the Registration Form on the last page of this document.

PLEASE NOTE:

- The delegate understands and agrees that to qualify for early bird, both registration form AND PAYMENT must be received by 5pm on 18 May, 2015. If payment is not received by this date, the delegate agrees to pay the difference between early bird and standard registration fee.**
- IGNSS Society Members are entitled to the discounted registration fee listed below.**
- No Shared registrations are permitted**

	Early Bird (By 18 May 2015)	Standard Rate (from 19 May, 2015)
Speaker Subsidised Rate*	\$745.00 (Required on acceptance into the IGNS2015 program)	
Full Registration Member	\$845.00	\$945.00
Full Registration Non Member	\$945.00	\$1045.00
Day Registration	\$445.00	\$545.00
Student Registration*	\$495.00	\$595.00

*** Students who are being paid for research and/or are receiving a salary do not qualify for this concession
A copy of your full-time student/concession card must accompany your registration to receive this discounted rate.**

Full Symposium, Speaker and Student Registrations include:

- Attendance to all Symposium Sessions
- Attendance at the Trade Exhibition
- Morning/afternoon tea and lunch on all symposium days.
- Aussie BBQ
- Symposium Handbook
- Symposium Satchel
- Symposium Proceedings – password provided for access to published proceedings on the IGNS website.
- Delegate list (list will include delegate name and organisation only and will not include those delegates who elect not to be included on the list). Please tick the appropriate box on the registration form if you do not wish to be included on the delegate list.

Day Registration includes:

- Attendance to Symposium Sessions on registered day

- Attendance at the Trade Exhibition
- Morning/afternoon tea and lunch on registered day
- Symposium Handbook
- Symposium Satchel
- Symposium Proceedings – password provided for access to published proceedings on the IGSS website.
- Delegate list (list will include delegate name and organisation only and will not include those delegates who elect not to be included on the list). Please tick the appropriate box on the registration form if you do not wish to be included on the delegate list.

Social Function

Date: Tuesday 14th July from 6pm

Venue: Surfers Paradise Life Saving Clubhouse (oceanfront) Level One, Cnr. Hanlan Street and The Esplanade, Surfers Paradise.

The IGSS Society will be hosting an evening function as part of IGSS 2015 which will be held at the oceanfront Surfers Paradise Surf Life Saving Clubhouse.

The function will commence at 18:00 on Tuesday 14th July and will include an Aussie BBQ Buffet.

A cash bar will also be available for your beverage requirements.

The function is a ticketed function and is open to fully registered delegates, speakers, sponsors and exhibitors.

Additional dinner tickets may be purchased from the registration desk. Drinks are not included.

Additional Tickets \$45.00 per person.

Accommodation

Outrigger Hotel Gold Coast, 22 View Avenue, SURFERS PARADISE, QLD AUSTRALIA

- **City View Twin Rooms (\$125 per night):** This room type includes 2 double beds (twin) only. This room is suitable for single occupancy or twin occupancy. Maximum of two persons per room included in this price.
- **Ocean View King or Twin Rooms: (\$145 per night):** This room type includes either a king room or 2 double beds (twin) only. This room is suitable for single occupancy, double occupancy or twin occupancy. Maximum of two persons per room included in this price.
- **Breakfast: (\$20 per person):** Subsidised for IGSS delegates for full buffet breakfast

All bookings must be made on the official booking form to receive the negotiated symposium rate. In order to secure a reservation, all hotel bookings must be accompanied by a minimum of one night's accommodation deposit.

If payment is to be made by EFT or cheque, a minimum of one night's deposit is required to secure your booking. Please make cheque payable to "IGSS Society". If payment is made by credit card, the details, including cardholder's signature, will be forwarded to the hotel as payment for your booking. If the credit card is in the name of a person other than yourself, it will be necessary to complete the authorisation attached to the Registration Form. Delegates are responsible for any damage they cause and must settle the balance of their account with the accommodation venue upon departure.

EFT details are as follows:

Account Name:	IGSS Society Inc
Bank:	Westpac Bank
BSB:	034 604
Account No:	21 2851
Your Reference:	Delegate name or Invoice Number

For International EFT payment: Swift Code is WPACAUS2

Accommodation Bookings Cancellation Fee

If an accommodation booking is cancelled within 7 days of check in, one nights cancellation fee will be charged to the credit card provided by the delegate on their registration form.

If you do not arrive on the date booked it is classified as a “No Show” and each night that you do not arrive is charged to your credit card.

All rooms will be released from sale on 11 June, 2015. The IGSS Society will accept accommodation bookings after this date but is unable to guarantee that accommodation will be available at the printed room rates.

Accommodation: Changes and Cancellations

Any changes to or cancellations of reservations made through the IGSS Society must be notified to the IGSS Society in writing via email to krys@ignss.org and not directly to the accommodation venue.

When payment is made by credit card, no monies will be deducted by IGSS Society, however your credit card details will be forwarded to your hotel as security for your booking.

General Information

Symposium Registration Desk Hours

Tuesday	14 July, 2015	8.00am – 5.00pm
Wednesday	15 July, 2015	8.30am – 4.00pm
Thursday	16 July, 2015	8.30am – 4.00pm

Parking

Parking is available in the Piazza Car Park next to the hotel. This car park is neither owned nor operated by the Hotel.

Early Bird: An early bird price of \$5.00 per car is offered when entering prior to 10.00am and exiting by 10.00pm on the same day. Early bird tickets are required to be purchased on entry to the car park via the attendant – CASH ONLY.

Overnight – A full/day/overnight charge of \$8.00 per car applies for guests that enter after 10.00am and/or are staying overnight. Tickets are to be collected from the hotel reception prior to entering the car park. This can be paid for on collection at reception or it can be charged to your reservation.

Temperature

During July the average temperatures on the Gold Coast can range between 15 and 25 degrees C.

Dress

A good standard of casual dress is required for attending the symposium.

Name Badges

Your name badge must be worn at all times, as it is your entry to all sessions and inclusive functions. Entry will not be permitted unless you are wearing your name badge or have a ticket to attend.

Airport Transfers

For delegates requiring airport transfers, a wide range of coach, bus, taxi and hire car services are available from both Coolangatta and Brisbane airports.

From Gold Coast Airport

For details of transfers from Gold Coast Airport [click here](#).

From Brisbane Airport

For details of transfers from Brisbane Airport [click here](#).

Registration Cancellation Policy and Disclaimer

Registration will only be accepted in writing. Cancellations made prior to 13 June, 2015 will be refunded less \$125.00 to cover administration costs. No refunds will be made after this date. As an alternative to cancellation, your registration may be transferred to another person without incurring any penalty. The organisers must be advised of the transfer in writing. Cancellation policy for Speakers registrations are outlined in the Presenter Guidelines "Registration" section.

It is highly recommended that Travel Insurance is taken out to cover cancellation of registration and/or accommodation and travel.

Personal Insurance

Participants shall be regarded in every aspect as carrying their own risk for personal injury and, loss or injury to property, including baggage during the symposium. We strongly recommend that at the time of booking your travel and tours, you take out a travel insurance policy of your choice. The policy taken should include loss of deposit through cancellation, medical insurance, loss or damage to personal property, financial loss incurred through disruption to accommodation or travel arrangements due to strikes or other industrial action. The Society will be in no way responsible for any claims concerning insurance.

Liability

In the event of industrial disruptions, the symposium and the Society accept no responsibility for losses incurred by delegates and partners.

Payment

All prices are in Australian dollars and are inclusive of GST (unless otherwise stated). Cheques should be made payable to "IGNSS Society" and forwarded to PO Box 413 TWEED HEADS NSW 2485. Cheques or bank drafts must be made out in Australian currency and drawn on an Australia bank. Payment by credit card is acceptable for registration tickets. EFT details are listed below – please use either the Invoice Number or the delegate full name as your reference.

EFT details are as follows:

Account Name:	IGNSS Society Inc
Bank:	Westpac Bank
BSB:	034 604
Account No:	21 2851
Your Reference:	Delegate name or Invoice Number

For International EFT payment: Swift Code is WPACAU2

Registrations will not be processed until payment is received. Discounted Early Bird registration fees are only applicable if the registration form **AND PAYMENT** are received by no later than 5.00pm on 18 May, 2015.

The information contained herein is correct at the time of printing. The IGNSS Society reserves the right to change, without notice, any aspect of the Registration Brochure and/or symposium program.



REGISTRATION FORM – IGNSS2015
ABN: 50 493 173 615

Please complete and return this form along with your full payment to IGNSS Society, PO Box 413, TWEED HEADS QLD 4221 AUSTRALIA
Fax: +61 7 5536 6366 Email krys@ignss.org

Personal Details - please print clearly.

Title _____ Family Name _____
Given Name _____
Organisation _____
Position _____
Postal Address _____
Suburb _____ State _____
Country _____ Post Code _____
Phone _____ Fax _____
Email _____
Please print clearly as confirmation of receipt will be sent via email
Preferred Name on Badge _____
Dietary/Special Requirements _____

Please indicate by ticking the boxes below if you:

- do not wish to be included on the symposium delegate list. The delegate list will be given to all participants at IGNSS2015.
 you are a member of the IGNSS Society

1. Registration Fees - Please tick appropriate boxes below
Payment must be received by 5pm on 18 May, 2015 to qualify for early bird rate.

	Early Bird by 18/05/15	Standard From 19/05/15
Speaker Registration	R01 <input type="checkbox"/> \$745	
*Student Registration	R02 <input type="checkbox"/> \$495	R03 <input type="checkbox"/> \$595

* Students who are being paid for research and/or are receiving a salary do not qualify for this concession. A copy of your full time student/concession card must accompany your registration

Full Registration (Member)	R04 <input type="checkbox"/> \$845	R05 <input type="checkbox"/> \$945
(Non-Member)	R06 <input type="checkbox"/> \$945	R07 <input type="checkbox"/> \$1045
**Day Registration	R08 <input type="checkbox"/> \$445	R09 <input type="checkbox"/> \$545

** Please indicate which day(s) you wish to attend

- Tuesday Wednesday Thursday

Total: \$ _____

2. Aussie BBQ (drinks not included)

Tuesday 14 July (Inclusive for students, delegates and speakers – full registrations and Tuesday Day Delegates only)

Please indicate ✓ if you will be attending yes no

S01 Extra tickets @ \$45.00 No. _____ \$ _____

Guest name(s): _____

Total: \$ _____

3. Accommodation: Outrigger Surfers Paradise

Accommodation is now limited

Please contact Krys Henshaw on 07 5599 5007 regarding availability.

4. Registration Payment Summary

1. Registration	\$ _____
2. Networking Functions	\$ _____
3. Accommodation (if paying by EFT only)	\$ _____
Registration Total:	\$ _____

Credit Card Authority Registration Only

Please indicate your credit card type below:

- Master Card Visa

Cardholder Name _____

Expiry Date _____

Card Number _____

Verification number is: _____

Verification number is the last three digits on the reverse of your card in the signature section.

Signature _____

Credit Card Authority for Accommodation only

I authorise the hotel to debit my credit card for the following:-

- 1 night's deposit
 All accommodation (excluding incidentals)
 All accommodation (including incidentals)
 Other

- Amex Diners Master Card Visa

Cardholder Name _____

Expiry Date _____

Card Number _____

Verification number is: _____

Verification number is the last three digits on the reverse of your card.

Signature _____