

3rd Asia Oceania Regional Workshop on GNSS
2-3 November 2011, Jeju, Korea
Pre-workshop discussion session of 3rd AORWS

November 1, Room: ISLAND BALLROOM (2F)

10:00-11:00 **Registration**

11:00-12:00 **Discussion Guidance: ISLAND BALLROOM (2F)** □

“About Multi GNSS Demonstration Campaign” Expectation for Discussion

- How to join the Multi-GNSS Asia (MGA)
- Multi-GNSS Monitoring Network
- Multi-GNSS Joint Experiment 2011

Hiroaki Tateshita, Japan Aerospace Exploration Agency (JAXA), Japan

12:00-13:30 Lunch Break (Hosted by SPAC)

Discussion session

13:30-17:30

Parallel group discussion in following application fields and infrastructure. Basically one presentation will take 15 min. Coffee break will be provided by KARI

**A) Multi GNSS network establishment (Session chair: Satoshi Kogure)
: ISLAND BALLROOM (2F)**

A-1) "Current Status of establishing Multi-GNSS Monitoring Network"

Satoshi Kogure, Japan Aerospace Exploration Agency (JAXA), Japan

A-2) "GEONET ready for GNSS"

Tomoaki Furuya, Geospatial Information Authority of Japan (GSI), Japan

A-3) "QZSS Observation Data Available to the Public"

Takeyasu Sakai, Electronic Navigation Research Institute (ENRI), Japan

A-4) "The Asia-Pacific Reference Frame (APREF): A Regional Multi-GNSS Tracking Network Supporting Regional Geospatial Activity"

John Dawson, Geoscience Australia, Australia

A-5) KASI's activities in IGS committee

Sung-Moon Yoo, Korea Astronomy & Space Science Institute, Korea

A-6) "Development of a real-time multi-GNSS precise orbit and clock determination system"

Tomoji TAKASU, Tokyo University of Marine Science and Technology, Japan

A-7) "Time Comparison Experiments and Time Dissemination Experiment using QZS-1"

Yasuhiro TAKAHASHI, National Institute of Information and Communications Technology, Japan

B) Precise Positioning (Session chair: Prof. Noboru Noguchi) :STONE HALL#1 (2F)

B-1) "The result of the experiment about the improvement of availability ratio in automatic driving of Tractor"

Noboru Noguchi, Hokkaido University, Japan

B-2) "Experimental results of QZS-LEX corrections by using Autonomous Vehicle"

Masayuki Kanzaki, Hitachi Zosen Corporation, Japan

B-3) "Evaluate Multi-GNSS for Precision Agriculture in Korea"

Ki Dae KIM, Chungnam National University, Korea

B-4) "Proposals from Malaysia"

EZRIN MOHD HUSIN, Universiti Putra Malaysia, Malaysia

B-5) "Automated rice transplanter guided by using Multi-GNSS including QZSS"

Yoshisada Nagasaka, National Agriculture Research Organization Agricultural Research Center, Japan

C&E) Disaster Management & LBS (Session chair: Prof. Naohiko Kohtake & Prof. Hyung Keun Lee) : WIND HALL #1 (2F)

C&E-1) "Pedestrian Dead Reckoning system for firefighter using foot-mounted IMU"

Min Su Lee, School of Mechanical and Aerospace, Seoul National University, Korea

C&E-2) "Presentation from KARI (Jammer Localization)"

Deok Won Lim, Korea Aerospace Research Institute, Korea

C&E-3) "Demonstration experiments of ocean observations in GPS buoy by using QZSS"

Misa Kinugawa, Hitachi Zosen Corporation, Japan

C&E-4) "Presentation from Softbank Mobile Corporation"

Jun Nagase, Softbank Mobile Corporation, Japan

C&E-5) "The economic benefit by the improvement of indoor location measurement"

Tomokazu WATANABE, Tokyo University of Marine Science and Technology, Japan

C&E-6) "Data Assimilation Experiments of GNSS-PWV and Data System Simulation Experiments of QZSS"

Hiromu Seko, Meteorological Research Institute, Japan

C&E-7) "The Impact of Personal Privacy Devices on GBAS and Potential Mitigations "

Samuel Pullen, Stanford University, USA

C&E-8) "Joint QZSS/GPS positioning using L1/L5 band signals"

Jyh-Ching Juang, National Cheng Kung University, TAIWAN

C&E-9) "Multi-GNSS Experiment at RMIT University in Melbourne"

Sue Choy, RMIT University, Australia

C&E-10) "Location based Real-time Disaster Response using Quasi-Zenith Satellite System"

Munetaka Kimura, NTT Data Corporation, Japan

C&E-11) "Analysis of GPS-TEC variation associated with strong earthquakes in Indonesia"

Sarmoko Saroso, National Institutes of Aeronautics and Space (LAPAN), Indonesia

D) ITS (Session chair: Prof. Takayuki Morikawa and Dr. Jae-Ik Park) :WIND HALL #2 (2F)

D-1) "ITS Japan Activities for disaster relief operation"

Koichi Yagi, ITS Japan, Japan

D-2) "Considerations of Road Lane Recognition Using Precise Digital Map"

Eunsung Lee, The Korea Aerospace Research Institute (KARI), Korea

D-3) "Performance Evaluation of the Effect of QZS on Precise Vehicle Positioning"

Nobuaki Kubo, Tokyo University of Marine Science and Technology, Japan

D-4) "Expectations for Quasi-Zenith Satellite in Mobile Mapping System"

Jun-ichi Takiguchi, Mitsubishi Electric Corporation, Japan

D-5) "GPS Carrier Phase Fault Detection for Road Lane Detection on Moving Vehicle"

Dae Hee Won, Konkuk University, Korea

D-6) "Application demonstration in private sector using "MICHIBIKI" preliminary report: -personal navigation in forest and car navigation- "

Mikihiro Hosoi, AISAN TECHNOLOGY Co., Ltd, Japan

18:00-20:00 Recept Hosted by KARI

Welcome Speech

Kim Seung Jo, President, The Korea Aerospace Research Institute (KARI), Korea

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November 2, ISLAND BALLROOM (2F)

8:00-9:00 **Registration**

Opening Session

9:00-10:00

9:00 **Welcome Speech**

Jun Gomi, Director of Satellite Applications and Promotion Center, Japan Aerospace Exploration Agency (JAXA), Japan

Tsutomu Nakajima, Senior Executive Director of Satellite Positioning Research and Applications Center (SPAC), Japan

9:15 **Keynote Speech**

"Multi-GNSS Monitoring and the International Committee on GNSS"

Jeffrey Auerbach, GNSS Policy Advisor, Office of Space & Advanced Technology, U.S. Department of State, USA

Activities and Framework session

9:30-12:00

9:30 **"GNSS Current Status Overview"**

Satoshi Kogure, Japan Aerospace Exploration Agency (JAXA), Japan

9:50 **"About Asia Oceania Multi-GNSS Demonstration Campaign"**

Hiroaki Tateshita, , Japan Aerospace Exploration Agency (JAXA), Japan

10:10-10:40 Coffee Break

10:40 **"Future plan for QZSS"**

Tsukasa Sato, Secretariat of Strategic Headquarters for Space Policy, Japan

11:00 **"SPAC activities;The results of Application demonstration in private sector using "MICHIBIKI"**

Shigeru Matsuoka, Deputy General Manager of Satellite Positioning Research and Applications Center (SPAC), Japan

11:20 **"On the BeiDou Demonstration Campaign(BDC)"**

Xurong Dong, International Cooperation Research Centre, China Satellite Navigation Office, China

11:40 **"Europe-South East Asia collaboration in GNSS technology : The NAVIS Centre in Hanoi"**

Gustavo Belforte, Associate Professor, Dipartimento di Automatica e Informatica, Italy
(photo session)

12:00-13:30 Lunch Break (Hosted by SPAC)

Application Session

13:30-15:45

13:30 *"Location Cruise Project - Design of LBS Platform in Japan"*

Naohiko Kohtake, Keio University, Japan

13:45 *"Analysis of GPS-TEC variation associated with strong earthquakes in Indonesia"*

Sarmoko Saroso, National Institutes of Aeronautics and Space (LAPAN), Indonesia

14:00 *"A Proposal for a Real-Time Monitoring System of Precipitable Water Vapor (PWV) Using a Dense GNSS Receiver Network for QZSS"*

Toshitaka Tsuda, Kyoto University, Japan

14:15 *"Autonomous Tractor for Tillage Operation Using GPS"*

Ki Dae KIM, Chungnam National University, Korea

14:30 *"Development of Robot Farming System based on multi-GNSS in Japan"*

Noboru Noguchi, Research Faculty of Agriculture, Hokkaido University, Japan

14:45 *"Performance Evaluation of the Effect of QZS on Precise Vehicle Positioning"*

Nobuaki Kubo, Tokyo University of Marine Science and Technology, Japan

15:00-15:30 Coffee Break

15:30 *"Introduction of JAVAD multi-GNSS receiver technology"*

Seiya Kawaguchi, GNSS Technology Inc, Japan

15:45 *"The Impact of Personal Privacy Devices on GBAS and Potential Mitigations"*

Samuel Pullen, Stanford University, USA

16:00 *"Location based Real-time Disaster Response using Quasi-Zenith Satellite System"*

Munetaka Kimura, NTT Data Corporation, Japan

Demo Session

16:15-17:15

QZSS Demonstration

RTKLIB Demonstration

-RTKLIB is an open source program package for standard and precise positioning with GNSS including QZSS -

Tomoji Takasu, Tokyo University of Marine Science and Technology, Japan

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November 3, ISLAND BALLROOM (2F)

9:00-10:00 *Registration*

Closing Session

10:00-11:15

Discussion wrap up

10:00 *A)Multi GNSS network establishment*

Satoshi Kogure, Japan Aerospace Exploration Agency (JAXA), Japan

10:10 *B)Precise Positioning*

Noboru Noguchi, Hokkaido University, Japan

10:20 *C)Disaster Management & E)LBS*

Munetaka Kimura , NTT Data Corporation, Japan

10:30 *D) ITS*

TBD

10:40 *Workshop wrap up*

Akio Yasuda, Tokyo University of Marine Science and Technology, Japan

11:00 *Next step*

MGA Secretariat

11:10 *Closing remark*

Jun Gomi, Japan Aerospace Exploration Agency (JAXA), Japan