THURSDAY 29 OCTOBER

08:30 - 10:00
Indoor positioning and high sensitivity issues (04)
Room: B12
Chairs: Heidi Kuusniemi, Finnish Geodetic Institute, Finland,
Jon Glenn Gjevestad, Norwegian University of Life Sciences, Norway

Or 09 Paper
Soldier and first responder RF-positioning in indoor environments
Jouni Rantakokko, Sweden

Or 10 Paper
WLAN Positioning on Mobile Phone
Arto Perttula, Finland

Or 11 Paper
Symbolic 3D WiFi indoor positioning system: A deployment and performance evaluation tool
Nel Samama, France

Alt 07 Paper
GNSS transmitter based indoor positioning systems - Deployment rules in real buildings
Nel Samama, France

Alt 08
Indoor positioning with foot-mounted inertial sensors and UWB
Jouni Rantakokko, Sweden

08:30 - 10:00
e-navigation I (05)
Room: C1
Chairs: David Last, University of Wales, UK
Ole Ørpen, Fugro-Seastar, Norway

Or 12 Paper
E-navigation - applications and benefits
Nicholas Ward, UK

Or 13 Paper
Reliability and availability on onboard AIS information
Akihiko Hori, Japan

Or 14 Paper
3D panoramic stereo imaging system for maritime search and rescue (SAR) simulator
Shengzheng Wang, China

Alt 09 Paper
Detection of the rescue target in the marine casualty based on visual attention mechanism
Xin Ran, China

Alt 10 Paper
Estimation of the maneuverability under external disturbance
Daisuke Terada, Japan

08:30 - 10:00
Atmospheric effects (06)
Room: C2
Chair: Manuel Hernández-Pajares, Technical University of Catalunia, Spain
Virgílio Mendes, University of Lisbon, Portugal

Or 15 Paper
Mapping the regional ionospheric TEC using a spherical cap harmonic model and IGS products in high latitudes and the arctic region
Jingbin Liu, Finland

Or 16
High resolution GNSS tomography for water vapour retrieval and quasi real-time heavy precipitation forecast

Alain Geiger, Switzerland

Or 17 Paper **Withdrawn**
~~New offshore vertical reference frame from satelite altimetry~~
~~Ole Baltzar Andersen, Denmark~~
Replaced by:
Alt 31
A stochastic sigma model for glonass satellite pseudorange
Salvatore Gaglione, Italy

10:00-10:30
Coffee break in Exhibition area

10:30 - 12:00
Receiver and antenna technology I (07)
Room: B12
Chair: Ruizi Chen, Finnish Geodetic Institute, Finland
Per-Ludvig Normark, Cambridge Silicon Radio (CSR), Sweden

Or 18 Paper
High performance Galileo E5 correlator design
Petr Kacmarik, Czech Republic

Or 19 Paper
Chi-Square Distribution Matching in Unambiguous Sine-BOC and Multiplexed-BOC Acquisition
Zahidul Bhuiyan, Finland

Or 20 Paper
Universal front end for software gnss receiver
Pavel Kovar, Czech Republic

10:30 - 12:00
Urban positioning (08)
Room: C1
Chairs: Alexander Mitelman, Cambridge Silicon Radio (CSR), Sweden

Or 21 Paper
Barometer-aided road grade estimation
Jussi Parviainen, Finland

Or 22 Paper
Mobile multi sensor geo-context and attention tracking system for window-shoppers in urban environments
Stefan Ladstaetter, Austria

Or 23
Development of a smart phone based 3D personal navigation and LBS system
Ruizh Chen, Finland

10:30 - 12:00
High precision I (09)
Room: C2
Chair: Alain Geiger, Institute of Geodesy and Photogrammetry, Schweiz
Angela Dorsey, Jet Propulsion Laboratory, USA

Or 24
A ground-based real-time demonstration of the NASA TDRSS Augmentation Service for Satellites (TASS)
Angela Dorsey, USA

Or 25 Paper
Deformation source modelling of a probable magma intrusion in the Fogo/Congro area (S. Miguel Island, Azores)
Antonio Trota, Portugal

Or 26 Paper
Advantages of combined GPS and GLONASS PPP - experiences based on G2 a new service from Fugro
Tor Melgard, Norge

12:00 -13:30
Lunch in Clarion restaurant

13:30 - 15:00
Receiver and antenna technology II (10)
Room: B12
Chair: Ruizi Chen, Finnish Geodetic Institute, Finland
Per-Ludvig Normark, Cambridge Silicon Radio (CSR), Sweden

Or 27 Paper
A reduced search space maximum likelihood delay estimator for mitigating multipath effects in satellite-based positioning
Mohammad Zahidul H Bhuiyan, Finland

Or 28
Analytical model for GNSS receiver implementation losses
Christopher Hegarty, USA

Or 29 Paper
Estimation of the complex far-field of an antenna array using live GNSS signals and the equivalent electric current method
Tore Lindgren, Sweden

13:30-15:00
Inertial systems and hybrid navigation I (11)
Room: C1
Chair: Jan Škaloud, Swiss Federal Institute of Technololgy, Schweiz
Milan Horemuzz, Royal Institute of Technology, Sweden

Or 30 Paper
Stability analysis of strapdown seeker scale factor error and line of sight rate
Woohyun Kim, Republic of Korea

Or 31 Paper
Ultra-tight integration of an IMU with GPS/GLONASS
Mark G. Petovello, Canada

Or 32 Paper
Real-time attitude determination system based on GPS carrier phase measurements and aided by low-cost inertial sensors for high dynamic applications
Maria Campo-Cossio, Spain

13:30 - 15:00
High precision II (12)
Room: C2
Chairs: Alain Geiger, Institute of Geodesy and Photogrammetry, Schweiz
Angela Dorsey, Jet Propulsion Laboratory, USA

Or 33 Paper
Preliminary simulation results of a deeply coupled GNSS/INS system for high dynamics
Stefan Kiesel, Germany

Or 34 Paper
Indoor carrier phase measurements through GNSS transmitters - Theory and first experimental results
Nel Samama, France

Or 35 Paper
Ultra-precise positioning sensor for sport applications
Gerard Lachapelle, Canada

15:00-15:30
Coffee break in Exhibition area

15:30 - 17:00
Receiver and antenna technology III (13)
Room: B12
Chair: Ruizi Chen, Finnish Geodetic Institute, Finland
Per-Ludvig Normark, Cambridge Silicon Radio (CSR), Sweden

Or 36 Paper
A software receiver phase lock loop analysis and design to implement adaptive phase tracking using a finite impulse response loop filter
Marco Rao, Italy

Or 37 Paper
A novel software defined receiver architecture
Staffan Backén, Sweden

Or 38 Paper
Phase lock loop false lock avoidance in presence of global navigation satellite system signal
Marco Rao, Italy

Alt 17
Design and implementation of a low-cost integrated navigation system for marine applications
Giovanni Mancini, Italy

15:30 - 17:00
Inertial systems and hybrid navigation II (14)
Room: C1
Chairs: Jan Škaloud, Swiss Federal Institute of Technololgy, Schweiz
Milan Horemuzz, Royal Institute of Technology, Sweden

Or 39 Paper
An adaptive multi-sensor positioning system for personal navigation
Heidi Kuusniemi, Finland

Or 40 Paper
Application of air data in bridging of GPS-outages
Claus-Sebastian Wilkens, Germany

Or 41
Collaborative navigation in GPS-impeded environments using dynamic sensor network and inter-nodal RF ranging
Dorota Grejner-Brzezinska, USA

Alt 19 Paper
The use of wavelet transform for an automated initialization in GPS/MEMS-IMU integration
Jan Skaloud, Switzerland

Alt 20
Optimized information management for positioning services: a comprehensive approach for making the right choices
Friedrich Teichmann, Austria

Alt 21
Outline design of navigational information system that systematized lookout
Masatoshi Shimpo, Japan

Alt 22 Paper
Monte Carlo analysis of low-cost imu's on a graphics processor
Sarel Roets, South Africa

15:30 - 17:00
Aviation (15)

Room: C2
Chairs: Dirk Kügler, DLR, Institut für Flugführung, Germany
Börje Forssell, Norwegian University of Science and Technology, Norway

Or 42 Paper
Evaluation results of multilateration at Narita International Airport
Hirami Miyazaki, Japan

Or 43
A methodology of estimating safe minimum route spacing for RNAV-approved aircraft
Osamu Amai, Japan

Or 44
Analysis of performances of NIORAIM algorithm implementation in a GNSS monitoring system: verification of fault detection sensitivity in presence of bias
Luca Sfarzo, Italy

POSTER LIST

P 02 **Performance analysis of GPS L5 signal processing board for GNSS ground sensor station**
Jaehyun Kim, Republic of Korea

P 03 **GPS kinetic short-distance baseline estimation from RINEX files under matlab environment**
Wen Zhang, United Kingdom

P 04 **GPS single point positioning and velocity computation from RINEX File under Matlab environment**
Wen Zhang, United Kingdom

P 09 **Daily gps total electron content (tec) variation over the Kingdom of Saudi Arabia** *Abdulaziz O Alothman, Saudi Arabia*

P 10 **Interpolation of TEC for a regional operational ionosphere model**
Mohammed, Ouassou, Denmark

P 11 **A study on acquisition performance of Galileo E5 signal processing in ML 506 platform**
Cheon Sig Sin, Republic of Korea

P 12 **Dual-element diversity antenna for gps/galileo receivers**
Masood Ur Rehman, United Kingdom

P 13 **Implementing a software snap-shot receiver for mobile phones**
Dominik Dötterböck, Germany

P 14 **Inertial Navigation System with MEMS-ESG and Automated Sun Altitude Measuring System using Web-Camera**
Gen Fukuda, Japan