

Monday, July 3

09:00 – 10:00 **Opening Session**

- 09:00-09:10 Welcome by IGN
D. Bursaux, IGN General Director
- 09:10-09:20 Welcome by CNES
J. Lambin, on behalf of CNES President
- 09:20-09:30 Welcome by University Paris-Diderot
S. Rousset, Vice President of Research, University Paris-Diderot
- 09:30-09:40 Welcome by IAG & Local Organizing Committee
Z. Altamimi, IGN, IAG Vice-President
- 09:40-09:50 Welcome by IGS
G. Johnston, Chair of IGS Governing Board
- 09:50-10:00 Welcome by IGS Central Bureau
R. Neilan, Director of IGS Central Bureau

10:30 – 12:00 **Multi-GNSS & Constellation Monitoring**

- 10:30-10:45 [The IGS/IGMA Monitoring Pilot Project](#)
U. Hugentobler, T. Springer, S. Kogure
- 10:45-11:00 [Multi-GNSS SISRE Monitoring - Methodology and Results](#)
P. Steigenberger, O. Montenbruck
- 11:00-11:15 [Hourly Updated GNSS Orbit and Clock Correction](#)
Q. Chen, S. Song, W. Zhou, H. Chaoi
- 11:15-11:30 [Multi-GNSS real-time precise positioning service and Initial assessment of BDS-3](#)
X. Li, M. Ge, X. Li, X. Zhang, M. Wu, J. Wickert, H. Schuh
- 11:30-11:45 [Latest model improvements in CODEs IGS MGEX solution](#)
L. Prange, R. Dach, G. Beutler, D. Sidorov, A. Villiger, S. Schaer, A. Jäggi
- 11:45-12:00 [Solar Radiation Pressure modeling for BeiDou GEO satellite](#)
J. Guo, Ch. Wang, Q. Zhao

13:30 – 15:00 **Scientific Applications of IGS Products – Part 1**

- 13:30-14:00 [Earthscope's Plate Boundary Observatory \(PBO\) use of IGS products](#)
T. Herring, T. Melbourne, M. Murray, M. Floyd, W. Szeliga, R. King, D. Phillips, C. Puskas
- 14:00-14:30 [On the Scientific Applications of IGS Products: An Assessment of the Reprocessed TIGA Solutions and Combined Products](#)
N. Teferle, A. Hunegnaw, K.E. Abraha, A. Santamaría-Gómez, M. Gravelle, G. Wöppelman, T. Schöne, Z. Deng, R. Bingley, D. Hansen, L. Sanchez, M. Moore

- 14:30-15:00 [GNSS Augmentation to Tsunami Early Warning Systems](#)
J. Lauterjung, J. L. LaBrecque, G. Occhipinti, M. Crespi

15:30 – 16:30 **Keynote lecture: Galileo**
M. Falcone, System Manager of ESA's Galileo Project Office

16:30 – 17:00 **Workshop Sponsors**

- 16:30-16:45 Improving the resilience to interference of a GNSS reference station
Y. Tawk, Product Application Specialist, Leica Geosystems
- 16:45-17:00 Data Quality: from Tracking to Archiving with no Gaps
F. Clemente, Product Manager, Septentrio

16:30 – 18:00 **Poster Sessions**

- PS #01 Multi-GNSS & Constellation Monitoring
- PS #02 Infrastructure, Data Centers & Formats
- PS #03 Antennas & Biases
- PS #04 Troposphere & Ionosphere
- PS #05 Real-time

Tuesday, July 4

08:30 – 10:00 **Antennas & Biases**

- 08:30-08:45 [New GNSS Bias Products from CODE](#)
S. Schaer, A. Villiger, R. Dach, L. Prange, A. Jäggi
- 08:45-09:00 [Revisiting the origin of GLONASS inter-frequency phase biases and its implication to IGS Bias-SINEX products](#)
J. Geng
- 09:00-09:15 [Analysis of GNSS Receiver Biases and Noise using Zero Baseline Techniques](#)
K. MacLeod, S. Banville, P. Collins, R. Ghoddousi-Fard
- 09:15-09:30 [Consistency antenna products in the MGEX environment](#)
A. Villiger, L. Prange, R. Dach, S. Schaer, A. Jäggi
- 09:30-09:45 [Phase Centre Calibration of the Galileo Satellite Navigation Antenna](#)
F. Gonzalez, M. Soellner, F. Dilssner, E. Schoenemann
- 09:45-10:00 [Type mean antenna PCV models are no longer sufficient to support geodetic analysis](#)
M. Moore, G. Hu

10:30 – 11:45 Troposphere & Ionosphere – Part 1

- 10:30-10:45 [ROTI Maps: a new IGS's ionospheric product characterizing the ionospheric irregularities occurrence](#)
I. Cherniak, A. Krankowski, I. Zakharenkova
- 10:45-11:00 [The Recent Activities of CAS Ionosphere Analysis Center on GNSS-based Ionospheric Modeling within IGS](#)
Y. Yuan, Z. Li, N. Wang, M. Li
- 11:00-11:15 [High rate GPS and GLONASS observations of RT-IGS network to monitor ionospheric irregularities and TEC mapping](#)
R. Ghoddousi-Fard
- 11:15-11:30 [Parallel computing techniques for global ionospheric modeling](#)
C. Wang, C. Shi, H. Zhang
- 11:30-11:45 [Dual-layer tropospheric correction model using optimally data from GNSS and numerical weather model](#)
J. Douša, M. Eliaš, P. Václavovic

11:45 – 12:00 Infrastructure, Data Centers & Formats Summary

I. Romero, Chair of IGS Infrastructure Committee

13:30 – 18:00 Poster Sessions

- PS #01 Multi-GNSS & Constellation Monitoring
- PS #02 Infrastructure, Data Centers & Formats
- PS #03 Antennas & Biases
- PS #04 Troposphere & Ionosphere
- PS #05 Real-time

13:30 – 15:00 Splinter meetings

- Buffon amph. Infrastructure, Data Centers & RINEX Working Groups
- Room 317 Ionosphere Working Group

15:30 – 17:00 Splinter meetings

- Buffon amph. Multi-GNSS Working Group
- Room 317 TIGA Working Group

17:00 – 18:30 Splinter meetings

- Room 317 IGMA Working Group

Wednesday, July 5

08:30 – 10:00 Real-time

- 08:30-08:45 [SSR Technology for scalable Real-Time GNSS Applications](#)
G. Wübbena, J. Wübbena, T. Wübbena, M. Schmitz
- 08:45-09:00 [A real-time clock combination supporting precise point positioning with ambiguity resolution](#)
S. Banville, D. Laurichesse
- 09:00-09:15 [BDS real-time precise products from WHU and its application in National BDS Augmentation Service System of China](#)
C. Shi, Y. Lou, M. Li
- 09:15-09:30 [Examples of IGS real-time Ionospheric information benefits: Space Weather monitoring, precise farming and real-time GIMs](#)
M. Hernández-Pajares, A. García-Rigo, D. Roma-Dollase, D. Laurichesse, M. Schmidt, E. Erdogan, Y. Yuan, Z. Li, J.M. Gómez-Cama, A. Krankowski
- 09:30-09:45 [Towards a flexible real-time and near real-time system for monitoring the troposphere](#)
J. Douša, P. Václavovic
- 09:45-10:00 [Real-time Precise Point Positioning supported with high-resolution troposphere models based on Numerical Weather Prediction](#)
T. Hadas, K. Wilgan, P. Hordyniec, J. Bosy

10:30 – 12:00 Analysis Centers

- 10:30-10:45 Metadata project update
F. Boler, G. Johnston
- 10:45-11:00 [CODE's Update of the Clock products](#)
A. Villiger, S. Lutz, A. Sušnik, L. Prange, S. Schaer, R. Dach, P. Stebler, A. Jäggi
- 11:00-11:20 [Hourly Updated Precise Orbit Products of Quad-constellation Satellites in IGS Analysis Center at Wuhan University](#)
Q. Zhao, H. Ma, X. Xu, J. Guo
- 11:20-11:40 [Impact of modern Earth orientation models on GPS precise orbit determination](#)
A. Sibois, S. Desai
- 11:40-12:00 [The ESA/ESOC Analysis Center Recent Activities](#)
T. Springer, E. Schoenemann, R. Zandbergen, W. Enderle

13:30 – 14:15 Troposphere & Ionosphere – Part 2

- 13:30-13:45 [SISTED & GSFLAI solar flare nowcasting products based on GNSS ionospheric monitoring, part of SSA's Ionospheric Weather ESC and ESA's MONITOR service](#)
A. García-Rigo, M. Hernández-Pajares, K. Kauristie, R. Orús-Pérez
- 13:45-14:00 [Improvement in the estimation of troposphere zenith delays using high-accuracy clocks](#)
K. Wang, M. Rothacher, M. Meindl, E. Schoenemann, W. Enderle
- 14:00-14:15 [A new zenith tropospheric delay grid product for real-time PPP applications over China](#)
W. Zhang, Y. Lou, J. Huang, H. Liang, F. Zheng, J. Liu

14:15 – 15:00 Scientific Applications of IGS Products – Part 2

- 14:15-14:30 [EPN-Repro2: a reference tropospheric dataset over Europe](#)
R. Pacione, A. Araszkievicz, E. Brockmann, J. Dousa
- 14:30-14:45 [Constraints on Intra-Continental Strain Rates and Glacial Isostatic Adjustment from Thousands of GPS Velocities](#)
C. Kreemer, W.C. Hammond, G. Blewitt
- 14:45-15:00 [A review of recent advances in GNSS-MR](#)
S. Tabibi, T. van Dam, F.G. Nievinski, K.M. Larson, O. Francis, S. Williams

15:30 – 18:00 Poster Sessions

- PS #06 Analysis Centers
- PS #07 Scientific Applications of IGS Products
- PS #08 Orbit Modelling
- PS #09 Reference Frame
- PS #10 Timing

15:30 – 17:00 Splinter meetings

- Buffon amphi. Real-time Working Group
- Room 317 Antenna Working Group
- Room 322 Troposphere Working Group

Thursday, July 6

08:30 – 10:00 Orbit Modelling

- 08:30-08:45 Next generation radiation pressure modelling for GNSS space vehicles – grid file model tests on GPS IIR
M. Ziebart, S. Bhattarai, S. Grey, S. Allgeier, T. Springer, G. Tobías González
- 08:45-09:00 [Measuring GNSS Satellite Transmit Power](#)
P. Steigenberger, S. Thielert, O. Montenbruck
- 09:00-09:15 [GLONASS Satellite Orbit Modelling](#)
R. Dach, A. Sušnik, A. Grahl, A. Villiger, D. Arnold, L. Prange, S. Schaer, A. Jäggi
- 09:15-09:30 [Impact of improved GPS-IIF box-wing models on LEO orbit determination](#)
H. Peter, T. Springer
- 09:30-09:45 [Orbit/SRP Modelling for Long Term Prediction](#)
B. Polle, D. Sidorov, M. Sachot, R. Dach
- 09:45-10:00 [Improved modeling of GPS Block IIF satellites for the GSPM13 solar radiation pressure model](#)
C. Sakumura, A. Sibois, A. Sibthorpe, D. Murphy

10:30 – 12:00 Reference Frame

- 10:30-10:45 [Review of the IGS Contribution to the ITRF](#)
Z. Altamimi, P. Rebischung, L. Métivier, X. Collilieux
- 10:45-11:00 [The Impact of GNSS Data on JTRF2014](#)
R. Gross, C. Abbondanza, T.M. Chin, M. Heflin, J. Parker, B. Soja, X. Wu
- 11:00-11:15 [Evaluation of the IGS terrestrial frame solutions since the switch to IGS14/igs14.atx](#)
P. Rebischung, Z. Altamimi
- 11:15-11:30 [Reconciling GRACE derived loading deformation with GNSS station position time series](#)
K. Chanard, P. Rebischung, L. Fleitout, L. Métivier, X. Collilieux, Z. Altamimi
- 11:30-11:45 [Modeling environmental loading effects at the observation level in GPS processing](#)
J.-P. Boy, A. Mémin
- 11:45-12:00 [Direct access to the ITRF, anywhere on Earth](#)
H. Boomkamp

13:30 – 18:00 Poster Sessions

- PS #06 Analysis Centers
- PS #07 Scientific Applications of IGS Products
- PS #08 Orbit Modelling
- PS #09 Reference Frame

- PS #10 Timing

13:30 – 15:00 Splinter meetings

- Buffon amphi. Analysis Centers

15:30 – 17:00 Splinter meetings

- Buffon amphi. Orbit Modelling Working Group
- Room 317 Bias and Calibration & Clock Products Working Groups

17:00 – 18:30 Splinter meetings

- Room 317 Communication

Friday, July 7

08:30 – 10:00 Timing

- 08:30-08:45 [The Study of GNSS System Time Difference Monitoring](#)
J. Zhang, H. Yuan, W. Guang, W. Li, Z. Gao
- 08:45-09:00 [Calibration of DCBs in timing GNSS stations](#)
P. Defraigne, W. Huang
- 09:00-09:15 [Sub 10-16 frequency transfer with IPPP](#)
G. Petit, S. Loyer, F. Perosanz
- 09:15-09:30 [BeiDou and Galileo Carrier-Phase Time Transfer toward TAI Computation](#)
B. Sun, Y. Ge, M. Ouyang, L. Zhang, X. Yang, W. Qin, M. Wu, H. Yang
- 09:30-09:45 [GNSS space clocks assessment based on different IGS and MGEX data](#)
T.T. Thai, G. Signorile, I. Sesia
- 09:45-10:00 [Improved GNSS-Based Precise Orbit Determination by using highly accurate clocks](#)
A. Sušnik, R. Dach, K. Wang, M. Meindl, M. Rothacher, T. Romanyuk, I. Selmke, U. Hugentobler, Erik Schönemann, W. Enderle

10:30 – 12:00 Closing Session – Working Group Recommendations