

GPS Simulation Training Conference 2011

Planned Agenda

Sheraton Park Hotel at the Anaheim Resort

1855 South Harbor Boulevard
 Anaheim, CA 92802
 (714) 750-1811

15-17 March 2011

General Sessions: Tuesday-Wednesday, 15-16
 March 2011
 FOUO Sessions: Thursday, 17 March 2011

Day 1: Tuesday, 15 March 2011

Time	Course Description
7:30	Continental breakfast and registration begins
8:00	GPS Primer (optional) <ul style="list-style-type: none"> • What is GPS? • How does GPS work? • How you test with a simulator
8:50	Welcome and orientation
9:00	GNSS Program Updates <ul style="list-style-type: none"> • GPS status update • Industry developments for GLONASS, Galileo, QZSS, Compass • Overview of GLONASS plans including GLONASS M, GLONASS K and the migration to CDMA
9:30	Scenario Generation 1: GNSS Simulation Fundamentals <ul style="list-style-type: none"> • An introduction to basic simulation techniques • An introduction to creating GNSS simulation scenarios • Topics include scenario data and time, satellite constellation and vehicle motion
10:15	Break with refreshments
10:25	Scenario Generation 1 Workshop
11:15	Multiple GPS Signal and GNSS Constellation Testing <ul style="list-style-type: none"> • How to perform GPS, GLONASS and Galileo receiver testing • Testing with GPS codes and frequencies, including L1C, L2C and L5
12:00	SimSUPPORT <ul style="list-style-type: none"> • Introduction to the Spirent support website • Process of issue reporting including SR generation and repair • How software updates and new releases are distributed
12:30	Lunch on Tiffany Terrace and patio
1:30	Differential GPS and Augmentation Systems <ul style="list-style-type: none"> • How to simulate Differential GPS (DGPS) • Simulating Space Based Augmentation Systems (SBAS) • Simulating Ground Based Augmentation Systems (GBAS)
2:15	Scenario Generation 2: Building a Realistic Test Environment <ul style="list-style-type: none"> • Creating realistic values for simulation parameters • Topics include Multipath, Terrain Obscuration, and Antenna Patterns
3:00	Break with refreshments
3:10	Scenario Generation 2 Workshop
4:00	Simulator Specification Parameters <ul style="list-style-type: none"> • How Spirent specification values are determined • What do Spirent specification parameters mean operationally, such as inter-channel bias, inter-antenna bias, etc
4:45	Hands-On Open Lab
5:30	Social Event at 300 Anaheim, 321 W Katella Ave, Anaheim, CA

DAY 2: Wednesday, 16 March 2011

Time	Course Description
8:00	Continental breakfast
8:30	GNSS Testing Developments <ul style="list-style-type: none"> Review of Multi-GNSS Simulator advancements GSS6400 Record Playback System Roadmap for future capabilities
9:00	Scenario Generation 3: Capturing and Post Processing Data <ul style="list-style-type: none"> How to acquire and analyze GPS receiver data in simulations How to collect data via 1553 or RS-422 Using receiver data for post-processing
9:45	Break with refreshments
9:55	Scenario Generation 3 Workshop
10:45	Simulator Alignment and Diagnostics Demo <ul style="list-style-type: none"> How and when should alignment be performed What alignments are performed on new units before leaving the factory Why alignments are performed on upgraded units
11:30	Using STK with Spirent Simulators <ul style="list-style-type: none"> UMT generation by STK
12:30	Lunch on the Tiffany Terrace and patio
1:30	Simulating GPS/GNSS Anomalies <ul style="list-style-type: none"> Advanced techniques for applying satellite almanac, ephemeris and atmospheric errors Simulating SVN49 and other GPS anomalies Modeling Ionospheric Scintillation
2:15	Scenario Generation 4: Utilizing Remote Control and Motion <ul style="list-style-type: none"> Overview of how to use remote motion and User Motion files Using Data Streaming for remotely monitoring truth data Characterizing timing requirements and physical interfaces for remote operation
3:00	Break with refreshments
3:10	Scenario Generation 4 Workshop
4:00	Timing Considerations for Advanced Simulations <ul style="list-style-type: none"> Learn how sampling remote motion data at different rates impacts simulated position accuracy Performing hardware-in-the-loop (HWIL) testing with 250Hz data Find out how late or missing motion data affects simulation results How to choose appropriate update rates for simulations
4:45	Hands-On Open Lab

DAY 3: Thursday, 17 March 2011

Time	Course Description
7:45	Continental breakfast
8:00	GPS/Inertial Testing – FOUO* <ul style="list-style-type: none"> Embedded GPS/Inertial (EGI) testing Blended GPS and IMU testing
10:15	Break with refreshments
10:30	Anti-Interference Techniques – FOUO* <ul style="list-style-type: none"> Embedded jamming signal generation Controlled Reception Pattern Antenna (CRPA) Testing
11:30	GPS Modernization Testing – FOUO* <ul style="list-style-type: none"> Y-code simulation Selective Availability, Anti-Spoofing Module (SAASM) testing M-code simulation
12:30	Spinning / High Dynamic Simulation Testing – FOUO*
1:00	Lunch on the Tiffany Terrace and patio

*U.S. Citizens Only. Visit request required.

Please note that each session will incorporate a presentation along with some element of a workshop, and equipment will be available for hands-on use for the duration of the conference.