

# 2013 SINGLE-EVENT EFFECTS SYMPOSIUM AND MILITARY AND AEROSPACE PROGRAMMABLE LOGIC DEVICES ANNOUNCEMENT PRELIMINARY CALL FOR PAPERS

These meetings will be held from April 9-12, 2013 (Tuesday thru Friday) at the San Diego Marriott in La Jolla, CA. In 2013 these meetings will be combined at the same site over four days – one registration fee for two cutting-edge, relevant meetings. The Single-Event Effects (SEE) Symposium will be held from April 9-11 and Military and Aerospace Programmable Logic Devices (MAPLD) meeting from April 11-12. There will be a joint SEE/MAPLD technical session on the morning of April 11th. An industrial exhibit will be held on April 10th and the morning of April 11th. SEE Symposium presentations will address all aspects of single-event effects (SEE) in microelectronic and photonic devices, circuits, and systems. MAPLD presentations will explore the use of programmable devices for use in military and aerospace with an emphasis of proper operation in extreme conditions at high altitude and in space.

**Presentation submissions can be made to SEE Symposium, MAPLD, or to a special combined session.**

SEE Symposium	MAPLD
<b>Phenomena:</b> Upset, Transients, Latchup, Gate Rupture, Burnout, Destructive Effects in Bipolar Devices.	<b>FPGAs, PLD and New Devices:</b> New and/or novel FPGA, PLDs; Benchmarking of FPGAs, PLDs; Applications of spaceborne processing.
<b>Basic Mechanisms and Modeling:</b> Destructive and Non-Destructive Effects, Nanoscale Phenomena, Effect of Operating Speed, Charge Transport and Collection, Impact of Circuit and Environmental Parameters.	<b>Mitigation of Single event effects in PLDs, FPGAs, and commercial electronics:</b> Multi-level approaches for high reliability and fault tolerance (redundancy, TMR, SET filtering, etc.), SEU mitigation techniques and SEE automated tools.
<b>SEE Mitigation Methods Including Hardened by Design (HBD) and by Process:</b> Approaches for gaining SEE hardness in commercial devices.	<b>Designing with FPGAs and PLDs:</b> Agile methods, ESL/HLS and Model Based Engineering development techniques, embedded processing, and speeding up synthesis and PAR (NSF CHREC).
<b>Environments and Facilities:</b> Space, Atmospheric and Terrestrial environments. Heavy Ion, Proton, Neutron and Laser Test Facilities.	<b>Validation and Verification of FPGAs and PLDs:</b> Verification techniques and languages such as co-simulation, System Verilog and OVM/UVM. Simulation speed-up techniques, emulation, new tools and methods for design validation.
<b>Operational Regimes and Performance Data:</b> Systems and Devices at LEO to Geosynchronous and Beyond, High Altitude Aircraft, and Terrestrial.	<b>Reliability/Availability/Susceptibility of programmable devices:</b> Failure mechanisms, reliability testing and characterization, packaging reliability, reliable design practices.
<b>Electronic &amp; Photonic Device Data, Techniques, and Diagnostics:</b> Memories, Latches, Analog Circuits, Microprocessors, FPGAs, Optocouplers, DC to DC Converters, Sensors, Commercial and Hardened Components, Data Capture Methods, and Data Analysis.	<b>Novel Applications and Case Studies:</b> Reconfigurable computing, high-performance processing using programmable logic, successful deployment of programmable logic, novel applications and design studies.
<b>Systems:</b> Error Mitigation, Error Detection & Correction, Multi-core Processing, and Fault Tolerant Systems.	<b>Education:</b> Education practices, market demands for military and aerospace component engineers, and engineer retention.
<b>Event Rate Computation:</b> Analytic, Monte Carlo, Mixed-Level (Radiation Transport + SPICE, TCAD + SPICE, etc.)	<b>Technical Management of FPGAs and PLDs:</b> Technical leadership, process management and metrics.

For information on having an industrial exhibit please contact Teresa Farris: [Teresa.Farris@Aeroflex.com](mailto:Teresa.Farris@Aeroflex.com).

SEE Symposium and MAPLD are supported by the Aeroflex Corporation, the Aerospace Corporation, Brigham Young University, Lockheed Martin, the NASA Electronic Parts and Packaging Program, the Naval Research Laboratory, Sandia National Laboratories, and Vanderbilt University.

**REGISTRATION OPENS JANUARY 2, 2013**

**[http://radhome.gsfc.nasa.gov/radhome/see\\_mapld/](http://radhome.gsfc.nasa.gov/radhome/see_mapld/)**

The above URL includes information on the technical program, registration, the hotel, and industrial exhibits.

***1-page abstract submissions are due to the above URL by midnight local time on 02/15/2013***