SEE MAPLD Tuesday, August 31, 2021

PDT	EDT	Paris	Event	
6:30 AM	9:30 AM	3:30 PM	**Live – Opening Remarks, SEE and MAPLD Introductions** *Megan Casey, NASA/GSFC, Nadia Rezzak, Microsemi*	
6:45 AM	9:45 AM	3:45 PM	**Live – Session Introduction "Heavy Ion and Proton Facilities" & "On-Orbit Radiation Experiments"** *Rebekah Austin, NASA/GSFC*	
7:00 AM	10:00 AM	4:00 PM	***On-Demand Pre-Recorded Batch Release*** *(view in any order desired)*	
			Heavy Ion and Proton Facilities (6 Talks)	**On-Orbit Radiation Experiments (2 Talks)**
			Radiation Effects Testing with Protons in Knoxville, Tennessee, *Vladimir Derenchuk, ProNova Solutions*	**Data Analysis of a memory Single Event Effect experiment in Geostationary orbit,** *Christian Poivey, ESA*
			Challenges of Creating and Operating an SEE Testing Program at a Medical Proton Center *Steven Laub, Northwestern Medicine Proton Center*	
			ECR Ion Source Upgrades at the Cyclotron Institute at Texas A&M University, *Henry Clark, Cyclotron Institute at Texas A&M University*	**Implementation of a Radiation Detector Based on SRAM-based FPGAs on TAUSAT-1 Nano-satellite** *Eitan Keren, SOREQ NRC*
			Common Issues Surrounding Heavy Ion Test Facilities and Users, *Pepito Thelly, Texas A&M University*	
			The Use of High Energy Heavy Ion Facilities: A Perspective on Return on Investment (ROI), *Ken LaBel, SSAI/GSFC*	
			Proposed High Energy Effects Test Facility at Brookhaven National Laboratory, *Kevin Brown, Brookhaven National Laboratory*	
9:00 AM	12:00 PM	6:00 PM	**Pre-Recorded - Tutorial 1: Radiation Modeling and Effects on Electronic Devices with SPENVIS** *Erwin De Donder, Royal Belgian Institute for Space Aeronomy*	
9:17 AM	12:17 PM	6:17 PM	**Live – Tutorial 1 Q&A Session** with Erwin De Donder, *Moderated by Steve LaLumondiere*	
9:30 AM	12:30 PM	6:30 PM	**Exhibitor Break** (1 hour) Welcome our Exhibitors and Interact with Attendees in REMO Social Room	
10:30 AM	1:30 PM	7:30 PM	**Live – Session Introduction, "FPGAs/SoCs, PLDs, and New Devices" & "Environments"** *Tyler Lovelly, AFRL*	
10:45 AM	1:45 PM	7:45 PM	***On-Demand Pre-Recorded Batch Release*** *(view in any order desired)*	
			FPGAs/SoCs, PLDs, and New Devices (4 talks)	**Environments (4 talks)**
			Comparing A5 SEE Faults in Various Hardware, *Steve Guertin, NASA/JPL*	**NAIRAS Model Characterization of the LEO Environment for the Assessment of SEE Radiation Risks,** *Christopher Mertens, NASA/LaRC*
			CAES Space Memory Roadmap, *Anthony Jordan, CAES*	**An Assessment of Space Weather Architectures to Support Deep Space Exploration,** *Joseph Minow, NASA/MSFC*
			Xilinx Accelerated SEE Test Methodology for ISO-26262 Functional Safety Certification, *Yanran Chen, Xilinx*	**SIRE2 Toolkit Update,** *Zachary Robinson, 5th Gait Technologies*
			Preliminary Results from Single-Event Characterization of the 7nm Xilinx Versal ACAP in Heavy-Ion Irradiation, *David Lee, Sandia National Laboratories*	**Evaluating SEE Rate Prediction Methods for Complex Devices,** *Brian Sierawski, Vanderbilt University*
12:45 PM	3:45 PM	9:45 PM	**Pre-recorded: Tutorial 2: Radiation Induced Single-Event Effects: Experiences and Lessons Learned** *Steve Buchner, NRL*	
1:17 PM	4:17 PM	10:17 PM	**Live – Tutorial 2 Q&A Session** with Steve Buchner, *Moderated by Rebekah Austin*	
1:30 PM	4:30 PM	10:30 PM	**Live – Exhibitor Webinar Series,** *(20 Minute Parallel Timeslots)*	
			Radiation Hardened Plastic Products Lead the Charge into the Future of Space Grade Electronics, *Renesas*	**Triad Semiconductor RadHard Space Product Overview,** *Triad Semiconductor*
1:50 PM	4:50 PM	10:50 PM	**3D-Plus USA New Product Overview,** *3D-Plus USA*	**NEPP Program Activities Update,** *NASA Electronic Parts and Packaging Program*
2:10 PM	5:10 PM	11:10 PM	**Portfolio and Roadmap Updates,** *Apogee Semiconductor*	**Radiation Effects Analysis by Using NOVICE,** *EMPC*
2:30 PM	5:30 PM	11:30 PM	**Single Event Effect Facilities at BNL - (current and proposed),** *Brookhaven National Laboratory*	**Renesas RTG4 Reference Design,** *Renesas*
2:50 PM	5:50 PM	11:50 PM	**Using Columns versus Solder Balls to Extend Operating Life,** *TopLine*	**Crocker Nuclear Laboratory at UC Davis,** *Crocker Nuclear Laboratory*
3:10 PM	6:10 PM	12:10 AM	**Affordable Rad-hard Solutions for Any Size Project,** *Vorago Technologies*	
3:30 PM	6:30 PM	12:30 AM	**End of Events for Tuesday, August 31, 2021**	

PDT	EDT	Paris	Event	
6:30 AM	9:30 AM	3:30 PM	**Live – Morning Welcome and Announcements,** *Pierre Maillard, Xilinx*	
6:45 AM	9:45 AM	3:45 PM	**Live – Session Introduction "Laser and X-Ray Facilities and Guidelines" & "Learning and Development"** *Rebekah Austin, NASA/GSFC*	
7:00 AM	10:00 AM	4:00 PM	***On-Demand Pre-Recorded Batch Release*** *(view in any order desired)*	
			Laser and X-Ray Facilities and Guidelines (6 Talks)	**Learning and Development (3 Talks)**
			One and Two Photon Absorption Laser Scanning Test Facility with Fine Beam Motion and Temperature Control, *Li Chen, University of Saskatchewan*	**Training the Next-Generation Radiation Effects Test Engineer,** *Daniel Loveless, University of Tennessee at Chattanooga*
			SEE Testing Using A MOPAW Fiber Laser With A 1030 nm Emission, *Rez Mani, Allied Scientific Pro*	
			Development and Current Status of a Laser Test Guidelines Document, *Dale McMorrow, NRL*	**The RADNEXT Project: An International Network of Facilities for Electronics Irradiation,** *Matteo Cecchetto, CERN*
			The Evolution of Laser/Ion Correlation in Single-Event Effects, *Joel Hales, NRL*	
			Laser-Based Testing for Part Selection for Space Missions, *Dale McMorrow, NRL*	**NESC RHA Guidelines - Philosophy / Overview / Analysis,** *Ray Ladbury, NASA/GSFC*
			Angle Dependence of Focused X-Ray-Induced Single-Event Transients, *Kaitlyn Ryder, NASA/GSFC and Vanderbilt University*	
9:00 AM	12:00 PM	6:00 PM	**Live – Q&A for Tuesday's Heavy Ion and Proton Facilities Session,** *Moderated by Steve LaLumondiere*	
9:15 AM	12:15 PM	6:15 PM	**Live – Q&A for Tuesday's On-Orbit Radiation Experiment Session,** *Moderated by Rebekah Austin*	
9:30 AM	12:30 PM	6:30 PM	**Exhibitor Reception** (in REMO) 9:30 AM - 11:30 AM PDT, Welcome our 2021 Exhibitors! **At 10:15 AM PDT the following Social Activities will be open to attendees:** **Social Building:** Join tables to converse with other attendees on technical and fun topics! **Trivia Building:** Team up with fellow attendees to win! Limit of 6 people per team. Trivia MC: Jonny Pellish	
11:30 AM	2:30 PM	8:30 PM	**Live – Q&A for Tuesday's FPGAs, PLDs, and New Devices Session,** *Moderated by Tyler Lovelly*	
11:45 AM	2:45 PM	8:45 PM	**Live – Q&A for Tuesday's Environments Session,** *Moderated by Rebekah Austin*	
12:00 PM	3:00 PM	9:00 PM	**Live – Session Introduction "Radiation Hardness Assurance" & "FPGA Assurance"** *Steve LaLumondiere, The Aerospace Corporation*	
12:15 PM	3:15 PM	9:15 PM	***On-Demand Pre-Recorded Batch Release*** *(view in any order desired)*	
			Radiation Hardness Assurance Session (6 Talks)	**FPGA Assurance Session (4 Talks)**
			Propagating Single-Event Effects Across Levels of System Model Abstraction, *Chris Watkins, Vanderbilt University*	**Protecting Reconfigurable FPGAs from Malicious Bitstreams,** *Salam Zantout, The Aerospace Corporation*
			Radiation Testing in the Era of pLEO and COTS, *Scott Davis, The Aerospace Corporation*	**Patchable Hardware Security Module (PHaSM) for Extending FPGA Root-of-Trust Capabilities,** *Grant Skipper, Indiana University*
			Alternate Approach to Radiation Hardening to Mitigate SEE in SoCs Using Low-Cost Non-COTS Parts, *David Gifford, Vorago Technologies*	**Automatic Resynchronization of TMR-ed Asynchronous FIFOs,** *Patrick Fleming, Raytheon Technologies*
			Connecting Mission Profiles and Radiation Vulnerability Assessment, *Richard Nederlander, Vanderbilt University*	
			Model and Testing-Based Assurance of COTS Systems in Space Radiation Environments, *Peter Koncelik, Vanderbilt University*	**Post-Radiation Testing Fault Injection for FPGA RISC-V SOC System,** *Andrew Wilson, Brigham Young University*
			Smallsat Mission Assurance: Lessons Learned, Lessons Applied through Integration & Test, *Jeffrey Kelley, Blue Canyon Technologies*	
2:15 PM	5:15 PM	11:15 PM	**Live – Poster Session Introduction** *Martha O'Bryan, SSAI/GSFC*	
2:20 PM	5:20 PM	11:20 PM	**Poster Session (5 posters)** *(visit poster authors' Zoom Rooms during the session)*	
			Domestic U.S. Proton Access Status - Update for >200 MeV Sites, *Ken LaBel, SSAI/GSFC*	**Current State of Domestic Heavy Ion Test Facilities,** *Jonathan Pellish, NASA/GSFC*
			Mixed-Field and Heavy Ion Irradiations at the CHARM Facility, *Matteo Cecchetto, CERN*	**28nm FD-SOI FPGA TID Tolerance,** *Jim Tavacoli, Lattice Semiconductor*
			SEE Characterization of the UT54LVDS454 LVDS 1.25Gb/s Repeater, *Aaron Turnbull, CAES*	
3:45 PM	6:45 PM	12:45 AM	**End of Events for Wednesday, September 1, 2021**	

SEE MAPLD Thursday, September 2, 2021

PDT	EDT	Paris	Event	
6:30 AM	9:30 AM	3:30 PM	**Live – Morning Welcome and Announcements,** *Megan Casey, NASA/GSFC*	
6:45 AM	9:45 AM	3:45 PM	**Live – Session Introduction "Artificial Intelligence and Machine Learning" & "Designing with FPGAs"** *Tyler Lovelly, AFRL*	
7:00 AM	10:00 AM	4:00 PM	***On-Demand Pre-Recorded Batch Release*** *(view in any order desired)*	
			Artificial Intelligence and Machine Learning (4 Talks)	**Designing with FPGAs (5 Talks)**
			Towards AI-Based Mitigation of SEE, *Daniel Loveless, University of Tennessee at Chattanooga*	**Design and Simulation of Bitcoin Mining and Implementation of the Zybo Z7-20 FPGA,** *Mohamed El-Hadedy, California Polytechnic University*
			Using Machine Learning to Calculate Proton Cross-Sections from Heavy-Ion Data, *David Hansen, Space Micro*	**Reco-GAGE: A Reconfigurable Lightweight GAGE Hash Function Engine for IoT Devices,** *Mohamed El-Hadedy, California Polytechnic University*
			Machine Learning-based EEG Data for Autonomous Weapons: Preliminary Study, *Lucien Ngalamou, Lewis University*	**A Reconfigurable SP-SVPWM for DC to AC Conversion,** *Lucien Ngalamou, Lewis University*
			HPCB High Performance Compute Board: A Fault-Tolerant Module for On-board Vision Processing *Joaquin Espana-Navarro, Cobham Gaisler*	**Approaches for FPGA Design Assurance,** *Jeff Goeders, Brigham Young University*
				Enabling New Applications on Mars through Reconfigurable Coprocessing, *Jim Butler, NASA/JPL*
9:00 AM	12:00 PM	6:00 PM	**Live - Q&A for Wednesday's Laser and X-Ray Facilities and Testing Session,** *Moderated by Steve LaLumondiere*	
9:15 AM	12:15 PM	6:15 PM	**Live - Q&A for Wednesday's Learning and Development Session***, Moderated by Rebekah Austin*	
9:30 AM	12:30 PM	6:30 PM	**Exhibitor Break** (30 mins, in REMO)	
10:00 AM	1:00 PM	7:00 PM	**Live – Invited Talk 1: "Driving Space Environment Research and Education via a New Paradigm",** *Tamitha Skov, Millersville University*	
10:45 AM	1:45 PM	7:45 PM	**Live – Q&A for Invited Talk 1,** *with Tamitha Skov,* **Moderated by Steve LaLumondiere**	
11:00 AM	2:00 PM	8:00 PM	**Exhibitor Break** (1 hour, in REMO)	
12:00 PM	3:00 PM	9:00 PM	**Live – Q&A for Wednesday's Radiation Hardness Assurance Session,** *Moderated by Steve LaLumondiere*	
12:15 PM	3:15 PM	9:15 PM	**Live – Q&A for Wednesday's FPGA Assurance Session,** *Moderated by Tyler Lovelly*	
12:30 PM	3:30 PM	9:30 PM	**Pre-Recorded - Invited Talk 2: "End Point AI for MIL-AERO"** *Kevin Morris, Techfocus Media*	
1:15 PM	4:15 PM	10:15 PM	**Live – Q&A for Invited Talk 2,** *with Kevin Morris, Moderated by Ken LaBel*	
1:30 PM	4:30 PM	10:30 PM	**Live – Q&A for Today's Artificial Intelligence and Machine Learning Session,** *Moderated by Tyler Lovelly*	
1:45 PM	4:45 PM	10:45 PM	**Live – Panel Discussion: NESC RHA Guidelines - Testing/TAMU Bootcamp Testing** Panelists: Michael Campola, NASA/GSFC; Greg Allen, NASA/JPL; Henry Clark, Cyclotron Inst. at TAMU *Moderated by Rebekah Austin*	
2:30 PM	5:30 PM	11:30 PM	**Live – Exhibitor Webinar Series,** *(20 Minute Parallel Timeslots)*	
			Radiation Effects Testing at Provision Center for Proton Therapy located in Knoxville, TN, *ProNova Solutions*	**RadHard ASIC Future Flexibility,** *Flex Logix*
2:50 PM	5:50 PM	11:50 PM	**New Frontiers in Applied Non-Von Neumann Computing for Aerospace,** *GSI Technology*	
3:10 PM	6:10 PM	12:10 PM	**Live – Q&A for Today's Designing with FPGAs Session,** *Moderated by Tyler Lovelly*	
3:30 PM	6:30 PM	12:30 AM	**End of Events for Thursday, September 2, 2021** **Registered Attendees may review all materials on-demand through November 30th, 2021**	