

NASA Electronic Parts and Packaging (NEPP) Program 2023 Electronics Technology Workshop Program

Monday, June 12, 2023					
Time (EDT)	Length (min)	Topic	Title	Speaker(s)	Org(s)
9:00 AM	30	NEPP Overview	The State of NEPP NASA Electronic Parts & Packaging Program	Pete Majewicz	NEPP
9:30 AM	20	EEEE Parts Manager Overview	NASA EEEE Parts Management - Overview and Status	Susana Douglas	GSFC
9:50 AM	25	OSMA Invited Talk	Advancing Supply Chain Risk Management to Assure Mission Success	Valle Kauniste, Jonathan Root	JSC, GSFC
10:15 AM	15	Break (15 Minutes)			
10:30 AM	30	Keynote Speaker	CHIPS: An Unprecedented Opportunity, What This Program Means	Michael Fritze	Trusted Strategic Solutions, LLC
11:00 AM	20	Invited Talk	NESC Avionics EEE CoP Studies	Dr. Robert Hodson	LaRC
11:20 AM	20	NEPP Working Groups	NASA Electronic Parts Assurance Group (NEPAG)	Shri Agarwal	JPL
11:40 AM	90	Lunch (1.5 Hours)			
1:10 PM	20	NEPP Working Groups	Government Working Group (GWG) Update	Christian Schuler, Carol Putman	NSWC Crane, MSFC
1:30 PM	20		Hybrid Working Group (HWG) and MIL-PRF-38534 Updates	John Pandolf	LaRC
1:50 PM	20	MIL-SPEC Activities	Update on Test Method 1082 - Single-Event Burnout for Silicon Schottky Diodes	Megan Casey	GSFC
2:10 PM	20		Development of Consensus Standards to Support IGA Analysis of Microelectronic Packages	Karl Rink	Rink International, LLC
2:30 PM	20	Failure Analysis	IGA Database - Organizing IGA Data To See Trends	Tareq Uddin, Lyudmyla Ochs	GSFC
2:50 PM	20		Long-Term Tin Whisker Risk Mitigation using a Conformal Coating	Tristan Epp Schmidt, Lyudmyla Ochs	GSFC
3:10 PM	15	Break (15 Minutes)			
3:25 PM	20	Failure Analysis	Fracture Mechanics in Electronic Parts - Testing Update	Shri Agarwal, Nazia Ovee	JPL
3:45 PM	20		Ceramic Capacitor Grain Size Analysis Using Electron Backscatter Diffraction	Susana Douglas	GSFC
4:05 PM	25		NESC Copper Wire Bond Study	Linda Del Castillo	JPL
4:30 PM	20	Workforce Development	Texas A&M Single Event Effects Bootcamp 3.0	Michael Campola, Greg Allen	GSFC, JPL
4:50 PM	20		NEPP Parts Engineering School	Shri Agarwal, Seth Gordon	JPL
5:10 PM	End of Sessions for Monday				

2023 NEPP ETW Agenda (Cont.)

Tuesday, June 13, 2023					
Time (EDT)	Length (min)	Topic	Title	Speaker(s)	Org(s)
9:00 AM	20	Radiation Policy / Methodology / Tools / Facilities	NASA Radiation Hardness Assurance (RHA) Standard: Status for 2023	Razvan Gaza	JSC
9:20 AM	20		Standardized Approach to Using High-Energy Heavy Ions for SEE Assurance	Farokh Irom	JPL
9:40 AM	20		Including Survivors in Probabilistic TID Failure Assessment	Chloe Champagne	Vanderbilt University
10:00 AM	20		RHA for Photodetectors and Image Sensors: Development of a Test Guideline	Alexandre LeRoch	GSFC
10:20 AM	15	Break (15 Minutes)			
10:35 AM	20	Radiation Policy / Methodology / Tools / Facilities	Department Test Infrastructure Refresh for Nuclear Modernization: Microelectronics Test & Evaluation	Michael Stapleton	TRMC
10:55 AM	20		Pulsed Laser Testing Guidelines	Dale McMorrow, Greg Allen	NRL, JPL
11:15 AM	20		A RHA Approach for Commercial Power FETs Exhibiting Single Event Induced Microbreaks	Greg Allen	JPL
11:35 AM	20	Wide Band Gap	Wide Band Gap and Power Device Testing Update	Jason Osheroff	GSFC
11:55 AM	90	Lunch (1.5 Hours)			
1:25 PM	20	Wide Band Gap	Development of SEB-Immune High Voltage SiC Power Devices for Lunar Applications	Art Witulski, Arijit Sengupta	Vanderbilt University
1:45 PM	20		GaN Reliability Testing Update	Kristen Boomer	GRC
2:05 PM	20	Packaging Reliability	BGA Guidelines Update	Reza Ghaffarian	JPL
2:25 PM	20		Assembly Level HALT/HASS - Lessons Learned	Reza Ghaffarian	JPL
2:45 PM	25		PEMS and Delamination Issues	Sultan Lilani	Integra
3:10 PM	20		NESC Avionics Packaging Assessment, Avionics Mechanical Packaging Processes and Best Practices	Beth Paquette, Carmel Conaty	GSFC
3:30 PM	15	Break (15 Minutes)			
3:45 PM	20	Additive Manufacturing / Advanced Packaging / Photonic Integrated Circuits	Printed Hybrid Electronics (PHE) in a Flight Environment: 3D Printed Electronics on Suborbital Technology Experiment Carrier 9 (SubTEC-9)	Beth Paquette, Jason Fleischer	GSFC, LPS
4:05 PM	25		2.5/3D Product Development – Challenges and Status	Eric Suh	JPL
4:30 PM	40		EPICA, an NSF IUCRC: Harsh Environment Testing, Validation and Understanding of Silicon Photonics	Kellen P. Arnold / Robert Reed; Joel Slaby / Stephen E. Ralph	Vanderbilt; GA Tech
5:10 PM	25		Status and Update of 3D Heterogenous Integration Technology	Robert Patti	Nhanced Semiconductors, Inc.
5:35 PM	End of Sessions for Tuesday				

2023 NEPP ETW Agenda (Cont.)

Wednesday, June 14, 2023					
Time (EDT)	Length (min)	Topic	Title	Speaker(s)	Org(s)
9:00 AM	20	Processors, FPGAs, Memories	Processor Enclave Update	Ed Wyrwas, Steve Guertin	SSAI/GSFC, JPL
9:20 AM	20		Systems-Focused Analyses of Flash Memory Data Loss Mechanisms	Ted Wilcox	GSFC
9:40 AM	20		ARM & RISC-V Processor Radiation Characterization Update	Steve Guertin	JPL
10:00 AM	30		Update on NEPP SEE FPGA Test and Analysis Featuring: The Lattice Avant TSMC 16 nm FinFet, The Xilinx TSMC 7nm Versal AIE Core, and Fluence to Failure Applied Methodologies	Melanie Berg	SSAI/GSFC
10:30 AM	15	Break (15 Minutes)			
10:45 AM	20	SmallSat and System Level / Model-Based Mission Assurance	SmallSat Mission Assurance: Annual Checkup and New Models	Michael Swartwout	SLU
11:05 AM	15		NASA LEARN Forum	Luis Santos	GSFC
11:20 AM	25		Lunar Surface Instrument Parts and Radiation Challenges	Rebekah Austin	GSFC
11:45 AM	25		Biosentinel System Level Radiation Mitigation	Shang Wu	ARC
12:10 PM	90	Lunch (1.5 Hours)			
1:40 PM	25	COTS	NESC COTS Phase II & ILPM Pathfinder	Yuan Chen, Susana Douglas	LaRC, GSFC
2:05 PM	25		Qualcomm Snapdragon and the NESC Guidelines	Doug Sheldon	JPL
2:20 PM	25		Lessons Learned From Using Commercial Wafers	Ben Mendoza	Golden Altos
2:45 PM	25		Update on Radiation Testing of Electronic Display Technologies	Landen Ryder	GSFC
3:10 PM	15	Break (15 Minutes)			
3:25 PM	20	Passives (Capacitors, Resistors, Connectors)	NEPP Automotive Grade Resistor Study	Linh Le, Zainab Abdullahi	SSAI/GSFC, GSFC
3:45 PM	25		New Passives for Space Hermetic Al Electrolytic Capacitors	Linda del Castillo, Alexander Teverovsky	JPL, Jacobs/GSFC
4:10 PM	30		Updates on Capacitors' Tasks	Alexander Teverovsky	Jacobs/GSFC
4:40 PM	20		Surge Current Withstanding Resistor Replacement for ER Carbon Composition	Bruce Meinhold, Kellan McCarthy	SSAI/GSFC
5:00 PM	20		WL Gore Wire Insulation Radiation Study	Joe Rosol, Jonathan Brodt	Genesis/GSFC, GSFC
5:20 PM	End of Sessions for Wednesday				

2023 NEPP ETW Agenda (Cont.)

Thursday, June 15, 2023					
Time (EDT)	Length (min)	Topic	Title	Speaker(s)	Org(s)
9:00 AM	60	Training / Tutorials	Guidelines for Testing of Polymer Tantalum Capacitors	Alexander Teverovsky	Jacobs/GSFC
10:00 AM	45		Statistical Interpretation of Life Test: Comparison Between MIL and JEDEC Requirements	Yuan Chen	LaRC
10:45 AM	15	Break (15 Minutes)			
11:00 AM	60	Training / Tutorials	Automotive Product Performance Approval Process (PPAP)	Carlton Faller	JSC
12:00 PM	End of Sessions for Thursday and Conclusion of the 2023 ETW				