

NEPP Electronics Technology Workshop Program (ETW)

Monday, June 3, 2024

Time (EDT)	Length (min)	Topic	Title	Speaker(s)	Org(s)
8:00 AM	30	NEPP Overview	State of the NEPP Program and NASA EEEE Parts Standards	Pete Majewicz	NASA GSFC
8:30 AM	20	EEEE Parts Manager Overview	The Pursuit of a Parts Evaluation and Assessment Laboratory (PEAL) to Support Future NASA Missions	Susana Douglas	NASA GSFC
8:50 AM	20	Invited Talk	RMA: Physics of Failure (PoF) Handbook Update	Nancy Lindsey	NASA GSFC
9:10 AM	30	Keynote Speaker	Exploring Connections Between Microelectronics and Space Policy	Jonathan (Jonny) Pellish	NASA GSFC
9:40 AM	Break (15 Minutes)				
9:55 AM	20	NEPP Working Groups	NASA Electronic Parts Assurance Group (NEPAG)	Shri Agarwal	JPL
10:15 AM	20		Government Working Group (GWG) Activities Update	Christian Schuler, Carol Putman	NSWC Crane, NASA MSFC
10:35 AM	20		Hybrid Working Group (HWG) Status Update - MIL-PRF-38534 Related Topics & Hybrid Microcircuits Recent Concerns	John Pandolf	NASA LaRC
10:55 AM	20		ESD and Electronic Parts	Shri Agarwal	JPL
11:15 AM	Lunch (1 Hour, 20 Mins)				
12:35 PM	5	MIL-SPEC Activities	Session Introduction	Carol Putman	NASA MSFC
12:40 PM	20		MIL-PRF-32700 T-Level Development	Adam Sens	Boeing
1:00 PM	20		Improving Alignment Between MIL-PRF-38534/MIL-PRF-38535/MIL-STD-883	Paul Nixon	BAE Systems
1:20 PM	20		MIL-PRF-ATM Advanced Packaging	Eli Minson	Maxar
1:40 PM	20		MIL-STD Hermeticity IGA Test	Brandon Hirsch	NSWC Crane
2:00 PM	5	Failure Analysis	Session Introduction	Lyudmyla Ochs	NASA GSFC
2:05 PM	20		Isolating Integrated Circuit Electrical Damage	Eric Galloway	SSAI GSFC
2:25 PM	20		Failure Analysis on Avionics Systems	Elizabeth Barrios	NASA MSFC
2:45 PM	Break (15 Minutes)				
3:00 PM	20	Failure Analysis	Failure Analysis Case Studies with Computed Tomography X-Ray	John Bescup	JPL
3:20 PM	25		Root Cause Analyses of Part Failures at Assembly Level	Reza Ghaffarian	JPL
3:45 PM	25		Invited Talk: Evaluation of Surface Mount Technology Reliability of Aerosol-Jet Printed Structures as Landing Pads for Surface Mounted Devices	Jesse Singer, Eddie Quinn	DoD
4:10 PM	15	Workforce Development	NASA Workforce Development Efforts and Parts Engineering School Update	Seth Gordon	NASA GSFC
4:25 PM	15		Texas A&M Single Event Effects Bootcamp 3.0	Michael Campola	NASA GSFC
4:40 PM	55		Panel: NASA Parts Engineering School Program Panel: NASA Parts Engineering School Program Seth Gordon (JPL), Moderator Panelists: Dr. Ali Gordon (UCF) Dr. Sa'd Hamasha (Auburn) Dr. Francis McCluskey (Maryland) John Evans (NASA Headquarters) Alfonso Ortiz (MDA) Art McClellan (Aerospace)		
5:35 PM	End of Sessions for Monday				

NEPP Electronics Technology Workshop Program (ETW)

Tuesday, June 4, 2024

Time (EDT)	Length (min)	Topic	Title	Speaker(s)	Org(s)
8:00 AM	5	Radiation Policy / Methodology / Tools / Facilities	Session Introduction	Ken LaBel	SSAI GSFC
8:05 AM	20		NASA Radiation Hardness Assurance (RHA) Standard for Space Flight Hardware: Status Update	Razvan Gaza	NASA JSC
8:25 AM	20		MIL-STD-750/883 TM 1019 - Radiation Testing/TID Guideline (HDR and LDR Test Methods)	Tom Turflinger, Nick Van Vonno	Aerospace, Renesas
8:45 AM	20		Bounding SEL Threshold Using Saturation Cross-Section Data	Ray Ladbury	GSFC
9:05 AM	20		The Rise of Commercial LASER SEE Test Systems and Considerations Thereof	Justin Likar, Greg Allen	JHU APL, JPL
9:25 AM	20		Radiation Hardness Assurance Tool Suite Status	Brian Sierawski, Chloe Champagne	Vanderbilt University
9:45 AM	Break (15 Minutes)				
10:00 AM	20	Radiation Policy / Methodology / Tools / Facilities	Radiation Test Facility Updates	Jonathan Ahlbin or designee	MDA
10:20 AM	20		European SEE Facility Landscape and Prospects Through the RADNEXT and HEARTS Projects	Ruben Garcia Alia	CERN
10:40 AM	20		The DARPA ASSERT Program: Developing Alternatives to Heavy-Ion SEE Testing	Julian McMorro	DARPA
11:00 AM	20		Particle Transport and Challenges Associated with Heavy Ion SEE Testing of 3DHI Systems	Justin Likar	JHU APL
11:20 AM	25	Advanced Packaging / Packaging Reliability	Advanced Packaging Status and Reliability	Eric Suh	JPL
11:45 AM	Lunch (1 Hour, 20 Mins)				
1:05 PM	20	Advanced Packaging / Packaging Reliability	Needs and Dilemmas Around Advanced Packaging for MIL/Space Applications	Jeff Fitzgerald	BAE Systems
1:25 PM	25		Snapdragon Co-Processor Packaging	Joe Riendeau	JPL
1:50 PM	25		Fracture Mechanics, Large Ball Grid Array (BGA)	Reza Ghaffarian	JPL
2:15 PM	25		HALT/HASS for Class P Reliability Evaluation	Reza Ghaffarian	JPL
2:40 PM	20	Photonics / Photonic Integrated Circuits	Updates on Photonics for Spaceflight	Hali Flores	NASA GSFC
3:00 PM	20		SAE CE-12 Photonic Integrated Circuit Working Group	Amanda Bozovich	JPL
3:20 PM	20		Optoelectronic Component Testing Overview	Dillon Johnstone, Joe Thomes	SSAI, NASA GSFC
3:40 PM	Break (15 Minutes)				
3:55 PM	20	Photonics / Photonic Integrated Circuits	Evaluating Reliability of Optical Switches	Alireza Azizi	JPL
4:15 PM	20		Designing a Reliable Display Architecture for Lunar Operations	Seth Roffe	NASA GSFC
4:35 PM	20	SmallSat / Model-Based Mission Assurance	SmallSat State of the Art Report Advanced Avionics Section Updates	Rebekah Austin	NASA GSFC
4:55 PM	20		Systematic CubeSat Radiation Hardening Assurance Using the SEAM Platforms	Dr. Art Witulski	Vanderbilt University
5:15 PM	20		Invited Talk: Building Ontologies for AI-Integrated Prognostic Health Management of Spacecraft Avionics	Michael Halverson	Alabama CubeSat Initiative
5:35 PM	End of Sessions for Tuesday				

NEPP Electronics Technology Workshop Program (ETW)

Wednesday, June 5, 2024

Time (EDT)	Length (min)	Topic	Title	Speaker(s)	Org(s)
8:00 AM	10	Processors, FPGAs, Memories	Session Intro & FPGA Test Plans	Megan Casey	NASA GSFC
8:10 AM	15		Processor Enclave: Technology Road Mapping	Ed Wyrwas, Steve Guertin	JPL, SSAI GSFC
8:25 AM	15		RISC-V and DDR4 SEE Testing Update	Steve Guertin	JPL
8:40 AM	25		Alternate-Grade SSD Radiation Testing	Ted Wilcox	NASA GSFC
9:05 AM	20		Initial SEE Test Results of the Sakura-I ML/AI Accelerator	Seth Roffe	NASA GSFC
9:25 AM	20		Invited Talk: Aerospace Radiation Testing of Advanced Commercial Processors	Jennifer Taggart	Aerospace
9:45 AM	Break (15 Minutes)				
10:00 AM	20	Processors, FPGAs, Memories	Invited Talk: Jetson (INTREPID) Radiation Test Results and RHA Memory Programs	Windy Slater	AFRL
10:20 AM	10	Wide Band Gap	Wide Band Gap and Power Devices Radiation Updates	Jason Osheroff	NASA GSFC
10:30 AM	25		Understanding Single-Event Effects in Silicon Carbide High Voltage Power Devices for Lunar Exploration	Dr. Art Witulski	Vanderbilt University
10:55 AM	20		Joint SAE/JEDEC GaN Power Device Working Group	Rod de Leon	Boeing
11:15 AM	20		Collaborative Evaluation of GaN FET Reliability	Chris Tiu (GSFC) / Kristen Boomer (GRC) / Toren Hobbs (MSFC)	NASA MSFC
11:35 AM	20		Qualifying Commercial MOSFETs On The Edge: The Cost of Performance over Best Practice	Jean-Marie Lauenstein	NASA GSFC
11:55 AM	Lunch (1 Hour, 20 Mins)				
1:15 PM	25	Special Talk	Using SiGe Electronics for Lunar Surface and Ocean World Missions	Linda Del Castillo, John Cressler	JPL, GA Tech
1:40 PM	20	COTS	Session Intro & NEPP ILPM Pathfinder Update	Susana Douglas	NASA GSFC
2:00 PM	30		Invited Talk: Commodity Quality Checklists (CQCL): Lessons Learned from an Automotive Tier 1 Supplier	Luisa Scarcione	Marelli
2:30 PM	20		COTS Electronics for Space, Building an Enterprise Strategy	Brian Kosinski	Aerospace
2:50 PM	20		Invited Talk: TBD	John Scarpulla	Aerospace
3:10 PM	25		Invited Talk: Testing of Advanced Microcircuits and SPC-Limit Setting Methodology	Sultan Lilani	Integra
3:35 PM	Break (15 Minutes)				
3:50 PM	5	Passives (Capacitors, Resistors, Connectors)	Session Introduction	Chris Tiu	NASA GSFC
3:55 PM	20		Evaluation of Automotive Grade Resistors for Space Flight	Zainab Abdullahi, Tristan Epp-Schmidt	NASA GSFC
4:15 PM	25		Evaluation of Aluminum Polymer Capacitors for Space Applications	Alexander Teverovsky	Jacobs GSFC
4:40 PM	20		Polymer Tantalum Chip Capacitors and the ACC Phenomena	Jonathan Voelm	Aerospace
5:00 PM	15		Spring-Loaded Solderless Interconnects	Joe Rosol	Genesis GSFC
5:15 PM	20		Compliant Pin Reliability for Space	TBD	TBD
5:35 PM	End of Sessions for Wednesday				

NEPP Electronics Technology Workshop Program (ETW)

Thursday, June 6, 2024

Time (EDT)	Length (min)	Topic	Title	Speaker(s)	Org(s)
8:00 AM	105	Training / Tutorials	High Volume Parts Manufacturing	Mark Porter	JPL
9:45 AM	Break (15 Minutes)				
10:00 AM	60	Training / Tutorials	High Volume Microcircuit Defect Prevention	Mark Porter	JPL
11:00 AM	60		Parts Engineering – Designing with COTS	Mark Porter	JPL
12:00 PM	End of Sessions for Thursday / End of 2024 NEPP ETW				