



NEPP Processors, FPGAs, and Memories Efforts

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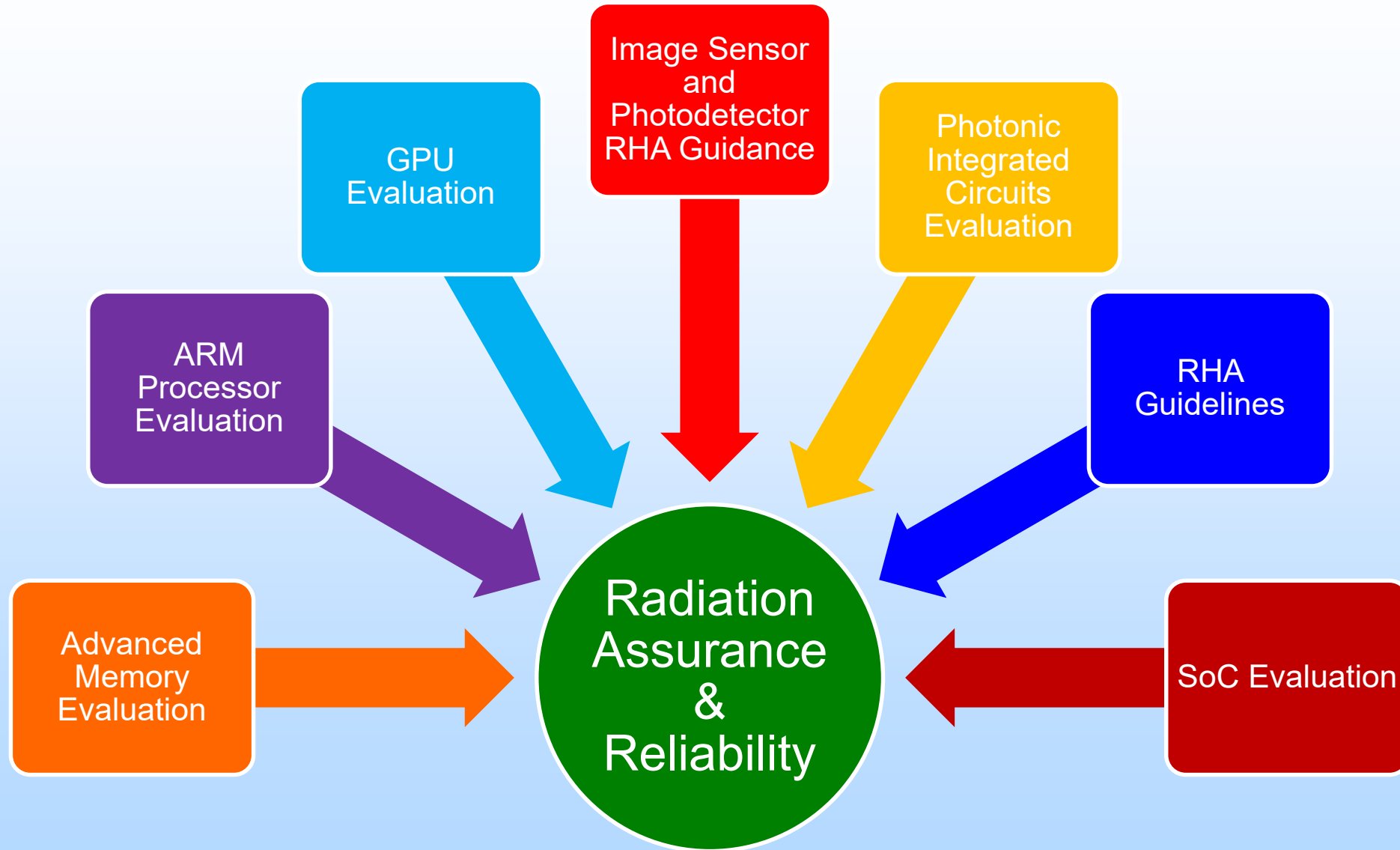
Acronyms



- **ARM: Advanced RISC Machines**
- **FPGA: Field-Programmable Gate Array**
- **GPU: Graphical Processing Unit**
- **MBMA: Model-Based Mission Assurance**
- **NEPP: NASA Electronics and Packaging Program**
- **OSMA: Office of Safety and Mission Assurance**
- **RHA: Radiation Hardness Assurance**
- **SoC: System-on-Chip**



NEPP Program (OSMA) – Radiation Work



Processors, FPGAs, and Memories Talks



Time (EDT)	Wednesday 6/16/2021	
10:00 AM	Processors, FPGAs, Memories	Session Overview Megan Casey (GSFC)
10:15 AM		Scaled CMOS Radiation Reliability Update Megan Casey (GSFC)
10:30 AM		NEPP Processor Enclave - Partnerships and GitLab across the Agency Ed Wyrwas (GSFC/SSAI), Steve Guertin (JPL)
10:45 AM		
11:00 AM		Non-Volatile Memory Radiation Update Ted Wilcox (GSFC)
11:15 AM		A Monte Carlo-Based Analysis of Radiation Effects Mechanisms in 3D NAND Memories Matthew Breeding (VU)
11:30 AM		NEPP 2021 FPGA Radiation Effects Update: Microchip PolarFire (Single Event Effects) and Lattice Crosslink (Single Event Effects and Total Ionizing Dose) Melanie Berg (GSFC/SSAI)
11:45 AM		
12:00 PM		Extending A Probabilistic Method for Total Ionizing Dose Failure to Multi-Component Systems Chloe Champagne (VU)
12:15 PM		Model- And Testing-Based Assurance Of Cache Memory Of A Single-Board Computing System In Radiation Environments Mahmud Reaz(VU)
12:30 PM	Evaluating SEE Rate Prediction Methods for Complex Devices Brian Sierawski (VU)	

New Technologies

GPUs and SoCs

Advanced Memory

Advanced Memory

FPGAs

Modeling

Modeling

Modeling