

Monday, December 9th				
Central Time Zone				
Start Time	End Time	Title	Facilitator/Speaker	Organization
7:00a	8:45a	Registration and Continental Breakfast		
8:45a	9:00a	Welcome and Introductions		
		Technical Sessions		
9:00a	9:25a	Benefits and Challenges using Linux in Space	Patrick Saenz, Robert Klar	
9:25a	9:50a	An Implementation of cFS for FreeRTOS	J.C. Brandenburg	
9:50a	10:15a	RTEMS Status and Roadmap	Joel Sherrill	OAR Corp (Workshop Sponsor)
10:15a	10:30a	BREAK		
10:30a	10:55a	Next Generation Processor Models and Architectures	Daniel Hellstrom, Jan Andersson	
10:55a	11:30a	SmartSat Flight Software	Josh Davidson	
11:30a	12:00p	Designing Satellite Systems for Cyber Security	Alexandra Clifford	
12:00p	1:00p	LUNCH		
1:00p	2:00p	KEYNOTE	Steve Miley Tia Ferguson	NASA MSFC
2:00p	2:25p	BREAK		
2:25p	2:50p	Results from a Bundle Protocol Flight Implementation	Jonathan Wilmot	
2:50p	3:15p	Applications of ML/DL by NASA IMPACT	Brian Freitag, Muthukumaran Ramasubramanian, Aaron Kaulfus, Ashish Acharya, Iksha Gurung, Katrina Virts (presenter), Drew Bollinger, Manil Maskey, Rahul Ramachandran	
3:15p	3:30p	BREAK		
3:30p	3:55p	NASA High Performance Space Computing (HPSC) RTEMS Support	Kinsey Moore, Joel Sherrill	
3:55p	4:20p	High Performance Spacecraft Computing Middleware Project Update	Alan Cudmore	
4:20p	4:45p	Meeting Performance Needs in Safety Critical Multicore Systems	Gary Gilliland	
4:45p	5:10p			
6:00p	7:30p	Dinner @ Yellowhammer Brewing (located at Campus 805; everyone pays for themselves)		

Tuesday, December 10th				
Central Time Zone				
Start Time	End Time	Title	Facilitator/Speaker	Organization
7:00a	8:00a	Continental Breakfast		
8:00a	9:00a	KEYNOTE	Eric Berger	Ars Technica
Technical Sessions				
9:00a	9:25a	Odyssey Space Reasearch, LLC Examples of cFS Deployments	Allen Brown	
9:25a	9:50a	Software Framework for Implementation of ROS Applications into cFS	Hiroki Kato (JAXA), Tatsuhiko Saito (JAXA), Shinobu Kawaguchi (Systems Engineering Consultants Co., LTD.)	
9:50a	10:15a	SLS Risk Reduction through Rapid Prototyping and Modeling of Mission and Fault Management Algorithms	Peter Berg, Sam Garcia	
10:15a	10:30a	BREAK		
10:30a	10:55a	Assessing Core Flight System as Architecture for the Mars Ascent Vehicle Flight Software	Stefanie Justice	
10:55a	11:20a	Formal Methods and UAV Control: SPARK, Ada, and the OpenUxAS Project	M. Anthony Aiello (presented by Stephen Baird)	AdaCore (Workshop Sponsor)
11:20a	11:45a	Git Submodule Abstraction – Configuration Management for Component-Based Flight Software Archi	Chris Monaco	
11:45a	12:00p	Lessons Learned Delivering Software Built in Rust	William L. Van Besien, Benjamin Ferris	
12:00p	1:00p	LUNCH - RTEMS Lunch & Learn (RTEMS Panel) hosted by OAR (location is Art Room; requires sign-up) Grab your lunch and join us in the Art Room for discussion		
1:00p	1:25p	End-To-End Flight Algorithm Development And Testing: Transitioning From Desktop Prototyping to Embedded Testing	Mar Cols-Margenet, Hanspeter Schaub, and Scott Piggott	
1:25p	1:50p	Time-Triggered Ethernet Network Development, Environment for Cislunar Gateway	Stefan Wernitznigg, Matthew Sweeney	TTTech (Workshop Sponsor)
1:50p	2:15p	Applying F Prime Flight Sftware Framework for Lunar Flashlight and Near-Earth Asteroid (NEA) Scout Cubesats	Aadil Rizvi, Kevin F. Ortega	
2:15p	2:30p	BREAK		
2:30p	4:30p	- Marshall Tour (requires sign-up) - Raspberry Pi / cFS Hands-On Session (Art Room, sign-up)	Concurrent with the MSFC tour	
2:30p	4:30p	cFS Program Q&A Panel	Concurrent with the MSFC tour	GSFC
6:00p	8:00p	Retro Video Game Tournament at Pints and Pixels (hosted by OAR Corporation; requires sign-up) 2 free drink tickets plus tokens to compete in fun tournament including PacMan, Donkey Kong, Galaga, and Frogger. Food will be available for purchase.		
7:00p	8:30p	Bourbon Tasting (requires sign-up)		

Wednesday, December 11th				
Central Time Zone				
Start Time	End Time	Title	Facilitator/Speaker	Organization
7:00a	8:00a	Continental Breakfast		
8:00a	9:00a	KEYNOTE	Larry Leopard	NASA MSFC
Technical Sessions				
9:00a	9:25a	Real-Time Hardware-in-the-Loop Simulation and Test Conductor Platforms	Ashley R. Lee and Jared T. Wilson of NASA; Dr. Pat A. Tobbe of Dynamic Concepts Inc.	
9:25a	9:50a	FPGA-Instantiated Processor-in-the-Loop for FSW Development	Luis M. Rodriguez, Christopher Heistand, Justin R. Thomas, Andrew R. Badger, Lee R. Varanyak, Nigel H. Tzeng, Dmitriy L. Bekker, David J. Edell, Amy L. Alford, Jacob Firer, Andrew J. Harris, Stephen N. Jenkins	
9:50a	10:15a	DESTINY + Dust Analyzer (DDA) Flight Software Development with Requirements in the Loop	Stephan Ingerl	
10:15a	10:30a	BREAK		
10:30a	10:55a	A QEMU-based Processor-In-the-Loop Testbed	Kevin P. Rowland, Jessica Byington, Jessica Byington, Carlos Beltran, Addison C. Faler	
10:55a	11:20a	Simulation-to-Flight 1 (STF-1): Automating the Planning, Scheduling, Assessment and Data Processing/Reduction for a Small Satellite	Mark Suder	
11:20a	11:45a	Coding Conventions and Standards	Loeffler, Chad.	
11:45a	12:00p	Cobham Gaisler LEON processor components and software environment updates	Daniel Helstrom	Gaisler (Workshop Sponsor)
12:00p	1:00p	LUNCH		
1:00p	1:25p	SUMMIT: The Scalable Utility for Multi-Mission Integration and Testing	Brendan M. O'Connor, Austin Probe, Graham Bryan, and Nick Merlene	
1:25p	1:50p	SLS Flight Software:Ensuring Highly Reliable Software during Development	Deanna Whitehead	
1:50p	2:15p	Transitioning Space Launch System Flight Software Test Approach from Manual Data Analysis to Automated	Shaun Phillips	
2:15p	2:40p	Disruption Tolerant Networking Presentation	Scott Burleigh	
2:40p	3:00p	BREAK		
3:00p	3:25p	SLS GNC Model-based Design Approach	Naeem Ahmad, Evan Anzalone, Jimmy Compton, Christian Garcia, Steven Hough, Young Kim, Paul Von der Porten, Thomas Park, John Wall	
3:25p	3:50p	MBD Tooling Development Pilot Project for GNC Flight Software	Brian R. Jamison, Mike R. Hannan, James T. Kaidy, Juan I. Orphee, Nick S. Olson	
3:50p	4:15p	Improved Risk Estimation for Architecture-Driven IV&V Planning	James B. Dabney, Pavan Rajagopal, Michael Facemire	
4:15p	4:40p	Cybersecurity & Space	Dr. Jacob G. Oakley	
4:40p	4:50p	Welcome to Huntsville and 5 Reason to Come Back to Stay	Frances Akridge	
4:50p	6:30p	Happy Hour: Mugs and Modeling (hosted by OAR Corporation; requires sign-up) Join us in the Art Room after sessions are over and learn/share about model-based systems engineering / digital engineering. 2 free drink tickets.		OAR
6:30p	8:30p	Dinner @ Campus 805 Cafeteria (paid for by workshop; No RSVP needed)		

Thursday, December 12th				
Central Time Zone				
Start Time	End Time	Title	Facilitator/Speaker	Organization
7:00a	8:00a	Continental Breakfast		
8:00a	9:00a	KEYNOTE	Michael McLelland	SwRI
		Technical Sessions		
9:00a	9:25a	Real-Time Virtual Machines for flight software test, simulation and rapid prototyping	Anish Anthony	Concurrent (Workshop Sponsor)
9:25a	9:50a	Spacecraft memory and real-time executive monitoring to provide cyber anomaly detection	Michael A. Riley, Anthony Lattanze	
9:50a	10:15a	Mars Helicopter Presentation	Tim Canham	
10:15a	10:30a	BREAK		
10:30a	10:55a	"Apperceptive Engineering" for Increased Safety and Security	Matt Rhodes	Mathworks (Workshop Sponsor)
10:55a	11:20a	Spacewire Analysis Through Kaitai and Wireshark	Andrew Badger, Samuel Bibelhauser	
11:20a	11:45a	Automatic Generation of Flight Software Based on the Packet Utilisation Standard	Joachim Fuchs	
11:45a	12:00p	An Application-Level Solution to the Nested Mutual Exclusion Priority Inheritance Problem	Chris Monaco	
12:00p	1:30p	Lunch		
1:30p	4:00p	- Raspberry Pi / cFS Hands-On Session (Art Room, sign-up)"		
		SPECIAL: Cybersecurity Session		
1:00 PM	1:45 PM	NPR 7150.2C cybersecurity requirements - Secure Coding Standards - Tools	Tim Crumbley	MSFC/HQ SA
1:45 PM	2:30 PM	NASA Software Security Engineering Portal	Ioana Rus	GSFC
2:30 PM	3:30 PM	ARMD Aviation Cybersecurity and Engineering	Paul Nelson	GRC
3:30 PM	4:15 PM	Cybersecurity Assessment performed on SLS	James Jerkins	UNA
4:15 PM	5:00 PM	Open		

Assumptions: 1) Monday and Wednesday run until 5p, Tuesday runs until 2:15p, Thursday runs until 12p

	Hours	Minutes	
Day 1 (M)	5:30	330	
Day 2 (Tu)	4:00	240	
Day 3 (W)	6:30	390	
Day 4 (Th)	2:45	165	
Total		1125	
Assume 25 minutes per presenter then we have this many slots:		45	