



Aerospace Control and Guidance Systems Committee Meeting No. 130

Spring 2023

Missoula, MT

FINAL AGENDA – March 15, 2023

TUESDAY, 21 March 2023

07:00 pm -9:00 pm	PLANNING ADVISORY BOARD MEETING – Russell Boardroom
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Chairman	Jeb Orr
Vice-Chairman	John Valasek
Immediate Past Chairman	Piero Miotto
Treasurer	Stan Pszczolkowski
Secretary	Kevin Duda

Planning Advisory Board Members		
Mike Bolender	Irene Gregory	Chris Miller
Oliver Brieger	Phil Hattis	Dave Mitchell
Dave Doman	Dave Klyde	Brett Ridgely
Marge Draper-Donley	Brian Lee	Kevin Wise
Jared Grauer	Raman Mehra	Tansel Yucelen

PAB Emeritus				
Shawn Donley	Ron Hess	Lou Knotts	Gavin Jenney	Dave Schmidt

WEDNESDAY, 22 March 2023 – Day 1

7:00 am – 8:30 am	Registration and Breakfast – Bitterroot Room
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8:30 am – 9:00 am	GENERAL BUSINESS MEETING – Bitterroot Room Jeb Orr – Chairman
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9:00 am – 11:00 am	GENERAL COMMITTEE TECHNICAL SESSION – Bitterroot Room <ul style="list-style-type: none"> • Marco Lotterio, Systems Technology, Inc. • Scott Condie, Virgin Galactic • Lou Knotts, Calspan • Chris Miller, NASA AFRC • Jeb Orr, Mclaurin Aerospace • Oliver Brieger, Airbus
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11:00 am – 11:20 am	Break
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SUBCOMMITTEE D – DYNAMICS, COMPUTATIONS, AND ANALYSIS

Co-Chairs: Dave Doman, Mike Bolender, and Dave Klyde

Room: Bitterroot

11:20 am – 12:00 pm	D.1 “Increasing the Availability of the Precision Landing Mode on the F/A-18E/F/G,” Jacques (Jack) Romano, Naval Air Warfare Center Aircraft Division
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12:10pm – 1:30 pm	LUNCHEON – (Meet in Subcommittees) – Blackfoot Room
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1:30 pm – 2:10 pm	D.2 “Design and Challenges of the Model Following Algorithm on the X-62 VISTA,” Chris Cotting, USAF Test Pilot School, Edwards AFB and Que Harris, Lockheed Martin ADP
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2:10 pm – 2:50 pm	D.3 “DARTS: A Versatile Dynamics Toolkit for Guidance and Control,” Carl Leake, NASA Jet Propulsion Laboratory
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2:50 pm – 3:10 pm	Break
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3:10 pm – 3:50 pm	D.4 “Decision Making Under Uncertainty with Application to Precision Airdrop and Beyond,” Adam Gerlach, USAF Air Force Research Laboratory, Aerospace Systems Directorate
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SUBCOMMITTEE C – AVIONICS AND SYSTEM INTEGRATION (Session 1 of 2)

Co-Chairs: Raman Mehra and Jared Grauer

Room: Bitterroot

3:50 pm – 4:30 pm	C.1 “Active Flow Control,” Rene Wozidlo, Aurora Flight Sciences
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6:00 pm – 9:00 pm	RECEPTION – Blackfoot Room
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THURSDAY, 23 March 2023 – Day 2

07:00 am-8:30 am	Breakfast – Bitterroot Room
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SUBCOMMITTEE C – AVIONICS AND SYSTEM INTEGRATION (Session 2 of 2)	
Co-Chairs: Raman Mehra and Jared Grauer	
Room: Bitterroot	
8:30 am – 9:10 am	C.2 “Aerospace Fault Detection and Fault Tolerance Industrial Benchmark,” Phillipe Goupil, Airbus
9:10 am – 9:50 am	C.3 “Sustainability and Future Mobility,” Kevin Wise, Boeing
9:50 am – 10:30 am	C.4 “On The Emergence of AI Language Models as a Design Tool,” Jeb Orr, Mclaurin Aerospace

10:30 am – 10:40 am	Break
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SUBCOMMITTEE B – MISSILES AND SPACE	
Co-Chairs: Phil Hattis, Brett Ridgely, and Kevin Wise	
Room: Bitterroot	
10:40 am – 11:20 pm	B.1 “Space Launch System Core Stage TVC Test and Flight Experiences,” John Wall, NASA MSFC (Mclaurin Aerospace/ESSCA)
11:20 am – 12:00 pm	B.2 “Survival Design and Strategies for Aborted Crewed Missions for Mars Exploration,” Phil Hattis, Draper

12:10 pm – 1:30 pm	LUNCHEON – Blackfoot Room PAB LUNCHEON – Russell Room
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1:30 pm – 2:10 pm	B.3 “Current JPL Guidance and Control Section Activities,” John Liu, NASA Jet Propulsion Laboratory
2:10 pm – 2:50 pm	B.4 “DQG: Dual Quaternion-based 6-DoF Powered-Descent Guidance for the NASA SPLICE Program,” Abhinav Kamath, University of Washington

2:50 pm – 3:00 pm	Break
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SUBCOMMITTEE E – FLIGHT, PROPULSION, AND AUTONOMOUS VEHICLE CONTROL SYSTEMS	
Co-Chairs: John Valasek, Irene Gregory (Session 1 of 2)	
Room: Bitterroot	
3:00 pm – 3:40 pm	E.1 “Primary Flight Control at DLR-SR – Recent Flight Test Experiences & Projects,” Christian Weiser, DLR

FRIDAY, 24 March 2023 – Day 3

07:00 am – 8:00 am	Breakfast – Bitterroot Room
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SUBCOMMITTEE E – FLIGHT, PROPULSION, AND AUTONOMOUS VEHICLE CONTROL SYSTEMS
Co-Chairs: John Valasek, Irene Gregory (Session 2 of 2)
Room: Bitterroot

8:00 am – 8:40 am	E.2 “COBRA or Combined Bernstein Polynomial, Optimal Reciprocal Collision Avoidance, Differential Dynamic Programming for Trajectory Replanning and Collision Avoidance for UAM Vehicles,” Matthew Houghton, NASA Langley Research Center
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SUBCOMMITTEE A – AERONAUTIC AND SURFACE VEHICLES
Co-Chairs: Dave Mitchell, Oliver Brieger, and Chris Miller
Room: Bitterroot

8:40 am – 9:20 am	A.1 “Analytic INS Error Calculation using Nonlinear Contraction Theory,” Winfried Lohmiller, Airbus
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9:20 am – 9:40 am	Break
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9:40 am – 10:20 am	A.2 “A Proposed Method of Compliance to Support Certification of Advanced Flight Controls in General Aviation and Hybrid Vehicles,” Marco Lotterio, Systems Technology, Inc.
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10:20 am – 11:00 am	A.3 “Vertical Motion Simulation of the Lift + Cruise Vehicle with Real-Time Complex Powertrain Models,” Peter Suh, NASA AFRC
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11:00 am – 11:30 am	Adjourn
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