

MEETING NO. 129 AGENDA
AEROSPACE CONTROL AND GUIDANCE SYSTEMS COMMITTEE
October 2022
Colorado Springs, CO

TUESDAY, 25 October 2022	
8:30 am - 4:00 pm	LECTURE: NASA's First Hypersonic Research Aircraft: The X-15's Lessons for GN&C, Safety, and Systems Engineering. – Room Carson
07:00 pm -9:00 pm	PLANNING ADVISORY BOARD MEETING – Room Carson

Chairman	Miotto, Piero
Vice-Chairman	Orr, Jeb
Immediate Past Chairman	DraperDonley, Marge
Treasurer	Pszczolkowski, Stan
Secretary	Duda, Kevin

Planning Advisory Board Members		
Bolender, Mike	Gregory, Irene	Mitchell, Dave
Ridgely, Brett	Hattis, Phil	Paduano, James
Brieger, Oliver	Jacobson, Steve	Valasek, John
De Luca, Jan	Klyde, Dave	Wise, Kevin
Doman, Dave	LeTron, Xavier	Yucelen, Tansel
Enns, Dale	Mehra, Raman	Miller, Chris
Grauer, Jared	Lee, Brian	

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

WEDNESDAY, 26 October 2022 – Day 1	
07:00 am-8:30 am	Registration – Room East Pre-Function
07:00 am-8:30 am	Breakfast – Room South Pre-Function
8:30 am – 9:00 am	GENERAL BUSINESS MEETING – Room Heritage A, B, & C Piero Miotto – Chairman
9:00 am -12:00 pm	GENERAL COMMITTEE TECHNICAL SESSION – Room Heritage A, B, & C <ul style="list-style-type: none"> • 9:00 – 9:20 - Schmidt Dave, A Brief History of Colorado Springs • Klyde Dave, Systems Technology Inc. • Goulip Philippe, Airbus • ...
12:00pm – 1:30 pm	LUNCHEON – (Meet in Subcommittees) – Room Fremont
Ward Award Lecture Room: Heritage A, B, & C	
1:30 pm – 2:10 pm	Dr. Kadriye Merve Dogan, “Verifiable Adaptive Architectures for Control of Safety-Critical Systems”
SUBCOMMITTEE D – DYNAMICS, COMPUTATIONS, AND ANALYSIS Chair: David Doman Room: Heritage A, B, & C	
2:10 pm – 2:50 pm	D.1 Jeffry Walker, Birhle Applied Research, “Identification and Optimized Control Design of a Sub-Scale Flybarless Helicopter”
2:50 pm – 3:30 pm	D.2 Amanda Lampton, Systems Technology Inc. "Exploring the Relationship Between Pilot Handling Qualities Ratings and Workload"
3:30 pm – 3:40 pm	Break
3:40 pm – 4:20 pm	D.3 Michael Oppenheimer, AFRL, " Multi-scale Physics-Informed Artificial Intelligence"
SUBCOMMITTEE E – FLIGHT, PROPULSION, AND AUTONOMOUS VEHICLE CONTROL SYSTEMS Chair: John Valasek Room: Heritage A, B, & C	
4:20 pm – 5:00 pm	C.1 Kameron Eves, Texas A&M; "Adaptive Control of Multiple Time Scale Systems"
6:00 pm – 9:00 pm	RECEPTION – Room Fremont

THURSDAY, 27 October 2022 – Day 2	
07:00 am-8:30 am	Breakfast – Room South Pre-Function
SUBCOMMITTEE A – AERONAUTIC AND SURFACE VEHICLES Chair: Mitchell, Dave Heritage A, B, & C	
8:30 am – 9:10 am	A.1 Ed Bachelder, San Jose State University Research Foundation, “A Theoretical Basis for Adverse Aircraft-Pilot Coupling”
9:10 am – 9:50 am	A.2 Dick Newman, “Cockpit Evaluations: The Search for the Elusive Average Pilot”
9:50 am – 10:00 am	Break

10:00 am – 10:40 am	A.3 Dr. J. Schwithal and J.-P. Buch, DLR, “Simulator Studies on Handling Qualities of Flexible Passenger Aircraft”
1040 am – 11:20 pm	E.2 Daniel Selva, Aerospace Engineering, Texas A&M University “Human-AI Teaming for Fast and Slow Data-Driven Decisions”
SUBCOMMITTEE B – MISSILES AND SPACE	
Chair: Phil Hattis	
Room: Heritage A, B, & C	
11:20 am – 12:00 pm	B.1 Jing Pei, NASA Langley, “Dynamic Rollover for Lunar Landing Vehicles,”
12:10 pm – 1:30 pm	LUNCHEON – Room Fremont EXECUTIVE LUNCH – Room TBD
1:30 pm – 5:30 pm	TOUR – Air Force Academy
FRIDAY, 28 October 2022 – Day 3	
07:00 am-8:00 am	Breakfast – Room South Pre-Function
8:00 am – 8:40 am	B.2 Chris Fergusson, Boeing, “Boeing CST-100 Program Status”
8:40 am – 9:20 am	B.3 Torin Clark of the University of Colorado, “Predicting Impaired Human Performance in Aerospace Environments Using an Estimation Theory-Based Computational Mode”
SUBCOMMITTEE C – AVIONICS AND SYSTEM INTEGRATION	
Chair: Raman Mehra	
Room: Heritage A, B, & C	
9:20 am – 9:40	Break
9:40 am – 10:20 am	E.1 Justin Bradley, Computer Science, University of Nebraska – Lincoln “Foundations for Cyber-Physical Unmanned Aircraft Systems”
10:20 am – 11:00 am	C.2 Rob Fuentes, Raytheon, “The Differential and Riemannian Geometry of Guidance”
11:00 am – 11:40 am	C.3 Jeff Saunders Boeing, Aurora, “Urban air Mobility Conops and Behaviors”
11:40 am – 12:00 pm	Adjourn