

**MEETING NO. 125 AGENDA\_DRAFT  
AEROSPACE CONTROL AND GUIDANCE SYSTEMS COMMITTEE**

Bahia Resort Hotel  
998 W. Mission Bay Drive  
San Diego, CA, 92109  
858-539-7700

**25-27 March 2020**

**Tuesday**

24 March 2020

7:00pm - 9:00pm

**1.0 PLANNING ADVISORY BOARD MEETING**

Del Mar

<b>Chairman</b>	Marge Draper-Donley
<b>Vice-Chairman</b>	Piero Miotto
<b>Immediate Past Chairman</b>	Brian Lee
<b>Treasurer</b>	Stan Pszczolkowski
<b>Secretary</b>	Jeb Orr

**Planning Advisory Board Members**

Mike Bolender  
Oliver Brieger  
Jan De Luca  
Dave Doman  
Kevin Duda  
Dale Enns  
Jared Grauer

Irene Gregory  
Phil Hattis  
Steve Jacobson  
Dave Klyde  
Xavier LeTron  
Raman Mehra

Dave Mitchell  
James Paduano  
Brett Ridgely  
John Valasek  
Kevin Wise  
Tansel Yucelen

**PAB Emeritus**

Shawn Donley

Ron Hess

Gavin Jenney

Dave Schmidt

**Wednesday**

25 March 2020

7:00am – 8:30am

**2.0 REGISTRATION AND BREAKFAST**

Del Mar

8:30am – 9:00am

**3.0 GENERAL BUSINESS MEETING**

Del Mar

Marge Draper-Donley – Chairman

<b>Wednesday</b>	
25 March 2020	
9:00am – 12:00pm	<b>4.0 GENERAL COMMITTEE TECHNICAL SESSION</b> Dale Enns and Tansel Yucelen Co-Chairs (AGENDA Still in Work)
9:00am - 9:50am	<b>4.1 Government Agencies Summary Reports</b>
	4.1.1 NASA
	4.1.1.1 Ames - .
	4.1.1.2 Armstrong -
	4.1.1.3 Langley –
	4.1.2 DLR –
	<b>4.2 Research Institutions, Industry, and University Reports</b>
	4.2.1 Research Institutions and Companies
	4.2.1.1 Barron Associates -
	4.2.1.2 Systems Technology, Inc. -
9:50am – 10:10am	<b>BREAK</b>
10:10am – 12:00pm	
	4.2.1.3 Calspan Flight Research Group -
	4.2.1.4 Scientific Systems Company - Raman Mehra
	4.2.1.5 Mclaurin Aerospace – Jeb Orr
	4.2.1.6 Mitchell Aerospace Research - Dave Mitchell
	4.2.2 Technical Committee Liaison
	4.2.2.1 SAE S-7 Committee – Brian Lee
	4.2.2.1 IEEE AESS Status – Marge Draper-Donley
	4.1.3 Universities
	4.1.3.1
	4.1.3.2
12:00 pm – 1:30 pm	<b>LUNCHEON Del Mar Patio (Meet in Subcommittees)</b> Subcommittee chairs, members and attendees will meet for lunch and agenda planning for Meeting No. 126.
1:30pm –5:10pm	<b>5.0 SUBCOMMITTEE D – DYNAMICS, COMPUTATIONS, AND ANALYSIS</b> Dave Doman, Chair Dave Klyde, Vice Chair, Mike Bolender, Vice Chair
1:30pm – 2:10pm	5.1 “Extending the Capabilities of Aerial Robots Through Novel Designs”, Mark Mueller, UC Berkeley
2:10pm – 2:50pm	5.2 “Computation and Aerospace Guidance”, Ping Lu, San Diego State University
2:50pm – 3:10pm	<b>BREAK</b>
3:10pm – 3:50pm	5.3 “GA-ASI Automatic Takeoff and Landing Systems Overview,” Leon Alvarez, General Atomics Aeronautical Systems, Inc.

Wednesday  
25 March 2020

- 3:50pm - 4:30pm 5.4 "Verifiable Adaptive Architectures for Control of Safety-Critical Systems",  
K.Merve Dogan,
- 4:30 pm – 5:10 pm **6.0 SUBCOMMITTEE E – FLIGHT, PROPULSION, AND AUTONOMOUS  
VEHICLE CONTROL SYSTEMS**  
**Del Mar**  
John Valasek, Chair  
Irene Gregory, Vice Chair, TBD, Vice Chair
- 4:30 pm-5:10 pm 6.1 "Terrain Relative Navigation (TRN) for Landing on the Moon and Beyond,"  
Omar Aboutalib, Northrop Grumman
- 6:00pm – 9:00pm **RECEPTION/SOCIAL – Pond/Shuffleboard Court**

**Thursday**

26 Mar 2020

- 7:00am – 8:30am **BREAKFAST – Del Mar**
- 8:00am – 11:00am **6.0 SUBCOMMITTEE E – FLIGHT, PROPULSION, AND AUTONOMOUS  
VEHICLE CONTROL SYSTEMS**  
**Del Mar**  
John Valasek, Chair  
Irene Gregory, Vice Chair, TBD, Vice Chair
- 8:00am – 8:40am 6.2 "Vision Based Aerial Refueling Boom System - Automatic Refueling FCL  
Development", TBD, Airbus Defence and Space
- 8:40am – 9:20am 6.3 "TBD" Irene Gregory?
- 9:20 am – 11:40 am **7.0 SUBCOMMITTEE A – AERONAUTICAL AND GROUND VEHICLES**  
Steve Jacobson, Chair  
Oliver Brieger, Vice Chair, Xavier Le Tron, Vice Chair, Dave Mitchell, Vice Chair
- 9:20am – 10:00am 7.1 "Tactile Cueing", Angus Rupert, US Army Aeromedical Laboratory
- 10:00am- 10:20am **BREAK**
- 10:20am – 11:00am 7.2 "Flight Test Techniques for Ground Effect Data", Eli Ledbetter and Mike Bryan,  
Boeing
- 11:00am – 11:40am 7.3 "Actuation Flight Testing at Airbus", Xavier LeTron, Airbus
- Thursday  
26 March  
11:45 pm – 2:00 pm **LUNCHEON**  
PAB will meet for lunch and agenda planning for Meeting No. 126 in William D.  
Evans I. Other attendees have open seating for lunch in Del Mar Patio
- 2:00 pm – 2:40 pm **7.0 SUBCOMMITTEE A – AERONAUTICAL AND GROUND VEHICLES**  
Steve Jacobson, Chair  
Oliver Brieger, Vice Chair, Xavier Le Tron, Vice Chair, Dave Mitchell, Vice Chair

- 2:00 pm – 2:40 pm 7.4 “The EFEM Project - Typhoon Envelope Expansion/Performance Enhancement”, Robert Osterhuber, Airbus
- 2:40 pm – 5:00 pm **8.0 SUBCOMMITTEE B – MISSILES AND SPACE**  
Phil Hattis, Chair  
Kevin Wise, Vice Chair, Kevin Duda, Vice Chair
- 2:40 pm – 3:20 pm 8.1 "Camera-in-the-Loop Vision-Aided Inertial Navigation Facilities for Lunar Landing and Orbital Rendezvous", Kevin Duda ( or other Draper person), Draper Laboratories

Still Thursday  
26 March

- 3:20pm - 3:40pm **BREAK**
- 3:40pm – 5:00pm **8.0 SUBCOMMITTEE B – MISSILES AND SPACE**  
Phil Hattis, Chair  
Kevin Wise, Vice Chair, Kevin, Duda, Vice Chair
- 3:40pm – 4:20pm 8.2 “Challenges in the Application of Adaptive Flight Control to Missiles”, James Fisher, Raytheon
- 4:20 pm – 5:00 pm 8.3 “Dr. Richard Battin: Inventing and Applying Modern Space Guidance While Also Being a Moral Compass”. Phil Hattis, Draper Laboratories

**Friday**

27 March 2020 **BREAKFAST – Del Mar**

- 7:00am – 8:30am
- 8:00am – 9:20am **8.0 SUBCOMMITTEE B MISSILES AND SPACE (cont)**  
Phil Hattis, Chair  
Kevin Wise, Vice Chair, Kevin, Duda, Vice Chair
- 8:00am - 8:40am 8.4 “Advances in Multi-Body Dynamics”, Richard McMonagle, Northrop Grumman
- 8:40 am – 11:40 am **9.0 SUBCOMMITTEE C – AVIONICS AND SYSTEM INTEGRATION**  
Rahman Mehra, Chair  
Jan DeLuca, Vice Chair, Jim Paduano, Vice Chair
- 8:40am – 9:20am 9.1 “Bringing Highly Augmented Controls to a Legacy Helicopter for Degraded Visual Operations,” Matt Rhinehart, NAVAIR
- 9:20am – 10:00am 9.2 “Near Term Commercial SATCOM Trend Implications in the Context of Scalable Conflicts for Unmanned System Flight Control, Telerobotics, and Real Time Sensor Collection,” Parker Robinson, Viasat
- 10:00am – 10:20am **BREAK**
- 10:20am – 11:00am 9.3 “Mind Flight” – Matt Rich, JHU/APL
- 11:00am – 11:40am 9.4 “Challenges in Deploying Trajectory Based Operations in the National Airspace System,” Lesley Weitz, MITRE
- 11:40 am **ADJOURN**

