

**MEETING NO. 124**  
**AGENDA DRAFT**  
**AEROSPACE CONTROL AND GUIDANCE SYSTEMS COMMITTEE**

The Woodlands Hotel  
105 Visitor Center Way  
Williamsburg, VA

**16-18 October 2019**

**Tuesday**

15 Oct -19  
7:00 PM

**1.0 PLANNING ADVISORY BOARD MEETING**  
Azalea Room

<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**

Riccardo Bevilacqua	Irene Gregory	Raman Mehra
Mike Bolender	Phil Hattis	Dave Mitchell
Oliver Brieger	Steve Jacobson	James Paduano
Jan De Luca	Dave Klyde	John Valasek
Dave Doman	Lou Knotts	Kevin Wise
Dale Enns	Xavier Le Tron	Tansel Yucelen

**PAB Emeritus**

Shawn Donley	Ron Hess	Gavin Jenney	Dave Schmidt
--------------	----------	--------------	--------------

**Wednesday**

16 OCT-19  
7:00am – 8:30am

**2.0 REGISTRATION AND BREAKFAST**  
Cascade Room 2

8:30am – 9:00am

**3.0 GENERAL BUSINESS MEETING**  
Cascade Room 2  
Marge Draper-Donley – Chairman

<b>Wednesday</b>	
16 OCT-19	
9:00am – 12:00pm	<b>4.0 GENERAL COMMITTEE TECHNICAL SESSION</b> <b>Cascade Room 2</b> Dale Enns and Tansel Yucelen, Co-Chairs
9:00 am – 9: 50 am	<b>4.1 Government Agencies Summary Reports</b> 4.1.1 DLR – Dominik Niedermeier 4.1.2 NASA 4.1.2.1 Langley – Irene Gregory 4.1.3 DOD 4.1.3.1 AFRL – Dave Doman <b>4.2 Research Institutions, Industry, and University Reports</b> 4.2.1 Research Institutions and Companies 4.2.1.1 Systems Technology, Inc. - Dave Klyde 4.2.1.2 Calspan Flight Research Group – John Fristachi
9:50 am – 10:10 am	<b>BREAK</b>
10:10 am – 12:00pm	4.2.1.3 Bihrl Applied Research – Jack Ralston 4.2.2 Technical Committee Liaison 4.2.2.1 SAE S-7 Committee – Brian Lee 4.2.2.2 SAE A-6 – Shawn Donley 4.1.3 Universities 4.2.3.1 University of Tennessee – Wang Zhenbo 4.2.3.2 Technical University Munich – Rasmus Steffensen 4.2.3.3 Hamburg University of Technology – Julian Theis 4.2.3.4 The Ohio State University – Rama Yedavalli
12:00pm – 1:30pm	<b>LUNCHEON – Cascade Room 1 (Meet in Subcommittees)</b> Subcommittee chairs, members and attendees will meet for lunch and agenda planning for Meeting No. 125.
1:30 pm - 2:10 pm	<b>5.0 Ward Award Lecture – “Game-Theoretic Control Strategies in Adversarial Environments”,</b> Alexander Von Moll
2:10 pm – 5:10 pm	<b>6.0 SUBCOMMITTEE A – Aeronautical and Ground Vehicles</b> <b>Cascades Room 2</b> Steve Jacobson, Chair Oliver Brieger, Xavier Le Tron and Dave Mitchell, Vice Chairs
2:10 pm – 2:50 pm	<b>6.1 “Recent Design and Flight Test Experience with Nonlinear Control Methods”,</b> Richard Kuchar, DLR

**Still Wednesday**

16 OCT 2019

- 2:50 pm – 3:30 pm **6.2** “Guidance and Control of the Virgin Galactic Space Ship II”, James Flynn and Scott Condie, The Spaceship Company
- 3:30 pm – 3:50 pm **BREAK**
- 3:50 pm – 4:30pm **6.3** “The Evolution of Flight Testing for PIO at Boeing Commercial Airplanes”, Brian Lee, Boeing Commercial Airplanes
- 4:30 pm – 5:10 pm **7.0 SUBCOMMITTEE B – MISSILES AND SPACE**  
**Cascade Room 2**  
Phil Hattis, Chair  
Riccardo Bevilacqua, Vice Chair; Kevin Wise, Vice Chair
- 4:30pm – 5:10 pm **7.1** “Space Launch System Thrust Vector Servoelasticity”, Jeb Orr, McLaurin Aerospace
- 6:00pm – 9:00pm **RECEPTION – Cascades Terrace**

**Thursday**

17 Oct-19

7:00am – 8:00am

**BREAKFAST – Cascades Room 2**

**Thursday**

17 Oct-19

8:00 am – 11:00 am

**7.0 SUBCOMMITTEE B – MISSILES AND SPACE**

**Cascade Room 2**

Phil Hattis, Chair

Riccardo Bevilacqua, Vice Chair; Kevin Wise, Vice Chair

8:00am – 8:40am

**7.2** “The Vulcan Launch System”, John Reed, ULA

8:40am – 9:20am

**7.3** “Lunar Lander Simulator” Kevin Duda, Draper Labs

9:20 am – 10:00am

**7.4** “Development of the Apollo Lunar Module Digital Autopilot”, John Tylko, MIT

10:00 am – 10:20 am

**BREAK**

10:20 am – 11:00 am

**7.5** “Assessing the Wearable Kinematic System for the Measure of Localized CO<sub>2</sub> in the NASA Extreme Environment Mission Operations (NEEMO) spaceflight analog”, Tristan Endsley, Draper Labs

**Thursday**

OCT 17, 2019

11:00am – 12:20 pm

**8.0 SUBCOMMITTEE C – AVIONICS AND SYSTEM INTEGRATION**

**Cascade Room 2**

Raman Mehra, Chairman

Jan DeLuca, Vice Chair; James Paduano, Vice Chair

11:00 am – 11:40 am

**8.1** “Failure Detection Isolation and Recovery,” Xavier LeTron, Airbus (or PhD student at Airbus)

11:40 am – 12:20 pm

**8.2** “DARPA Fast Lightweight Autonomy Program Recap – Draper/MIT,” Ted Steiner and Julius Rose, Draper

12:20 pm – 2:00pm **LUNCHEON Cascades Room 1**  
PAB will meet for lunch and agenda planning for Meeting No. 125 in Oak 1  
Other attendees have open seating for lunch in Cascades Room 1

2:30 pm **Meet at Visitors' Center for Tour** (comfortable shoes recommended)

2:30pm – 4:30 pm **Guided Tour of Colonial Williamsburg** (Note- you must have signed up or see Chair for available space)

**Friday**

18 Oct -19

7:00am – 8:00am

**BREAKFAST – Cascades Room 2**

**Friday**

18 Oct 2019

**8.0 SUBCOMMITTEE C – AVIONICS AND SYSTEM INTEGRATION, cont  
Cascades Room 2**

8:00 am – 8:40 am

Raman Mehra, Chairman

Jan DeLuca, Vice Chair; James Paduano, Vice Chair

8:00 am – 8:40 am

**8.3** "Trust, Test, and Evaluation of Autonomous UAS in a MUM-T Configuration"  
Chris Eaton, JHU-APL

8:40 am – 11:40 am

**9.0 SUBCOMMITTEE D – DYNAMICS, COMPUTATIONS, AND ANALYSIS**  
Dave Doman, Chair

Dave Klyde, Vice Chair, Mike Bolender, Vice Chair

8:40 am – 9:20 am

**9.1** " F-35 Control Law Design, Development and Verification", Jeff Harris,  
Lockheed

9:20 am – 10:00 am

**9.2** "Min/Max Cooperative Pursuit", David Casbeer, AFRL Applied Research

10:00 am – 10:20 am

**BREAK**

10:20 am – 11:00 am

**9.3** "DIVE – Dynamic Interface for Virtual Environments", Zach Smith, NAVAIR

11:00 am – 11:40 am

**9.4** ""Envelope Expansion for UPRT Using Non-OEM Models", Jack Ralston,  
Bihrl Applied Research

11:40 am

**ADJOURN**